BRANCHLESS BANKING AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NEPAL

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

By

Namindra Prasad Bhattarai
Campus Roll No: 394/77
Exam Roll No: 35755/21
T.U. Registration No: 7-2-727-67-2015
Shanker Dev Campus
Specialization: Finance

Kathmandu, Nepal
June, 2025

CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **"Branchless Banking and Financial Performance of Commercial Banks in Nepal"**. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

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

……..

Namindra Prasad Bhattarai

Date:

REPORT OF RESEARCH COMMITTEE

Mr. Namindra Prasad Bhattarai has defended research proposal entitled **"Branchless Banking and Financial Performance of Commercial Banks in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Asso. Prof. Dr. Dhan Raj Chalise and submit the thesis for evaluation and viva voce examination.

……..…….....

Asso. Prof. Dr. Dhan Raj Chalise

Dissertation Supervisor

Dissertation Proposal Defended Date:

……

Dissertation Submitted Date:

……..……

Dissertation Viva Voice Date:

…….…….....

……

Asso. Prof. Dr. Sajeeb Kumar Shrestha

Chairperson, Research Committee

APPROVAL SHEET

We, the undersigned, have examined the dissertation entitled **"Branchless Banking and Financial Performance of Commercial Banks in Nepal"** presented by Mr. Namindra Prasad Bhattarai for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the dissertation is worthy of acceptance.

……..
Asso. Prof. Dr. Dhan Raj Chalise
Dissertation Supervisor

……..
Internal Examiner

……..
Internal Expert

……..
External Expert

……..
Asso. Prof. Dr. Sajeeb Kumar Shrestha
Chairperson, Research Committee

……..
Asso. Prof. Dr. Kapil Khanal
Campus Chief

ACKNOWLEDGEMENTS

This research work, “Branchless Banking and Financial Performance of Commercial Banks in Nepal,” is being submitted as partial fulfillment for Master's Degree in Tribhuvan University, Office of the Dean, Faculty of Management. This work would not have been possible solely because of the initiative and smart guidance of many individuals without whose assistance, I am now thanking them with all my heart.

I would like to extend thanks to my supervisor, Asso. Prof. Dr. Dhan Raj Chalise for his help, support, and motivation throughout the period of this dissertation. I would also like to extend thanks to the Research Committee of Shanker Dev Campus for their feedback and support, particularly Associate Professor Dr. Sajeeb Kumar Shrestha, Head of the Research Committee, whose constructive criticism I am ever so thankful for. I thank the Campus Chief for advice and counsel. I thank the internal examiner, internal expert, and external expert for feedback and evaluation. My sincere gratitude to my father for encouragement, which has been a very strong motivation force.

I also appreciate the hard work, dedication, and continuous support of my mother in facilitating me to achieve my Master's degree. Finally, I would also appreciate the support and encouragement of friends and relatives for their selfless help and motivation which have been part of the successful execution of this research. They have assisted me at all times. I am indebted immensely to all such people without whom such success could not have been attained.

Namindra Prasad Bhattarai

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

Page no.

ABBREVIATIONS

AB	:	Agency Banking
ATMs	:	Automated Teller Machine
CBs	:	Commercial Banks
EB	:	Electronic Banking
FP	:	Financial Performance
MB	:	Mobile Banking
NIC	:	NIC Asia Bank
NIMB	:	Nepal Investment Mega Bank Limited
ROA	:	Return on Assets
ROE	:	Return on Equity
SBI	:	Nepal SBI Bank Limited

ABSTRACT

This research explores the influence of branchless banking on Nepalese commercial banks' financial performance via the agency banking (AB), mobile banking (MB), and ATMs. It analyzes the influence of these on financial performance (FP). Descriptive and causal-comparative research design was utilized and data were gathered from 416 customers of Nepal Investment Mega Bank Limited and SBI Bank Limited of Dhunibeshi Municipality who were selected by purposive sampling. By correlation analysis of means and standard deviations of each variable, the study concludes their impact on financial performance. High positive correlation was observed between AB, MB, ATMs, and FP as revealed through correlation analysis, and mobile and ATM banking were more highly correlated than agency banking, which points towards the fact that the services are more exigent in driving financial performance. Regression analysis also confirmed that, although agency banking had statistically non-significant and non-significant influence, mobile banking and ATMs had significant and positive influence on financial performance. The results suggest that more emphasis should be placed on the development and expansion of mobile banking and ATMs since they are the most significant services to enhance financial performance. The research further recognizes that the resolution of issues impacting agency banking and facilitating its use can maximize its contribution to financial performance. In most cases, the research throws light on the pragmatic level regarding how Nepalese commercial banks can leverage the use of branchless banking services to make them more profitable, efficient, and productive overall.

Keywords: *Financial Performance, Branchless Banking, Agency Banking, Mobile Banking, ATMs, Commercial Banks*

CHAPTER – I
INTRODUCTION

1.1 Background of the Study

With the rapid advancement of technology Financial Technology took birth that introduced a new model of offering banking services without the traditional physical branches - branchless banking. This model has shown to be incredibly powerful in emerging economies, where more assurance of traditional financial infrastructure may not be present. Branchless banking includes transactions such as mobile banking, internet banking, and agent based transactions. The rationale behind this has largely been guided by reasons around enhancing financial inclusion, reducing operational costs, and providing more access to underbanked groups (Kumar et al., 2019).

An essential goal of branchless banking is widening the scope of financial inclusion by catering to the unbanked as well as the underbanked segments of the population. Economic growth is much needed fuelled by financial integration since individuals and businesses are able to access credit, saving, and insurance which enable investment and consumption financially. Several studies indicate that there is a clear correlation between the enhanced financial inclusivity and heightened economic growth rates in the developing nations, (Demirgüç-Kunt et al., 2018). It has been suggested that partless banking is one of the most significant ways to provide economic services to the rural users or the ones living in distant locations where the physical banks do not exist.

Advancements in technology have helped in achieving the success of branchless banking. The use of mobile phones in particular has made it easier for customers to access branchless banking services, allowing financial services to include mobile money transfers, microloans, bill payments, and more. These advancements have not only increased the accessibility of banking services but have also minimized the costs related to providing physical branches (Donovan, 2012).

On the contrary, banking without physically going to the bank creates issues as far as finances are concerned. Financial banking stability is the ability of the economic system to withstand certain shocks and still be able to function properly. Increased issuance of branchless banking adds to the level of dependence on technology and digital platforms. This creates new risks such as the threat of cyber-attacks, operational risks, and threats of systemic failures. A large failure of a branchless banking platform could have severe consequences in the entire economy if that failure causes the daily business transactions of numerous people and companies to come to a standstill (Zhao et al., 2017).

Systematic risk is the possibility of losing an entire financial system rather than an individual institution. The risk is stemmed from complete disruption, also known as systemic risk. A higher number of participants together with a digital infrastructure may be characteristic of branchless banking increasing systemic risk. The impacts of technical faults or cyber-attacks on such systems are not localized (Claessens & Horen, 2015).

In many nations, the uncontrolled expansion of branchless banking has caused regulations to lag behind, which, in turn, raises the risk to financial stability. There may be gaps in the regulation considering the exclusive risks of branchless banking. Regulators have to find a balance between fostered innovations, financial inclusion, and maintained stability while also protecting consumers. Some countries have enacted branchless banking regulations, such as agent banking, security provisions, and consumer protection legislation (AFI, 2016).

With the growth of branchless banking, the need for financial literacy and consumer protection emerges. Many users of this banking system may have very low levels of financial literacy, which exposes them to fraud and cyber-attacks, We are not yet there as far as financial literacy in the case of consumer protection is concerned. There is too much misinformation out there, and financial institutions, as well as regulators need to try constitute bridges and not montagnes (World Bank, 2015).

Agent banking is used extensively in branchless banking within rural and low income areas. Under this model, third party agents such as local stores or post offices, act as

the basic lendors. This enhances low income households' access to financial services but raises new risks of fraud, operational mishaps and loss of faith due to lack of control over the agents and varying trust levels (Siedek, 2008).

In the context of branchless banking, cybersecurity is one of the main issues. Dependence on technological platforms opens the opportunity for cybercriminals to steal and misuse customer data while disabling other financial services. Cybercriminals attacking finance institutions underline branchless banking systems the need to bolster cyber security systems integrated into backbone of these systems. Financial institutions must prioritize investments in cybersecurity to mitigate...

Financial resilience is crucial in making sure that risks associated with branchless banking are properly managed. Resilience, in this case, refers to the ability of the financial system to absorb and recover from shocks and disruptions. For branchless banking, such resilience comes in terms of stable digital infrastructure and the ability to cope with such risks as cyberattacks and system failures. Financial resiliency is ensuring financial strength by making heavy investments in technology, effective regulatory frameworks, and alignment of financial institutions, regulators, and other players Financial resiliency is to be helpful in mitigating the risk of branchless banking. Resilience is the ability of the financial system to absorb shock and bounce back to stability following disruption. For branchless banking, resilience refers to electronic infrastructure resilience and protecting against threats such as cyber-attacks and system collapse. Financial stability is secured through vast investment in technology, efficient supervisory regulation, and collaboration between financial institutions, supervisors, and other stakeholders (IMF, 2020).

Systemic risk in branchless banking requires ahead-of-time and responsive regulation. Regulators must develop the mechanisms that address branchless banking-specific risks, such as cybersecurity risk, operational risk, and system risk to system stability. It will involve amending existing regulation, introducing new regulation on electronic financial services, and enhancing inter-regulator coordination, financial institution coordination, and technology provider coordination (Basel Committee on Banking Supervision, 2014).

With more branchless banking taking place, it will be driven by technology, consumerism, and changing regulatory regimes in the future. It will continue to become part of the world financial system. It will be successful, however, if there is the ability of regulators and institutions to respond to issues regarding its risks. It also needs to ensure that the model serves to achieve both financial and economic growth (Accenture, 2017).

Systemic risk in branchless banking should be regulated by taking a proactive and adaptive approach. Regulators should establish systems that are specially tailored to manage the branchless banking risks of cybersecurity, operational failure, and system risk of systemic disturbance. This can be done by overhauling the current rules, introducing new regulations for digital financial services, and enhancing coordination among regulators, banks, and technology companies (Basel Committee on Banking Supervision, 2014).

As branchless banking continues to grow, its future will be shaped by technological innovation, changing consumer behavior, and the evolving regulatory landscape. It will increasingly become a vital part of the global financial system. But its success will depend on the ability of financial institutions and regulators to manage associated risks and ensure the model contributes to both financial stability and economic growth (Accenture, 2017).

While it can also introduce additional economic development and financial inclusion, branchless banking likewise introduces enormous challenges, particularly in its dimensions of cybersecurity, regulatory gaps, and systemic risk containment. Nevertheless, with appropriate mechanisms for regulation and policy, branchless banking is an effective driver of financial stability and poverty alleviation (Frost et al., 2019).

Overall, branchless banking can make a significant contribution to the financial performance and stability of Nepalese commercial banks. Through increased financial inclusion, reduced operating expense, and convenient access to financial services, branchless banking can promote economic growth. Its adoption is, however, contingent upon the mitigation of risks related to potential vulnerabilities like

cybercrimes, operational risks and system interruption risk. With evolving world financial architecture, branchless banking will determine the shape of future finance. Additional studies are therefore needed to inform financial decision-making on how the financial performance of commercial banks in Nepal is influenced by branchless banking.

1.2 Problem Statement

The arrival of branchless banking has been a game-changer in the financial sector, especially in developing countries like Nepal, where traditional banking infrastructure is not adequately developed. Branchless banking, through technology, extends financial services to remote and underserved areas, and it has the potential to increase financial inclusion and access to banking services. However, as branchless banking systems expand, apprehension has risen on their impact on the financial performance of commercial banks, particularly profitability, efficiency, and viability of operations.

Despite the favorable prospects of branchless banking, previous research has raised key questions regarding its impact on the financial performance of commercial banks. Palaon et al. (2020) examined satisfaction and business continuity among branchless banking agents and concluded that social contributions and technological reliability were key determinants of agent satisfaction. The study failed to state how such considerations would take effect in broader impacts on banks' financial performance through branchless banking models. Similarly, Stapleton (2013) had identified some of the impediments to the success of branchless banking in Indonesia, such as regulatory challenges and a fragmented telecommunications market. Even though these impediments constrain the application of branchless banking, their financial impacts on commercial banks are not guaranteed. Until they are surmounted, it is difficult to understand how branchless banking can contribute to the financial sustainability of banks.

Isa-Olatinwo (2021) wrote about how Development Finance Institutions (DFIs) can finance branchless banking initiatives with an emphasis on ensuring the efficacy in the utilization of funds and consistency of policies. Although the study reveals the contribution that DFIs can make to ensure the growth of branchless banking, it never at any point directly discusses the dangers that can affect the financial performance of

commercial banks. The World Bank (2020) also highlighted concern about branchless banking risks, such as cybersecurity risk and operational failure. While necessary, these issues have not been well linked to the financial performance of the banks offering branchless banking services, which suggests a knowledge gap about the operational and profitability problems of these banks. Similarly, the Basel Committee on Banking Supervision (2014) lauded effective supervision to control branchless banking risks. However, there is less discussion of the empirical impact of supervision on financial performance in literature.

Claessens and van Horen (2015), in their cross-country study, found that branchless banking can enhance financial inclusion but poses operating risks dangerous to the profitability of banks. The study, nonetheless, did not demonstrate a clear link between these operational risks and branchless banking-adopting banks' financial performance. Donovan (2012) considered the risks associated with mobile money systems, such as fraud and operational risks, that could have some effects on commercial banks' financial performance. Though they are helpful in some way, they do not provide a broader analysis of the manner in which, in general, branchless banking models overall affect the banking sector's financial performance, namely that of Nepal.

Frost et al. (2019) articulated that digital financial services and branchless banking are capable of altering risk profiles, perhaps new risks for banks. The literature remains incomplete to respond to the impact of such altered risk profiles on long-term financial performance of commercial banks. Similarly, the IMF (2020) expressed the employment of branchless banking amid the COVID-19 pandemic, where risk problems are assigned to financial performance. Since this phenomenon marks the growth rise of branchless banking, the study does not specifically target short-term impacts on the profitability and efficiency of commercial banks. Reports from OECD (2020) and McKinsey & Company (2018) also identify market competition problems and risks of concentration but without a clear correlation between such risks and the financial performance of commercial banks that offer branchless banking.

Further, research like Reddy et al. (2019) and Sarma and Pais (2011) acknowledge the risks of cyber attacks and the need for good risk management practices but are unable

to appropriately convey how the threats affect the profitability or business performance of commercial banks that operate with branchless banking systems. Siedek (2008) authored on the operational problems of branchless banking but did not elaborate on how the problems contribute to banks' financial performance problems. Moreover, these studies fall short in providing empirical evidence or quantifiable impacts, limiting their practical applicability for policymakers and financial institutions.

Whereas branchless banking can lead to more financial inclusion and enhanced access to the services of banks, it also presents new risks that can impact the financial performance of commercial banks. While a good number of studies on branchless banking have looked into its benefits and limitations, few studies have been carried out on the immediate impact of such models on the financial performance of commercial banks in Nepal. This study attempts to fill this gap by exploring the impact of branchless banking on the financial performance of commercial banks in Nepal based on agency banking and electronic banking. The study has developed the following principal research questions:

i. What is the position of branchless banking on the financial performance of commercial banks in Nepal?
ii. Is there any relationships exist between branchless banking services with financial performance of commercial banks in Nepal?
iii. How do branchless banking services affect the financial performance of commercial banks in Nepal?

1.3 Objectives of the Study

The main objective of the study is to analyze Branchless Banking and Financial Performance of Commercial Banks in Nepal. To achieve study's main objective, the specific objectives for this study are as follows:

i. To assess the position of branchless banking on the financial performance of commercial banks in Nepal.
ii. To examine the relationships between branchless banking services with the financial performance of commercial banks in Nepal.
iii. To analyze effect of branchless banking services on the financial performance of commercial banks in Nepal.

1.4 Hypotheses

In order to achieve the specific objectives of the study, the following hypotheses have been postulated;

H1: Agency banking significantly effect on the financial performance of the Nepalese commercial banks.

H2: Mobile banking significantly effect on the financial performance of the Nepalese commercial banks.

H3: ATMs significantly effect on the financial performance of the Nepalese commercial banks.

1.5 Rationale of the Study

The background for conducting this study is derived from the growing importance of branchless banking as a new frontier in enhancing Nepalese commercial banks' financial performance. Branchless banking through widespread application of agency banking, mobile banking, and large-scale ATMs is becoming popular as one of the strategic moves to reach unbanked customers and rural locations, reduce operating costs, and offer greater convenience to customers. Despite being a promising one, not much has been known about the effect of the branchless banking channels on the financial performance of Nepalese commercial banks overall. The present study is relevant in the sense that it attempts to establish empirical evidence of the relationship between branchless banking and financial performance and offer some insights to the banking institutions on how they can improve their strategy. It is enlightening to readers, particularly policymakers, banks, and researchers, since it outlines the role played by technology and innovation in attaining sustainable banking development in Nepal. In addition, the study seeks to investigate the major determinants that influence the performance of branchless banking in improving financial performances for commercial banks. Through a comparison of the operational efficiency, cost, and customer adoption of various branchless banking channels, the research aims to determine success factors for long-term adoption. The research will also close the knowledge gap regarding challenges and opportunities in branchless banking so that financial institutions can leverage their digital banking initiatives for long-term growth.

1.6 Limitations of the Study

Limitations are the inherent constraints or boundaries that may affect the generalizability, accuracy, or applicability of a study's findings. The limitations of this study are as follows:

i. The study is limited to only two commercial banks: SBI Bank Limited and Nepal Investment Mega Bank Limited, which may not represent the entire banking sector of Nepal.
ii. The sample has selected only from Dhunibeshi Municipality, which may limit the geographic representativeness of the results.
iii. The use of purposive sampling may introduce selection bias, affecting the objectivity of the findings.
iv. The study relies solely on primary data collected through online surveys, which may exclude respondents with limited digital literacy or internet access.
v. Respondents' self-reported data may be subject to response bias, affecting the reliability of the information.
vi. The study examines only three branchless banking services (mobile banking, agency banking, and ATMs), possibly overlooking other emerging digital banking platforms.
vii. The cross-sectional nature of the data collection restricts the ability to observe changes or trends over time.

CHAPTER – II
LITERATURE REVIEW

This chapter aims to review existing research on the impact of branchless banking on the financial performance of commercial banks in Nepal and develop a research design framework. There is a need to review existing research as it provides a field of departure to explore the impact of branchless banking on financial performance and identify gaps in literature. This is done by placing the current research in the background of existing research on agency banking and financial performance. This is done by reading related books, journals, and articles widely. Review is done in two sections: a theoretical review and an empirical review.

2.1 Theoretical Review

This section is intended to discuss the theoretical perspective towards how branchless banking affects the financial performance of Nepalese commercial banks. It responds to the dominant theories that regulate the way branchless banking affects these banks' financial performance regarding profitability, cost containment, and size of market. Based on these theories, the review attempts to bring out how branchless banking affects the operational efficiency, risk management, and overall financial stability of commercial banks in the Nepalese banking sector. The theories applicable to this study are:

Financial Intermediation Theory

Theory of financial intermediation and hence by extension banking theory of recent times put crucial focus on commercial banks' role as financial intermediaries. Two theories corroborate that due to the asymmetry of information among lenders and borrowers, commercial banks and other intermediaries are essential in the correct channeling of capital resources within the economy. Financial intermediation theory was postulated by Douglas (1984) who argues that there exists information asymmetry in the financial system and markets between lenders and borrowers because borrowers are more likely to know more about their investment projects than lenders (Claus & Grimes, 2003). Financial intermediaries, as the theory goes, act as middlemen thereby leading to net cost savings. The model does a good job of

predicting financial intermediaries' contractual use and thus provides a model to analyze central banking policy concerns. Brigham and Gapenski (1993) argue that financial intermediaries do more than transfer money and securities between firms and savers- they create new financial instruments. Brigham and Gapenski (1997) also proceed to claim that as the financial intermediaries are usually massive, they create economies of scale for evaluating creditworthiness of potential borrowers, in loan facilities processing and collection and risk pooling and hence help individual savers diversify.

Contemporary Banking Theory

Contemporary banking theory, as predicted by Bhattacharya and Thakor (1993), is founded on the theory of financial intermediation and gives prominence to the pivotal role of commercial banks and other financial intermediaries in order to allocate efficiently capital resources in the economy. In contemporary banking theory, financial intermediaries stimulate economic growth by reducing costs of transactions of a diversified set of financial services such as brokerage, risk-bearing, and attribute transformation. Additionally, it demonstrates the role of banks to mobilize capital and transfer savings from the savers to the borrowers to facilitate productive investment. Through intermediaries, through liquidity creation, risk diversification, and monitoring, market efficiency and financial security are enhanced. Under branchless banking, it emphasizes whether technology can provide an expanded range of financial services to enable distribution of capital at a lower cost and enhance ease of market entry in less served markets.

The Theory of the Firm

Theory of the Firm assumes that profit maximization is the long-run goal function of the firm through the computation of optimal amounts of goods to be produced, taking into consideration cost, technology, and demand. It is assumed that the firm would be a price taker in the event of perfectly competitive conditions such that the market price, marginal revenue (MR), average revenue (AR), and demand are equal. In order to gain the highest profit, production is where marginal cost (MC) = MR, or marginal cost of the production of a further unit (Lipsey, 1993). In cases where fixed costs of traditional branch banking within banks exist, profitability is through deviation from more formal operating schemes. For the banks, Accenture (2008) reveals that they

need to weigh against costing less and being able to cope with high-velocity changing markets. One of the strategies used to reduce fixed costs is branchless banking, where the cost is made transferable and flexible. This proves very important in enhancing competitiveness in the long term, particularly in the competitive Kenyan banking sector, where very high concentrations of competition demand higher cost management as well as operational efficiency (Accenture, 2008).

Branchless Banking Theories

The other three theories bank-led theory, non-bank led theory and bank focused theory significantly enhance this study. These theories chiefly focus on an explanation of the way branchless banking is implemented, defining branchless banking risk and opportunities and hence contribute towards the independent variable of the study. In accordance with the bank-led theory of branchless banking, a banked financial institution provides financial service and products through a retail agent. According to CGAP (2006), the bank produces financial products and services and distributes them through retail agents who handle all or most of the customer interaction. Retail agents deal with customers face-to-face and carry out cash in/cash-out transactions, similar to a branch-based teller would receive deposits and make cash withdrawals (Owens, 2006). In the nonbank led theory, customers do not deal with a bank or hold bank accounts. Instead, they do business with a nonbank entity either a mobile network operator or prepaid card issuer and retail agents are the interface of customer communication. In this arrangement customers pay their cash against e-money deposited in a virtual e-money account in the nonbank's server which is not attached with an individual's bank account (Kumar, et al. 2006). This model is riskier in the sense that the regulatory environment under which such nonbanks outlets are operating may not put significant focus on customer due diligence-related matters that have the potential to lead to high Anti-Money Laundering and Counter-Terrorism Financing (AML/CFT) risks. Under the bank-centered theory, an orthodox bank uses off-the-beaten-path low-cost delivery channels to provide banking services to its existing customers. Examples range from the application of automatic teller machines (ATMs) to internet banking or mobile banking to provide some limited banking facilities to bank clients. Application of ATMs is complementary in character and can be termed as modest extension of conventional branch-based banking.

2.2 Empirical Review

Mutarindwa et al. (2024) evaluated the impact of branchless banking (BB) models on financial inclusion using a panel of 155 nations across the globe. The study aimed to assess how the agent network and mobile money technology influence financial inclusion, according to World Bank's Global Financial Index Database, the G20 Financial Inclusion database, and the 2011–2019 Global Enterprise Surveys. The research data were analyzed through mixed effects models. The presence of bank account among adults and SMEs, mobile money penetration, and agents' density for the financial service were utilized as independent variables while utilizing financial inclusion as the dependent variable. Researchers utilized a quantitative method by correlation as well as by regression analysis for obtaining these relationships. The results showed that penetration of mobile money increased exponentially with the flow of time, and the developing world was equal to developed nations as regards using mobile money. Increasing numbers of SMEs and adults were taking bank accounts but increasing numbers of adults in the developing world were not using loans from formal financial institutions, and bank branch concentration was reducing. Financial services agents and mobile money usage were, according to the study, found to be crucial in promoting the likelihood of one having a bank account, proof that BB models help in increasing the financial inclusion rates, particularly for developing nations.

Mohamed (2023) defined credit risk in microfinance institutions (MFIs) in terms of borrower features, donations, and branchless banking adoption in Islamic and conventional MFIs. Using a 20-year global dataset, the study examined the effect of lending to women, groups, and rural borrowers on credit risk and concluded that Islamic MFIs could deepen financial inclusion without compromising credit quality due to excessive donations. Conventional MFIs, being more donor-sensitive, placed greater emphasis on financial performance. The study also concluded that donations assisted in enhancing financial inclusion in both MFIs. Additionally, adoption of branchless banking increased long-term repayment levels and expanded financial inclusion but had short-term credit risks that may deter financially-focused MFIs from making such investments. The. findings are of immediate practical relevance to risk managers and policy makers in minimizing credit risk while fostering access to finance.

Hadiyanto and Dwidienawati (2023) analyzed the influence of branch network offices and regional macroeconomic determinants on Indonesian finance company performance. The study aimed to test the influence of branch offices, Gross Domestic Regional Product (GDRP), Economic Growth, Population, and Income per Capita on bank performance. A descriptive quantitative approach was utilized, utilizing secondary data for 34 Indonesian provinces, and the hypotheses were tested with Partial Least Squares (PLS) analysis. The results indicated that number of branches, GDRP, and Economic Growth positively impacted financial performance. The research gives direction to the finance industry, particularly in the matter of addressing the rising trend of branchless banking and if it should be adopted or redesigned to improve declining performance in the past few years.

Okolie and Eze (2023) analyzed the impact of electronic banking on the performance of Nigerian banks. The study attempted to determine the impacts of the adoption of electronic banking on net profit margin (NPM), return on assets (ROA) and return on equity (ROE) using pre-adoption and post-adoption year comparisons. Using an ex-post facto research design, First Bank Plc data were analyzed cumulatively for twenty-eight years (pre-adoption 1994-2007 and post-adoption 2008-2021). The analysis findings created a significant difference in NPM pre- and post-adoption, thus creating evidence that electronic banking has a substantial impact on profitability. However, the impacts on ROA and ROE were not significant. The study arrived at a finding that while electronic banking significantly affects NPM, it does not significantly affect ROA and ROE and that thus, commercial banks should enhance further their electronic banking systems such that financial performance could be enhanced.

Kebede (2023) examined the determinants of agent banking uptake in Addis Ababa's periphery urban environments, Ethiopia. Through an explanatory and descriptive research method, the research revealed some fundamental issues such as inadequate monitoring of the performance of agent banking, inadequate understanding of data and technology, and inadequate understanding of customer insights. It confirmed a positive and meaningful relationship between factors awareness, attitude, usability, system quality, information quality, location, agent quality, reliability, accessibility and technology and agent banking service outreach performance. The study

established that the determinants have an important influence on agent banking outreach and recommended that banks increase their support and agency banking agents' stock. By improving system quality and information processing, and substituting traditional methods with technology-based methods, banks can be made more efficient and less expensive to run.

Kaiin et al. (2022) carried out a quantitative study of the effect of company reputation and service quality on branchless banking services repurchase intention with customer satisfaction as the mediator variable. The quantitative study used an online questionnaire in gathering data from 259 BRILink customers in Bogor, Indonesia. The study used Structural Equation Modelling (SEM) with Partial Least Squares (PLS) in data analysis. Results revealed that service quality and company image significantly influenced customers' satisfaction and repurchase intent. Also, customer satisfaction served as a positive mediator between company image, service quality, and repurchase intentions. Service quality was the highest determinant of factors influencing BRILink service customers' repurchase intentions. The study suggested ways the branchless banking repurchase decision process should be enhanced as well as offered constructive feedback for BRI to develop policy and enhance the quality of its branchless banking business service in Bogor Regency, West Java.

Zahid et al. (2021) endeavored to develop and cross-validate a novel scale of branchless banking growth and sustainability. The study was quantitative, using the process of scale development with Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) using SPSS 22, and Structural Equation Modelling (SEM) using SmartPLS. The study sampled 150 respondents that were various stakeholders in branchless banking. EFA outcomes verified the seven-factor solution consisting of social sustainability, product responsibility, economic sustainability, labor practices and decent work, environmental sustainability, human rights and ethics, and branchless banking development. Structural model verified that human rights and ethics, labor practices and decent work, product responsibility, and social sustainability had a positive effect on branchless banking development. The study suggested the very first sustainable branchless banking measure scale, and its theoretical as well as practical implications are of concern to all stakeholders such as academia, researchers, bank managers, and practitioners.

Shrivastava et al. (2021) offered a discourse on how alternative banking channels influence the productivity of SBI staff employed in SBI, one of India's largest public sector banks. Based on secondary data collected from annual reports, publications, and bank websites, the research adopted a regression model in examining the impact of ABC products such as online banking, ATM cards, POS systems, internet banking, mobile-cash services, electronic fund transfers, and real-time gross settlements on the productivity of employees. The results indicate that the growing utilization of these ABC products has greatly enhanced the profitability of SBI and the business productivity of its employees. This research reveals the double benefit of off-channel banking to render a bank, as well as its employees, more productive.

Kesa (2021) explained that risks and investment campaign and fund management are present in schools unless community participation is being considered. The purpose of this study was to enhance product diversification of Laku Pandai and ability for developing financial sustainability in the dimension of inclusion at Taruma Jaya village, Kertasari, Bandung Regency. There was use of the Smart Behavior Social Intervention Approach with the respondents drawn from 109 universities, industry, and government relations. The data was obtained through questionnaires on innovation, suitability of product, and process of manufacturing. The methodology adopted was quantitative in nature and correlation analysis was employed to analyze the correlation between Laku Pandai and five variables. The findings showed the positive influence towards improving production with the significance level being 0.05. Yet, university position demonstrated the smallest significance in relation to the other variables. It was held that collaboration between Laku Pandai and local players can enhance product performance and aid job diversification, particularly among the citizens surrounding the Citarum Kilometer 0 Area, through access to finance through branchless banking and helping startup businesses.

Macharia et al. (2021) investigated the effects of emerging channels of banking on performance in commercial banks in Kenya. The study aimed to explore the effects of agency banking, mobile banking, electronic banking, and internet banking on performance in banks. The study employed a descriptive survey research design, focused on commercial banks in Kenya, and annual financial reports as data sources for application and analysis. Quantitative analysis was carried out by employing SPSS

Version 25.0 and employing regression analysis, ANOVA and correlation to determine the connection between the independent and dependent variables. Agency banking positively supported bank performance, mobile banking lowered the cost of delivering services and electronic banking raised access by replacing labor-intensive channels. The study advised the Kenyan government and Central Bank to promote interoperability across the alternative banking channels in order to reduce the costs of private investment in technology as well as drive service delivery using a common technological platform.

Hussain and Iqbal (2020) compared the impact of branchless banking on bank performance and core banking activities in Pakistan. The study aimed to analyze the impact of branchless banking on bank performance, that is, by comparing data of five commercial banks prior to and post-branchless banking implementation and between banks with only branch banking operations and banks offering both. With univariate and multivariate analysis, the researchers performed regressions of core banking measures and performance against branchless banking dummy variables and control variables like net interest margin, total deposits to total assets ratio, deposits to equity ratio, advances to total assets ratio, and administrative expenses to total earnings ratio. Fixed effects and pooled Ordinary Least Squares (OLS) multiple regressions were estimated. The findings revealed that agent banking did not have a remarkable impact on the overall performance of the bank or core banking functions but altered the volatility of such measures.

Alam et al. (2020) discussed the impact of agent banking on the financial performance of commercial banks in Bangladesh in terms of Return on Equity (ROE) as the performance measure. The study utilized a quantitative method grounded on 19 commercial banks' balance sheet, income statements, and Central Bank of Bangladesh data for 2016-2019. Multiple regression testing was applied in examining the correlation between agent banking variables and financial performance. Agent count and volume of deposits were discovered to positively and significantly affect financial performance. In contrast, withdrawal volume negatively affected performance, but disbursement volume made a non-significant contribution. The study indicates that banks must increase investment in agency growth and enhance deposit mobilization

and disbursement strategy via agent banking to enhance financial performance and enhance better interaction between clients and agency service.

Prior and Mora (2019) conducted a study on the influence of branchless banking partnerships (BBPs) on the productivity as well as product diversification of microfinance institutions, and Attawfiq Microfinance in Morocco was used as the case. The study aimed to establish whether the use of a BBP strategy, such as the Low Income Banking (LIB) program, enhanced the institution's productivity as well as its savings product diversification. The authors used a large data sample of 554,541 clients across sociodemographic variables and payment and microcredit data between the years 2010-2015. Transaction, savings, and microcredit variables were used as the outcome and explanatory variables, respectively. Quantitative methods were used with correlation analysis for examining the interrelationship across sociodemographic variables and account usage, and regression analysis for examining the impact of microcredit data. The findings indicated that the BBP model improved the efficiency of the institution but not customers' savings. The study concluded that BBPs facilitate operations improvement but not savings. Ombui (2019) examined the impact of agency banking on the performance of Kenyan banks.

The study aimed to establish the impact of the utilization of agency banking on revenue sources, operating expense, and profit. Descriptive study design was used, and 17 Kenyan commercial banks that had implemented the agency banking model by December 2017. Secondary data were collected from CBK Bank Supervision Annual reports and audited financial reports for the period 2012 to 2017. Data were analyzed using EViews with variables such as the number of agents, agent transaction volume (cash deposits and withdrawals), asset quality, capital adequacy, liquidity, and Return on Assets (ROA). Multiple linear regression revealed that the number of agents, size of transactions, and ROA were all positively correlated, i.e., increases in these correlated with greater ROA. Capital adequacy and liquidity positively correlated with ROA, but asset quality negatively correlated. The study recommended the promotion of agents' network of banks and enhanced agency banking arrangement by the regulators on a broader scale of services. The future can also investigate the influence of agency banking on other industry players in the financial sector, e.g., microfinance institutions, and include other variables like mobile banking and e-

banking to give the overall performance and growth of the banking sector a holistic view. Mangani et al. (2019) analyzed the intervention of branchless banking (BB) programs on the performance of micro and small enterprises (MSE) in rural Indonesia.

This research aimed to find out whether BB services would help trigger economic household behavior, particularly among MSEs that dealt with finances through BB agents. There were observations from 97 MSEs and 32 purposively selected BB agents out of a total of 360 Bogor District in West Java, Indonesia. Quantitative research design and a simultaneous structural equation model, which is a new BB research approach, were used in this research. The variables used included household saving, production, investment, and finance transactions. The study illustrated the way in which investment and finance activities grew as a positive contributor to output along with other variables with no contribution to household saving. It reaffirmed that one needs to best enhance the investment capability of MSE so that programs of branchless banks become most effective in the rural regions.

Dzombo et al. (2017) studied the effect of branchless banking on financial performance of commercial banks in Kenya. The study aimed at establishing the sole and combined influence of electronic banking and agency banking on financial performance, where the performance measure was Return on Assets (ROA). Adopting research under an exploratory research design, the study polled a questionnaire to 42 Kenyan registered commercial banks and also collected data from primary sources and Central Bank of Kenya annual reports. The study was analyzed with SPSS and STATA using descriptive statistics, diagnostic tests, and hypothesis testing. The research had assumed that the combination of an agency and e-banking improved financial performance but the usage of each of them individually had a deteriorating effect on it.

Table 1

Summary of Empirical Review

SN	Author(s)	Objectives	Variables	Methodology	Findings
1	Mutarindwa et al. (2024)	To assess the impact of branchless banking models on financial inclusion globally.	Dependent: Financial Inclusion Independents: Mobile Money Penetration, Financial Service Agents, Bank Accounts	Research Design: Quantitative Population: 155 countries Sample: Global dataset Tools: Correlation, Regression Analysis	Mobile money penetration increased significantly; more adults and SMEs with bank accounts; fewer loans in developing countries.
2	Mohamed (2023)	To explore credit risk in MFIs across Islamic and conventional models.	Dependent: Credit Risk Independents: Borrower Characteristics, Donations, Branchless Banking Adoption	Research Design: Quantitative Population: 20-year international sample Sample: Various MFIs Tools: Analysis of Credit Risk	Islamic MFIs improved financial inclusion without compromising credit quality; conventional MFIs faced higher donor scrutiny.
3	Hadiyanto and Dwidienawati (2023)	To investigate the effect of branch network and macroeconomic indicators on finance company performance in Indonesia.	Dependent: Financial Performance Independents: Branches, GDRP, Economic Growth, Population, Income per Capita	Research Design: Descriptive Quantitative Population: 34 provinces in Indonesia Sample: Secondary Tools: PLS Analysis	Branch number, GDRP, and Economic Growth positively influenced financial performance.

4	Okolie and Eze (2023)	To determine the effects of electronic banking adoption on financial performance in Nigeria.	Dependent: Net Profit Margin (NPM), Return on Assets (ROA), Return on Equity (ROE) Independent: Electronic Banking Adoption	Research Design: Ex-post Facto Population: Data from First Bank Plc Sample: 28 years of data Tools: Data Analysis	Significant NPM difference pre- and post-electronic banking adoption; ROA and ROE effects were minimal.
5	Kebede (2023)	To explore determinants influencing agent banking adoption in peripheral urban areas of Addis Ababa.	Dependent: Agent Banking Effectiveness Independents: Awareness, Attitude, Ease of Use, System Excellence, etc.	Research Design: Explanatory and Descriptive Population: Peripheral urban areas in Addis Ababa Sample: Data on various determinants Tools: Quantitative Analysis	Positive relationship between determinants and agent banking effectiveness; improved support for agents recommended.
6	Kaiin et al. (2022)	To examine the relationship between service quality, company image, and repurchase decisions in branchless banking.	Dependent: Repurchase Decisions Independents: Service Quality, Company Image Mediator: Customer Satisfaction	Research Design: Quantitative Population: BRILink customers in Bogor Sample: 259 respondents Tools: SEM with PLS	Service quality and company image significantly influenced repurchase decisions; customer satisfaction was a mediator.

7	Zahid et al. (2021)	To develop and validate a scale for measuring the sustainability and development of branchless banking.	Dependent: Branchless Banking Development Independents: Social Sustainability, Product Responsibility, etc.	Research Design: Quantitative Population: Stakeholders in branchless banking Sample: 150 respondents Tools: EFA, CFA, SEM	Identified seven factors impacting branchless banking; introduced a new sustainability measurement scale.
8	Shrivastava et al. (2021)	To assess the impact of alternative banking channels on employee productivity at SBI.	Dependent: Employee Productivity Independents: Use of ABC Products (online banking, ATM, etc.)	Research Design: Quantitative Population: SBI Sample: Secondary data from SBI Tools: Regression Analysis	Significant improvement in profitability and employee productivity due to alternative banking channels.
9	Kesa (2021)	To explore the impact of community involvement on fund management and investment campaigns in educational institutions.	Dependent: Product Performance Independents: Innovation, Product Alignment, Production Processes	Research Design: Quantitative Population: Taruma Jaya, Kertasari, Bandung Regency Sample: 109 respondents Tools: Correlation Analysis	Positive impact on product performance and financial inclusion; recommended collaboration with local stakeholders.

10	Macharia et al. (2021)	To evaluate the impact of various banking channels on commercial banks' performance in Kenya.	Dependent: Bank Performance Independents: Agency Banking, Mobile Banking, Electronic Banking, Internet Banking	Research Design: Descriptive Survey Population: Commercial banks in Kenya Sample: Financial reports Tools: Regression Analysis, ANOVA, Correlation	Agency banking improved performance; mobile and electronic banking reduced costs and improved access.
11	Hussain and Iqbal (2020)	To examine the impact of branchless banking on bank performance and core banking functions in Pakistan.	Dependent: Bank Performance, Core Banking Functions Independents: Branchless Banking Adoption	Research Design: Univariate and Multivariate Analysis Population: Five commercial banks in Pakistan Sample: Bank data Tools: Pooled OLS, Fixed Effects Method	Branchless banking had no significant impact on overall performance but altered volatility of indicators.

12	Alam et al. (2020)	To investigate the impact of agent banking on financial performance of commercial banks in Bangladesh.	Dependent: Financial Performance (ROE) Independents: Number of Agents, Deposit Volume, Withdrawal Volume	Research Design: Quantitative Population: 19 commercial banks in Bangladesh Sample: Secondary data Tools: Multiple Regression Analysis	Positive impact of number of agents and deposit volume; negative effect of withdrawal volume on financial performance.
13	Prior and Mora (2019)	To assess the impact of branchless banking partnerships on efficiency and product offerings of microfinance institutions.	Dependent: Operational Efficiency, Savings Offering Independents: Transactions, Savings, Microcredit Data	Research Design: Quantitative Population: Attawfiq Microfinance customers Sample: 554,541 customers Tools: Correlation and Regression Analysis	Improved operational efficiency but limited increase in savings; BBP strategy effective for operational aspects.

14	Ombui (2019)	To analyze the impact of agency banking on financial performance of Kenyan banks.	Dependent: Financial Performance (ROA) Independents: Number of Agents, Transaction Volume, Asset Quality	Research Design: Descriptive Population: 17 commercial banks in Kenya Sample: Secondary data Tools: Multiple Linear Regression Analysis	Positive relationship between number of agents, transaction volume, and ROA; capital adequacy and liquidity also positive.
15	Mangani et al. (2019)	To investigate how branchless banking programs impact micro and small enterprises (MSEs) in rural Indonesia.	Dependent: MSE Performance Independents: Financial Transactions, Investments, Production, Household Savings	Research Design: Quantitative Population: MSEs in Bogor District Sample: 97 MSEs, 32 BB agents Tools: Structural Equation Model Analysis	Positive impact on production and investment; smaller effect on household savings.

16	Dzombo et al. (2017)	To evaluate the effects of agency and electronic banking on the financial performance of commercial banks in Kenya.	Dependent: Financial Performance (ROA) Independents: Agency Banking, Electronic Banking	Research Design: Exploratory Population: 42 licensed commercial banks in Kenya Sample: Data from primary sources and Central Bank reports Tools: SPSS, STATA	Negative impact when used independently; positive impact when combined as a multichannel strategy.

(Source of Empirical Review: https://scholar.google.com)

2.3 Research Gap

The research gap has been addressed by examining the "Impact of Branchless Banking on Financial Performance," taking independent variables such as agency banking, mobile banking, and ATMs, and financial performance as the dependent variable. The previous studies were primarily focused on various aspects of financial performance but did not touch extensively upon the separate impacts of branchless banking. Apart from this, previous research works never employed a descriptive and causal-comparative research design; however, in the current study, both of them have been used. Several studies have based their work on secondary data, but the current research work has relied on primary data. The data analysis for the current study has been conducted using correlation and regression analysis which was not uniquely used by previous researchers. The study targeted all the SBI Bank Limited and Nepal Investment Mega Bank Limited customers, and 416 respondents from Dhunibeshi Municipality were selected through purposive sampling. With a comprehensive analysis of the effect of branchless banking on financial performance based on current data and extensive analysis, the study has successfully addressed the mentioned research gap.

CHAPTER – III
RESEARCH METHODOLOGY

The research methodology section has detailed the strategies, tools, and methods used to investigate data and draw conclusions. It has involved an in-depth search to identify the most suitable research approach in uncovering new data. To achieve the study's aims, the researcher has applied the following methodology.

3.1 Research Design

The research design has employed descriptive and causal-comparative approaches to examine the "Impact of Branchless Banking on Financial Performance" in Nepal. The descriptive design has examined patterns and determinants of branchless banking operations, including agency banking, mobile banking and ATMs. The causal-comparative design has tested the relationships and impact between the dependent variable (financial performance) and independent variables (agency banking, mobile banking and ATMs). This technique has provided an in-depth design to investigate the effect of branchless banking on financial performance.

3.2 Population and Sample, and Sampling Design

The population for this study was all customers of SBI Bank Limited and Nepal Investment Mega Bank Limited (NIMB) of Kathmandu Valley, and 416 respondents (208 from each of the banks) have been selected through purposive sampling. SBI Bank Ltd and NIMB were selected as they are known providers of the most reliable services in branchless banking in Nepalese society, thus both banks being the best representatives of the commercial banking sector in Nepal. Purposive sampling has ensured that only participants with previous branchless banking experience with banking services and financial products are covered, enabling the provision of effective information regarding branchless banking as well as financial performance. This sample size has been statistically significant in maintaining the validity and reliability of study findings to represent a diverse mix of customer profiles on the basis of age, education, and branchless banking experience. The sample size is calculated by applying Cochran's 1977 formula to find the representative sample size when the population (all the customers) is unknown.

Formula for determine sample size of respondents is as follows:

$$n = \frac{z^2 pq}{e^2}$$

Where;

n = Sample size for infinite population

Z = Critical value of desired confidence interval

p = Estimated proportion of an attribute that's present in population

e = Level of significance

With Confidence Interval of 95% and 5% level of significance

Here,

Z =1.96, p = 0.5, q = 0.5, e = 0.05

Now,

$$n = \frac{(1.96)^2 0.5 \times 0.5}{0.05^2} = 384$$

Optimal sample size using Cochran's formula of 1977 is 384 but the study is using 416 respondents to offset any stochastic model errors with the added 32 respondents.

3.3 Sources and Nature of the Data, and the Instruments of Data Collection

In this study on "Branchless Banking and Financial Performance of Commercial Banks in Nepal," the primary data that were collected through structured questionnaires and surveys given to customers of SBI Bank Limited and the customers of Nepal Investment Mega Bank Limited (NIMB) of Dhunibeshi Municipality have been utilized. The source of data were active bank customers, their experience about branchless banking, and their influence on the financial performance of the banks. The tool used for data collection has been a Google Forms survey, which has multiple-choice and Likert scale questions to gather information on the independent variables of agency banking, mobile banking, and ATMs, with financial performance as the dependent variable.

3.4 Method of Analysis

For analyzing empirically branchless banking's impact on Nepalese commercial banks' performance, the research has made use of demographic, reliability, descriptive, and inferential statistical analysis conducted with the assistance of SPSS Version 29. Descriptive statistics yielded an explanation of the salient features of the

data, while correlation and regression analysis checked relationship and causation among independent variables and the dependent variable. Besides, factor analysis was applied in the determination of latent structures in data, whereas ANOVA was applied in the variation analysis of financial performance in different branchless banking models. Applied research methodology allows one to have an insight into how branchless banking influences financial performance, with the methodology adopting a composite approach in applying different statistical methods in ensuring accuracy and reliability of findings. The approach employs the following analytical techniques:

A. Reliability Statistics

Reliability is the consistency and stability of research evidence. Cronbach's alpha test was used to test the reliability and internal consistency of questionnaire items, which means a reading of 0.7 and above confirms good reliability.

Table 2

Reliability Test of All Study Variables

Variables	Number of Item	Cronbach's Alpha
Agency Banking	6	0.721
Mobile Banking	6	0.792
ATMs	6	0.798
Financial Performance	6	0.765

(Source: SPSS Version 29)

Table 2 is the reliability test of all variables in the study. As a value of over 0.7 is the acceptable value of Cronbach's alpha, all the variables are acceptable.

B. Respondent's Demographic Profile Analysis

This study has used demographic data of SBI and NIMB customers of the Dhunibeshi Valley by gender, age, education level, occupation, monthly income, and branchless banking experience. The research has illuminated how these demographics influence the take-up and effect of branchless banking on financial performance. Additionally, response rates for the questionnaires have been mentioned, giving the number of questionnaires sent and returned, and the overall response rate. The respondent profile was also given within the Chapter 4 results.

C. Descriptive Statistics

Descriptive statistics have been used to compare the most significant variables with the impact of branchless banking on the financial performance of Nepalese commercial banks. Independent variables like agency banking, mobile banking, and ATMs have been compared with financial performance as the dependent variable. The segregation has provided an insight into the minimum, maximum, average, and standard deviation (SD) of the variables and understanding their distribution and variability. These quantitative measures have also been used to establish central tendencies and dispersion, paving the way for more advanced analysis in terms of how these branchless banking measures are affecting financial performance of SBI Bank Limited and Nepal Investment Mega Bank Limited clients. Descriptive statistics results are as follows:

Arithmetic mean

Mean or arithmetic mean is a straightforward statistical measure that gives the middle value of a set. It is calculated by summing all numbers and dividing them by the number of numbers. Although simple and very handy in giving an approximation of data, the mean is not necessarily influenced by unique numbers or outliers and may thus be different from regular numbers in the set.

AM formula is as follows:

$$\text{Arithmetic mean } (\bar{x}) = \frac{\sum X}{n}$$

Where,

n denotes the total count of data points within the dataset

$\sum X$= Sum of all values in the dataset

Standard deviation

Standard deviation measures the variability of values in a dataset, and how much individual data points differ from the mean. Low standard deviation means low variability, and high standard deviation means high variability. It helps measure the consistency or reliability of data, thus the need to apply it in data analysis and interpretation. Understanding standard deviation aids in taking appropriate decisions because it detects the range of risk or certainty in data. Standard deviation is applied extensively across all domains for accurate decision-making and strategizing.

Formula for standard is as follows:

Standard deviation (σ) = $\sqrt{\frac{\sum(X-\bar{X})^2}{N-1}}$

Where,

X Represents each individual data point in the dataset

$\bar{X}$ Represents the mean (average) of the dataset

N represents the total number of data entries in the dataset.

D. Inferential Statistics

Inferential statistics quantify how independent variables like agency banking, mobile banking, and ATMs are related to the dependent variable, financial performance, for customers of SBI Bank Limited and Nepal Investment Mega Bank Limited. They quantify how branchless banking is related to financial performance. Correlation and regression analysis have numerically quantified how branchless banking variables impact financial performance most. The results of the inferential statistics are as follows:

Correlation analysis

Correlation analysis measures the strength and direction of the association between variables. Positive correlation means that both variables are of the same direction, while negative correlation means that there is an inverse relationship. Correlation coefficient ranges from +1 (perfect positive) to -1 (perfect negative), and 0 means that there is no correlation. Correlation analysis indicates the closeness and nature of association between variables and thus aids in intelligent decision-making as well as predictive modeling.

Pearson correlation coefficient, r, can be calculated as follows:

$$r = \frac{n\,(\sum XY) - (\sum X)\,(\sum Y)}{\sqrt{[n\,(\sum X^2) - (\sum X)^2]\,[n\,(\sum Y^2) - (\sum Y)^2]}}$$

Where;

n = the number of data pairs

$\sum XY$ = the sum of the product of each pair of scores

$\sum X$ And $\sum Y$ = the sums of X and Y scores respectively

Regression analysis

Regression analysis measures the association between two or more variables by estimating the dependent variable from the independent variables. Regression analysis forecasts how alterations in the predictor variables influence the dependent variable, with regression coefficients ('β') indicating the size of the effect. The method provides an accurate description of how the predictor variables influence variation in the response variable.

Model specification

In this context, the dependent variable has been Financial Performance and it has been influenced by some independent variables that include agency banking, mobile banking and ATMs.

The model is represented as:

Financial Performance = $\beta_0 + \beta_1 AB + \beta_2 MB + \beta_3 ATMs + \varepsilon it$

Where:

β_0 = Intercept/ constant term

FP = Financial Performance

AB = Agency Banking

MB = Mobile Banking

ATMs = Automated Teller Machine

εit = error term of the stochastic model

Betas ($\beta_1, \beta_2, \beta_3$) are the parameters of the model

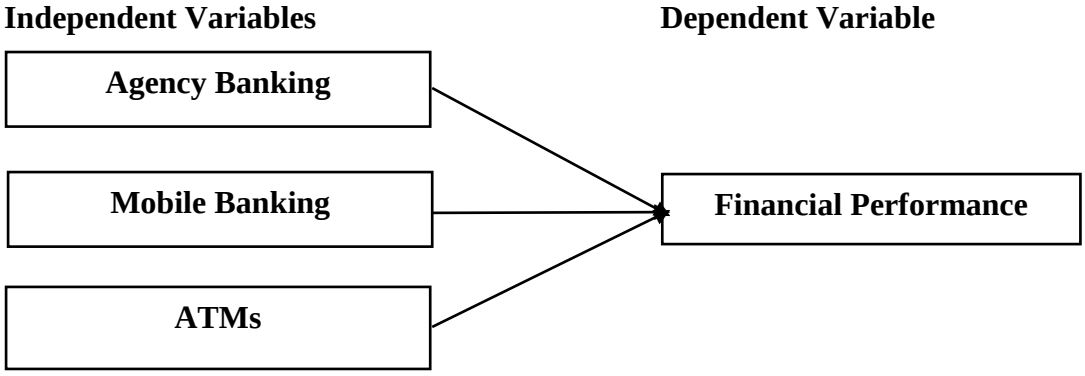
3.5 Research Framework and Definition of Variables

A research framework is a coherent plan that lays out the most pertinent variables, concepts, notions, and associations of interest within a research inquiry. It is a conceptual diagram to chart the research line and offer guidance and continuity to analysis. The research framework investigates the impact of branchless banking on the financial performance of commercial banks in Nepal through the assistance of theoretical models and empirical evidence. The article seems to be reflecting on the interface between standalone drivers such as mobile banking and ATMs and bank performance. The model estimates, according to bank innovation theories and bank performance theories, the impact of these branchless banking modes on customer

access, profitability, and stability, with a very detailed discussion on how these methods of banking are enhancing financial efficiency and stability in the financial system. The design of the study is as follows to demonstrate the framework of this study.

Figure 1

Research Framework



(Source: Matan et al., 2024; Demaki et al., 2021, Alam et al., 2021)

Dependent Variable

Financial Performance

Financial performance is a comprehensive indicator of profitability and financial health of a bank. Return on Assets (ROA) is an important metric but one of several employed to measure financial performance. Others are Return on Equity (ROE), Net Profit Margin (NPM), and Cost-to-Income Ratio (CIR), which together provide more contextual understanding of the efficiency of operations, profitability, and overall financial capability of the bank. ROE is a measure of the capacity of a bank to generate a profit on the capital of the shareholders, NPM measures profitability on revenues, and CIR measures efficiency in controlling costs versus earnings. All these measures are valuable to gauge the well-being and performance of a bank both in operating performance as well as profitability, especially with new banking technologies like branchless banking (Brigham & Ehrhardt, 2016).

Independent Variables

Agency Banking

Agency banking allows banks to provide their products through third-party agents where opening of real branches is not feasible. Agency banking model incurs the expense of agent network establishments, technology investments, training of agents,

and regulatory compliance. Agency banking allows banks to reach unreached communities, expanding market reach and customer deepening bases. Therefore, it is able to improve financial performance in terms of increased availability, cost savings, and widening the reach of the bank (Bourne, 2017).

Mobile Banking

Mobile banking is an electronic channel for customers to conduct banking transactions through mobile applications and internet banking. Banks invest in customer experience improvement, security, and mobile banking infrastructure to offer improved services. Mobile banking reduces reliance on physical branches, optimizes operating costs, and addresses increased demand for convenience. Mobile banking is essential to business performance improvement by lowering operating costs, customer interaction, and improving access to financial services (Pikkarainen et al., 2004).

ATMs

Automated Teller Machines (ATMs) are a core element of branchless banking that provides 24x7 access to core banking products such as withdrawals, deposits, and balance inquiry. Banks invest in expanding ATM networks for enhanced access, reducing cost of operations in physical offices, and enhanced customer satisfaction. ATMs also enhance profitability by reducing the workload of workers, enhancing the availability of services, and enhancing the loyalty of customers through enhanced convenience. Strategic placement in the underbanked segments also enhances financial inclusion together with the bank's bottom line through enhanced coverage of customers (Myles, 2018).

CHAPTER – IV
RESULTS AND DISSCUSSION

This chapter presents the findings and discussion of primary data collected through a questionnaire for the investigation of the impact of branchless banking on financial performance in Nepalese commercial banks. The respondent profiling was conducted based on demographic features like gender, age, educational qualification, occupation, monthly income and experience in using branchless banking services like agency banking, mobile banking, and ATMs. Descriptive statistics of minimum, maximum, mean, and standard deviation summarized the data, while inferential statistics, through correlation and regression analyses with SPSS Version 29, examined the financial performance and branchless banking services' relationship. The findings elaborate on the effect of agency banking, mobile banking, and ATMs on financial performance. The chapter has two sections: Results and Discussion.

4.1 Results

In this results section, the data gathered and their findings have been presented by analyzing them through statistical software such as SPSS and Excel. This chapter has uncovered the findings of the demographic profile of the respondents, descriptive analysis, correlation analysis, and regression analysis. The presentation of the data and their findings has been as follows:

A. Demographic Profile of Respondents

This segment provides the demographic data of the respondents in relation to branchless banking and financial performance of Nepalese commercial banks based on primary data collected through questionnaires. It includes gender, age, educational qualification, occupation, monthly income, and experience with branchless banking services. The demographic profile informs us about the diversity of the customer base and how they utilize these banking models, which informs us about what factors are likely to drive financial performance. The demographic profile is presented below in the following table.

Table 3

Respondent's Demographic Profile

Demographic	Options	Frequency	Percentage
Gender	Male	219	52.6
	Female	197	47.4
Age Group	Below 20 years	34	8.2
	20 years to 30 years	186	44.7
	31 years to 40 years	133	32.0
	41 years to 50 years	49	11.8
	Above 50 years	14	3.4
Education	School Level	34	8.2
	Bachelor Level	165	39.7
	Master Level	169	40.6
	Above Master Level	48	11.5
Occupation	Student	98	23.6
	Employed	274	65.9
	Unemployed	44	10.6
Monthly Income	Below Rs. 10,000	62	14.9
	Rs. 10,000 to Rs. 20,000	91	21.9
	Rs. 20,001 to Rs. 30,000	102	24.5
	Rs. 30,001 to Rs. 40,000	85	20.4
	Rs. 40,001 to Rs. 50,000	37	8.9
	Above Rs. 50,000	39	9.4
Experience with Branchless Banking Services	No experience with branchless banking	53	12.7
	Limited experience	206	49.5
	Regular user of branchless banking services	157	37.7

(Source: Field Survey 2024; SPSS Version 29) N = 416 and Percentage (%) = 100

Table 3 offers gender of respondents of study on effect of branchless banking services on profitability of Nepalese commercial banks. The gender ratio has marginally more

respondents as male (52.6%) than female (47.4%). The largest number of the respondents belong to age groups of 20-30 years (44.7%) and 31-40 years (32.0%), while very marginal percentage belongs to the age group above 50 years (3.4%). Educationally, the majority of the respondents possess a Bachelor's degree (39.7%) or Master's degree (40.6%), while fewer possess higher education than the Master's degree (11.5%). Occupationally, the majority are employed (65.9%), followed by students (23.6%), while fewer are unemployed (10.6%). Income-wise, the majority of them are between Rs. 10,000 and Rs. 30,000, of which 21.9% are between Rs. 10,000 and Rs. 20,000 and 24.5% are between Rs. 20,001 and Rs. 30,000. The highest percentage of the respondents (49.5%) have moderate exposure to branchless banking services, followed by 37.7% frequent exposure and 12.7% no exposure. These demographic characteristics offer a representative population sample of value, offering informative data on the contribution of financial performance and branchless banking.

B. Descriptive Statistics Analysis

This chapter explains descriptive data analysis of questionnaires of branchless banking services through statistical measures like minimum, maximum, mean, and standard deviation to give an overview of the salient features of the data. This chapter combines independent variables like agency banking, mobile banking, and ATM services and the dependent variable, which is financial performance. The results testify that mobile banking and ATMs are high with minimal variation in response, signifying high usage and adoption of the services by the customers. There is minimal variation in customers' attitude towards agency banking, particularly availability of service and ease of use. The dependent variable, financial performance, shows positive trends with various responses, reflecting various degrees of influence of branchless banking on financial performance for various customer segments. In general, the results show that the customers view branchless banking services, especially mobile banking and ATMs, positively with minimal variation in perception and experience. The descriptive statistics of each of the variables are shown below in the tables.

Table 4

Descriptive analysis of Agency Banking

Scale Items for Agency Banking	Mean	S.D.
Agent banking services reduce transaction costs for customers.	3.9014	1.09210
Agent banking helps in increasing bank revenue.	4.0096	1.01074
Agent banking improves financial accessibility for underserved areas.	3.9327	0.97698
The use of agent banking reduces the bank's operational costs.	4.0120	1.04240
Agent banking increases customer retention and engagement.	3.9519	0.98793
Agent banking contributes to improved overall financial performance.	4.0745	0.98261

(Sources: Field Survey, 2024; SPSS Version 29)

Table 4 presents descriptive analysis of agency banking scale items as respondents' perception towards various aspects of agent banking. The item "Agent banking services reduce customers' transaction costs" received a score of 3.9014 (SD = 1.09210) at moderate agreement level. The item "Agent banking generates bank revenue" received a score of 4.0096 (SD = 1.01074), indicating vast confidence in agent banking to generate revenue. Under the thematic category of expanding financial reach to underbanked markets, the statement "Agent banking widens financial reach to underserved markets" scored an average of 3.9327 (SD = 0.97698) and indicated agreement. The statement "The use of agent banking reduces the cost of operation of the bank" scored an average of 4.0120 (SD = 1.04240), once more indicating positive attitude towards the cost-reducing impact of agent banking. The answer "Agent banking results in higher customer retention and participation" had a mean of 3.9519 (SD = 0.98793), indicating agreement that agent banking results in higher customer retention. Lastly, the answer "Agent banking improves overall financial performance" had the highest mean of 4.0745 (SD = 0.98261), indicating high agreement with regard to how agent banking affects financial performance. The standard deviations indicate that there is some difference in response, but generally attitudes to agent banking are positive.

Table 5

Descriptive analysis of Mobile Banking

Scale Items for Mobile Banking	Mean	S.D.
Mobile banking enhances convenience for customers.	4.1683	0.83913
Mobile banking increases the volume of transactions.	4.1562	0.89017
Mobile banking reduces the cost of banking operations.	4.0385	0.84366
Mobile banking has a significant impact on bank profitability.	4.1731	0.89381
Mobile banking improves customer satisfaction.	4.0745	0.85685
Mobile banking contributes to overall financial performance improvement.	4.2043	0.90198

(Sources: Field Survey, 2024; SPSS Version 29)

Table 5 presents descriptive statistics of mobile banking scale items that determine the feelings of respondents on the impact of mobile banking on bank operations. "Mobile banking brings more convenience to customers" had a mean rating of 4.1683 (SD = 0.83913), which validates strong agreement that mobile banking is convenient. The measure "Mobile banking increases the size of transactions" had a mean of 4.1562 (SD = 0.89017), suggesting that mobile banking is perceived to increase sizes of transactions. The measure "Mobile banking decreases the cost of banking operations" had a mean score of 4.0385 (SD = 0.84366), suggesting concurrence that mobile banking decreases the cost of operations. The item "Mobile banking has a significant impact on bank profitability" had a mean of 4.1731 (SD = 0.89381), reflecting the perception that mobile banking positively impacts bank profitability. The item "Mobile banking improves customer satisfaction" had a mean of 4.0745 (SD = 0.85685), reflecting moderate agreement that it improves customer satisfaction. Finally, "Mobile banking contributes to overall financial performance improvement" also received the highest mean score of 4.2043 (SD = 0.90198), demonstrating strong agreement that mobile banking improves overall financial performance. Standard deviations of items exhibit a quite uniform belief of mobile banking's positive impact.

Table 6

Descriptive analysis of ATMs

Scale Items for ATMs	Mean	S.D.
ATMs increase the ease of access to banking services.	4.2115	0.80568
ATMs help reduce customer waiting time at branches.	4.1562	0.87653
ATMs reduce operational costs for banks.	4.1298	0.87121
ATMs contribute to generating additional revenue streams.	4.0697	0.90910
ATMs improve customer satisfaction and loyalty.	4.0865	0.89022
The use of ATMs positively impacts financial performance.	4.1587	0.85803

(Sources: Field Survey, 2024; SPSS Version 29)

Table 6 presents descriptive analysis of items of ATM scale that express respondents' opinion that ATMs enhance banking services. Response "ATMs make it easier for people to access banking services" was with mean score 4.2115 (SD = 0.80568), which expresses strongly that ATMs make banking services easily accessible. The "ATMs decrease customers' waiting time in branches" measure was 4.1562 (SD = 0.87653), which is a measure that ATMs decrease branch waiting time. The "ATMs decrease banks' operating expenses" measure was 4.1298 (SD = 0.87121), which is a measure that ATMs are observed to decrease banks' operating expenses. The answer "ATMs contribute to generating new sources of revenue" received a mean score of 4.0697 (SD = 0.90910) showing moderate agreement that ATMs contribute to generating new sources of revenue for banks. The answer "ATMs increase customer satisfaction and loyalty" received a score of 4.0865 (SD = 0.89022) showing agreement that ATMs increase customer satisfaction. Lastly, "The use of ATMs has a positive effect on financial performance" also achieved a mean score of 4.1587 (SD = 0.85803) indicating positive attitude towards the effects of ATMs on financial performance. The standard deviations indicate virtually the same agreement towards the positive impact of ATMs.

Table 7

Descriptive analysis of Financial Performance

Scale Items for Financial Performance	Mean	S.D.
The use of mobile banking has significantly increased the profitability of the bank.	4.1370	0.85755
Agent banking has contributed to the reduction of operational costs, improving financial performance.	4.2043	0.83252
ATMs have expanded customer outreach and improved revenue generation.	4.1274	0.83051
Branchless banking services, including mobile banking, agent banking, and ATMs, have enhanced overall customer satisfaction, impacting financial performance positively.	4.1683	0.87842
The integration of branchless banking services has strengthened the bank's competitive position in the financial market.	4.1514	0.83804
Mobile banking, agent banking, and ATMs have collectively improved the financial performance of the bank by increasing operational efficiency.	4.1683	0.82172

(Sources: Field Survey, 2024; SPSS Version 29)

Table 7 presents the descriptive analysis of financial performance items. The statement "The use of mobile banking has significantly enhanced profitability" scored a mean of 4.1370 (SD = 0.85755), indicating its role in profitability. "Agent banking has reduced cost of operations to improve financial performance" was scored a mean of 4.2043 (SD = 0.83252), indicating its cost-reduction factor. "ATMs have expanded customer reach and added revenue" had a rating of 4.1274 (SD = 0.83051), while "Branchless banking services have enhanced customer satisfaction, driving financial performance positively" had a rating of 4.1683 (SD = 0.87842). "The addition of branchless banking services has strengthened the competitive position of the bank" scored 4.1514 (SD = 0.83804), while "Mobile banking, agent banking, and ATMs have improved financial performance through increased operational efficiency" scored 4.1683 (SD = 0.82172).

Table 8

Summary of Descriptive Statistics Analysis

Variables	N	Min	Max	Mean	S.D.
Agency Banking	416	1.00	5.00	3.9805	0.55167
Mobile Banking	416	2.17	5.00	4.1361	0.46304
ATMs	416	1.50	5.00	4.1356	0.46368
Financial Performance	416	1.83	5.00	4.1593	0.47315

(Sources: SPSS Version 29)

Table 8 presents the descriptive statistics of the key variables for branchless banking and financial performance. Agency banking with a mean of 3.9805 (SD = 0.55167) shows a positive perception, but it is still moderate, which suggests that the respondents perceive its importance but perhaps also perceive that there should be more impact. Mobile banking, with a higher mean of 4.1361 (SD = 0.46304), reflects a positive attitude towards its role in enhancing the efficiency of banking and customer convenience. Similarly, ATMs, with a mean of 4.1356 (SD = 0.46368), are viewed in a positive light, reflecting their tremendous role in enhancing outreach and customer satisfaction. Financial performance, with a mean of 4.1593 (SD = 0.47315), has a high positive score, indicating the overall positive attitude toward how branchless banking services, including mobile banking, agency banking, and ATMs, are perceived to improve profitability, cost reduction, and operational efficiency in commercial banks. These results affirm that mobile banking, agency banking, and ATMs are highly valued for their overall positive impact on banks' financial performance.

C. Correlation Analysis

Correlation analysis has been conducted to determine the inter-linkages between independent variables such as agency banking, mobile banking, and ATMs as the dependent variable under branchless banking in Nepal. The study attempts to make visible how these branchless banking channels impact the financial performance of commercial banks and overall banking operations. Pearson's correlation method has been applied by making use of SPSS Version 29, and results are presented in Table 9.

Table 9

Karl Pearson's Correlation Analysis of Study Variables

Variables	AB	MB	ATMs	FP
Agency Banking	1			
Mobile Banking	0.445**	1		
ATMs	0.401**	0.504**	1	
Financial Performance	0.328**	0.472**	0.495**	1

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

(Source: SPSS Version 29)

Table 9 shows the Pearson correlation analysis findings in terms of significant positive correlations between the independent variables (Mobile Banking, Agency Banking, and ATMs) and the dependent variable, Financial Performance (FP). Agency Banking ($r = 0.328$, $p < 0.01$) weakly positively correlates with FP, meaning that even though there exists a positive correlation, its contribution to financial performance is very minimal. Mobile Banking ($r = 0.472$, $p < 0.01$) has a medium positive correlation with FP, indicating mobile banking has an excellent and dominating connection with financial performance. ATMs ($r = 0.495$, $p < 0.01$) show the highest correlation with FP, suggesting ATMs possess high influence in supporting financial outcomes. The relationship between ATMs and Mobile Banking ($r = 0.504$, $p < 0.01$) shows that the two services are highly correlated, with a potential to even enhance financial performance when used together. Overall, the research shows that branchless banking solutions such as ATMs and Mobile Banking have a higher contribution to financial performance than Agency Banking, and continued investment in these solutions could have higher operating and financial yields.

D. Regression Analysis

Regression analysis is a statistical technique used to ascertain the direction and magnitude of the relationship between one or more independent variables and a dependent variable. The regression analysis in this study aims to examine the impact of branchless banking products such as Agency Banking, Mobile Banking and ATMs on the dependent variable, Financial Performance of commercial banks in Nepal. Summary of the findings of the regression is shown below.

Table 10

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.562[a]	0.316	0.311	0.39283

a. Predictors: (Constant), Agency Banking, Mobile Banking, ATMs

(Sources: SPSS Version 29)

Table 10 shows the model summary of this study with an R Square of 0.316. This implies that 31.6% variation in Financial Performance (FP) is accounted for by the collective influence of Agency Banking, Mobile Banking, and ATMs. The Adjusted R Square of 0.311 reflects a very minor adjustment for the model's number of predictors, and this confirms the validity of variance explained. However, 68.4% of the Financial Performance variance is still accounted for by the other omitted factors in this model.

Table 11

Analysis of Variance (ANOVA[a])

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.328	3	9.776	63.352	0.000[b]
	Residual	63.577	412	0.154		
	Total	92.905	415			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Agency Banking, Mobile Banking, ATMs

(Sources: SPSS Version 29)

Table 11 presents the Analysis of Variance (ANOVA) for the regression model. The significance value (Sig.) is 0.000, less than the 1% level of significance (0.01). This indicates that statistically the model is significant, i.e., the combined effect of agency banking, mobile banking, ATMs on financial performance is a good predictor.

Table 12

Regression Analysis for Dependent Variable Financial Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	sig.
	B	Std. Error	Beta		
(Constant)	1.366	0.205		6.657	0.000
Agency Banking	0.065	0.040	0.076	1.618	0.106
Mobile Banking	0.280	0.051	0.274	5.522	0.000
ATMs	0.333	0.049	0.326	6.735	0.000

a. Dependent Variable: Financial Performance

(Sources: SPSS Version 29)

Table 12 presents the regression of the dependent financial performance against the impact of agency banking, mobile banking, and ATMs. Agency banking has statistically insignificant but significant with an unstandardized coefficient of 0.065 and p value of 0.106 which is greater than 1% significance level, hence its impact on financial performance is insignificant for now. This can be due to implementation problems or non-adoption, i.e., it requires special initiatives to make it best perform. Mobile banking has a significant positive contribution to financial performance with a coefficient value of 0.280 and p-value is 0.000 less than the 1% significance level, indicating that it has a significant contribution towards improving financial performance by enhancing service availability and efficiency. ATMs have the most significant positive effect of the variables with coefficient 0.333 and p value 0.000 under 1% significance level, towards their pivotal role in propelling financial performance via customer convenience and service improvement. ATM development and optimization as priority one, and mobilizing mobile banking potential with increased innovation and customer engagement, is advised by these results. For agency banking, utmost importance must be accorded to addressing operation-related challenges and awareness generation to unlock its potential in terms of financial contribution. Overall, the analysis reflects a situation of blended contributions from these branchless channels with mobile banking and ATMs as drivers of change and agency banking requiring strategic improvement.

Table 13

Test of Hypotheses

Hypothesis	Sig. Value	Results
H1: Agency Banking significantly effect on the financial performance of the Nepalese commercial banks.	0.106	Rejected
H2: Mobile Banking significantly effect on the financial performance of the Nepalese commercial banks.	0.000	Accepted
H2: ATMs significantly effect on the financial performance of the Nepalese commercial banks.	0.000	Accepted

Table 13 presents the hypothesis testing results for the impact of branchless banking on financial performance. Agency banking (H1) was not significant (p = 0.106), which is higher than the 0.01 significance level. Mobile banking (H2) and ATMs (H3) affected financial performance (p = 0.000), indicating their significant impact on financial performance. These findings affirm that while mobile banking and ATMs are main drivers of financial performance, agency banking needs to be developed more to have a material impact.

4.2 Discussion

The research claims to examine the impact of agency banking, mobile banking and ATMs on financial performance as the dependent variable. The customers of SBI Bank Limited and Nepal Investment Mega Bank Limited of Dhunibeshi Municipality are the research respondents, and 416 respondents were selected by using purposive sampling. The data have been collected by utilizing a structured questionnaire through Google Form and online survey. The gender split between the respondents on a demographic basis is 52.6% male and 47.4% female. The more prominent majority of the respondents lies in the 20-30 years age bracket (44.7%) followed by the 31-40 years age group (32.0%). They are mostly having at least a Bachelor's degree (39.7%) or Master's degree (40.6%), and the most significant number of them belongs to the Rs. 10,000 - Rs. 30,000 monthly income. A considerable proportion (49.5%) has some infrequent exposure to branchless banking, and 37.7% utilize it regularly. Data analysis will comprise demographic profile analysis, reliability statistics, descriptive

statistics, correlation, and regression analysis to analyze the influence of branchless banking on financial performance.

The descriptive statistics of a number of key variables associated with branchless banking and financial performance indicate favorable attitudes towards the services. Agency banking with a mean score of 3.9805 (SD = 0.55167) displays good but modestly positive sentiment, indicating its value and that of having more.
Mobile banking at mean = 4.1361 and SD = 0.46304 and ATMs at mean = 4.1356 and SD = 0.46368 both made very positive appraisals, indicating the large contribution made by banks using these technologies to operating efficiency and satisfaction of customers. Financial performance, with an average value of 4.1593 (SD = 0.47315), is also ranked high in terms of the degree to which the branchless banking services influence the profitability, cost savings, and operating efficiency of commercial banks. Correlation analysis supports high positive relationships between Agency Banking, Mobile Banking, ATMs, and Financial Performance (FP).

Agency Banking ($r = 0.328$, $p < 0.01$) positively correlates with FP but weakly, showing a small-sized effect on financial performance. Mobile Banking ($r = 0.472$, $p < 0.01$) positively correlates with a moderate effect on financial performance. ATMs ($r = 0.495$, $p < 0.01$) are positively correlated highly, showing their high contribution to financial performance. Mobile Banking and ATMs ($r = 0.504$, $p < 0.01$) are significantly correlated, showing that the two services, if used together, can enhance financial performance even more. Mobile Banking and ATMs, overall, leave a greater impact on financial performance in comparison to Agency Banking, which indicates the value of continued investment in these services. Regression analysis shows different impacts of the branchless banking services on financial performance.

Agency banking marginally affects financial performance with a coefficient of 0.065 and p-value of 0.106, indicating its less significant impact. Mobile banking also has a significant effect with a coefficient of 0.280 and p-value of 0.000, indicating that it significantly improves financial results. The strongest positive influence is displayed by ATMs, with a coefficient of 0.333 and a p-value of 0.000, indicating that it has a commanding influence on the improvement of financial performance. The study shows that ATM expansion and mobile banking innovation should be given higher

priority while operating problems in agency banking are justified in order to realize its maximum impact.

In correlation analyses, while a positive relationship is evident between Agency Banking and Financial Performance, it is relatively weak, similar to some previous studies (for instance, Alam et al. in 2020; Dzmbo et al. in 2017), yet much less impactful than other variables. The correlation between MB and FP is moderately positive, in line with studies supporting its role in the financial performance improvement (Okolie & Eze, 2023; Dzmbo et al., 2017). ATMs show the strongest positive correlation with FP, which denotes their great importance to financial performance and is corroborated by other studies citing the immense significance of ATMs in driving financial results for banks (Hussain & Iqbal, 2020; Khan et al., 2020). This suggests that while all three channels of branchless banking, namely, AB, MB and ATMs, influence financial performance positively, ATMs combined with mobile banking play a far more major role in the improvement of financial performance.

The regression analysis indicates that Agency Banking has an insignificant positive effect on Financial Performance; the value here is 0.065: consistent with findings by Dzombo et al., 2017; Alam et al., 2020 claiming Agency Banking had a minimum effect on financial variables. Mobile Banking had a significant positive effect on financial performance: this mirrors the studies by Okolie and Eze, 2023; Dzombo et al., 2017 as evidence of its enabling ability to improve financial performance. The effect of ATMs is the strongest; the coefficient is 0.333, following Hussain and Iqbal, 2020; Khan et al., 2020, denoting them as highly critical in influencing financial performance through improved ease of customer access and efficiency in payment systems. It can then be concluded that while Agency Banking needs to be fixed, Mobile banking and ATMs matter the most and need more potency in enhancing financial performance.

CHAPTER – V
SUMMARY AND CONCLUSION

This chapter consists of three parts: the first has provided the summary of the study and the second has provided the conclusion whereas the third has given the implications based on the summary and the conclusion.

5.1 Summary

This study examines the impact of branchless banking on the financial performance of Nepalese commercial banks, where agency banking (AB), mobile banking (MB) and ATMs have been used as independent variables and financial performance (FP) as the dependent variable. A descriptive and causal-comparative research design has been used, founded on the data gathered from 416 customers of SBI Bank Limited and Nepal Investment Mega Bank Limited of Dhunibeshi Municipality, which have been chosen by using purposive sampling. Descriptive statistics have been used to compare the mean and standard deviation (SD) of all the variables, demonstrating their influence on financial performance. Correlation analysis has tested the connection between financial performance and independent variables (AB, MB and ATMs) with positive correlations that are strong. Regression analysis has tested the effect of all the branchless banking variables on financial performance, specifying their significance in order to enhance the financial performance of Nepalese commercial banks. Demographic information, such as age, gender, level of education, occupation, monthly income and experience of branchless banking.

The descriptive statistics indicate that all the three services are viewed positively, with ATMs and mobile banking being viewed most positively for their role in enhancing efficiency and customer satisfaction. Financial performance is also ranked very high, which means that branchless banking services play a positive role in enhancing banks' profitability, cost reduction, and efficiency of operations.

Correlation analysis indicates that there exist strong positive correlations between agency banking, mobile banking, ATMs, and financial performance. Mobile banking and ATMs have a larger and higher correlation with financial performance compared

to agency banking, indicating that they play a greater role in the financial performance of banks. The findings indicate the possibility of greater financial performance improvement when mobile banking and ATMs are utilized together, indicating their significance in the branchless banking mechanism.

Regression analysis also corroborates the results in that it indicates whereas agency banking has minimal and statistically non-significant effect on financial performance, mobile banking and ATMs have significant and positive effects. The results imply that mobile banking and ATMs should receive first priority while expanding and innovating since they play the largest role towards enhancing financial performance. For agency banking, the research determines that overcoming operational issues and maximizing its uptake would increase its contribution to profitability.

5.2 Conclusion

The very first objective of this research is to examine the contribution of branchless banking to the financial performance of Nepalese commercial banks, if any. This aim has been dealt with through descriptive analysis with considerable emphasis on variables like agency banking, mobile banking, ATMs, and their impact on financial performance. The study recognizes that branchless banking products such as agency and electronic banking have noteworthy implications on the financial performance of Nepalese commercial banks. As revealed through the findings, such investments are profitable, albeit with different effects on short-run and long-run financial performance.

The second objective of the study is to analyze the relationship between branchless banking services with the profitability of commercial banks in Nepal. The correlation test identified that there are positive significant relationships between all three independent variables like agency banking, mobile banking and ATMs and profitability. Although agency banking showed a positive relationship to a smaller degree, mobile banking and ATMs showed stronger relationships, indicating that these products have greater impact on the financial performance of Nepalese commercial banks. This indicates that mobile banking and ATMs play a greater role in improving the financial performance of commercial banks compared to agency banking.

The third objective of this research is to analyze the impact of branchless banking services on the financial performance of Nepalese commercial banks. The regression analysis revealed numerous impacts of these branchless banking channels on financial performance. Agency banking did not have any significant statistical impact on financial performance, showing that at the current time its contribution to profitability is zero. Mobile banking also had a substantial positive impact, indicating that it is an important driver of financial performance improvement through enhanced accessibility and operational efficiency. ATMs had the most profound positive impact, indicating their imperative role in influencing financial performance through enhanced customer convenience and widening the scope of banking services.

5.3 Implications

Based on the conclusion and summary of this study, the primary implications of this study on the financial performance of Nepalese commercial banks through branchless banking are as follows:

a) Policy Implications: The study identifies the significant effects of investment in electronic banking and agency banking on commercial banks' financial performance in Nepal. Policymakers must address policies supporting branchless banking schemes cautiously so that they enhance long-term growth without adversely affecting profitability in the short term. Investments in technology and infrastructure need to be balanced with measures to contain initial expenses and prevent financial risks.

b) Implications for Commercial Banks: Nepalese commercial banks should strategically invest in branchless banking, notably in electronic banking, which has shown to positively influence profitability. Banks need to watch out for the short-run decline in profitability with agency banking investment. Bank investments in branchless banking need to be long run and aimed at improving customer accessibility and operation efficiency to build long-run growth.

c) Investors' Implications: Investors need to consider the different implications of agency banking and electronic banking on commercial banks. Though investment in electronic banking may offer greater profits, startup expenses for agency banking may have lower short-term profitability. Investors need to analyze banks' capabilities in

maintaining their branchless banking strategy and how capable they become in long-term growth while investing.

d) Economic Growth Implications: The study concludes that branchless banking, particularly through electronic channels, can be a catalyst to wider financial inclusion and economic growth in Nepal. Through greater financial service access, branchless banking can enhance business growth, foster savings, and enhance credit accessibility. Policymakers must ensure an enabling environment that will promote further electronic banking growth to facilitate economic growth, especially in rural areas.

e) Financial Stability Impacts: The implications of the findings are that investments in branchless banking, particularly agency banking, may reduce profitability in the initial stages. Commercial banks must closely monitor their financial stability so that branchless banking investments do not affect their financial health. Effective management of the investment, for instance, through risk assessment and cost control, plays a vital role in maintaining stability in the banking sector.

f) Future Research Opportunities: The research offers future research opportunities for examining the bottom-line impact of branchless banking on the profitability of commercial banks. Future research can attempt to examine how different models of branchless banking (e.g., mobile banking, agent network) influence profitability in the long term. Having the sample expanded to the broader population of banks or analyzing the effect of a sub-set of regulatory regimes could provide more robust evidence of the branchless banking effect on Nepalese financial markets. Furthermore, an analysis of the long-run effect of branchless banking on market share and customer retention would be useful to both researchers and practitioners.

REFERENCES

Accenture. (2008). *Achieving high performance in banking through branchless banking*. Accenture Insights.

Accenture. (2017). *Banking on blockchain: A value analysis for investment banks*. Accenture Insights.

AFI (Alliance for Financial Inclusion). (2016). *Digital financial services: Basic terminology*. Alliance for Financial Inclusion.

Alam, M., Hossain, M., & Rahman, M. (2020). The impact of agent banking on the financial performance of commercial banks in Bangladesh. *International Journal of Financial Studies*, *8*(3), 12-24.

Basel Committee on Banking Supervision. (2014). Revisions to the Basel III leverage ratio framework and disclosure requirements. *Bank for International Settlements*.

Bhattacharya, S., & Thakor, A. V. (1993). Contemporary banking theory. *Journal of Financial Intermediation, 3*(1), 2–50.

Bourne, M. (2017). The role of agency banking in enhancing financial inclusion. *Journal of Banking and Finance, 43*(2), 89-104.

Brigham, E. F., & Ehrhardt, M. C. (2016). *Financial management: Theory & practice* (15th ed.). Cengage Learning.

Brigham, E. F., & Gapenski, L. C. (1993). *Intermediate financial management*. Dryden Press.

Brigham, E. F., & Gapenski, L. C. (1997). *Financial management: Theory and practice*. Dryden Press.

Claessens, S., & van Horen, N. (2015). The role of foreign banks in trade. *Journal of Financial Intermediation, 24*(4), 584–608.

Claus, I., & Grimes, A. (2003). Asymmetric information, financial intermediation and the monetary transmission mechanism: A critical review. *New Zealand Economic Papers, 37*(1), 35–59.

Consultative Group to Assist the Poor (CGAP). (2006). *Branchless banking and financial inclusion: Models and principles*. CGAP Focus Note.

Demaki, G. O., Eromafuru, E. G., & Imasuen, O. F. (2021). Electronic banking and bank performance in Nigeria: a co-integration and error correction model approach. *Journal of contemporary Issues in Accounting*, *1*(1), 12-26.

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The global findex database 2017: Measuring financial inclusion and the fintech revolution*. World Bank Group.

Donovan, K. (2012). Mobile money for financial inclusion. In T. Kelly & C. Rossotto (Eds.), *Information and communications for development 2012: Maximizing mobile* (pp. 61–73). World Bank Group.

Douglas, A. (1984). Financial intermediation and the structure of monetary theory. *American Economic Review, 74*(4), 546–554.

Dzombo, G.K., Kalika, J.M., & Maingi, J. (2017). The Effect of Branchless Banking Strategy on the Financial Performance of Commercial Banks in Kenya. *International Journal of Financial Research*, *8*(4), 167-183.

Frost, J., Gambacorta, L., Huang, Y., Shin, H. S., & Zbinden, P. (2019). BigTech and the changing structure of financial intermediation. *Bank for International Settlements*.

Hadiyanto, & Dwidienawati, R. (2023). The influence of branch network offices and regional macroeconomic indicators on the performance of finance companies in Indonesia. *Journal of Finance and Economics*, *48*(2), 243-258.

Hussain, S., & Iqbal, S. (2020). The impact of branchless banking on the performance of banks and core banking functions in Pakistan. *Journal of Financial Services and Banking*, *16*(4), 213-227.

IMF (International Monetary Fund). (2020). Digital financial inclusion in the times of COVID-19. *International Monetary Fund*.

Isa-Olatinwo, A. (2021). Supporting branchless banking initiatives: The role of development finance institutions. *Development Finance Review, 12*(3), 45–67.

Kaiin, A., Sari, D. P., & Purnama, F. A. (2022). Service quality, company image, and customer satisfaction: Mediating role of satisfaction on repurchase decisions in branchless banking. *International Journal of Banking & Finance*, *40*(1), 45-60.

Kebede, D. (2023). Determinants influencing the adoption of agent banking in peripheral urban areas of Addis Ababa, Ethiopia. *Journal of Financial Services & Banking*, *17*(3), 177-192.

Kesa, D. (2021). Risks and opportunities in fund management and investment campaigns within educational institutions: A case of Laku Pandai in Taruma Jaya. *Journal of Financial Inclusion and Development*, *27*(1), 56-70.

Khan, Y., Eqbal, M.N., Harron, S., Usmani, S., Ashraf, S., & Ifran, M. (2020). The Impact of Branchless Banking System on The Financial Performance of the Commercial Banks In Pakistan. *Elementary Education Online*, *19*(3), 4012-4021.

Kumar, A., Nair, A., Parsons, A., & Urdapilleta, E. (2006). *Expanding bank outreach through retail partnerships: Correspondent banking in Brazil*. World Bank Group.

Kumar, A., Nair, A., Parsons, A., & Urdapilleta, E. (2019). *Expanding financial access and rural outreach in India: Lessons from the state bank of India*. World Bank Group.

Lipsey, R. G. (1993). *An introduction to positive economics* (7th ed.). Weidenfeld & Nicolson.

Macharia, L., Mwangi, L., & Njiru, R. (2021). The influence of alternative banking channels on the performance of commercial banks in Kenya. *African Journal of Business and Management*, *39*(2), 65-81.

Mangani, D., Supriadi, D., & Rahardjo, P. (2019). Development of branchless banking programs to improve performance of micro and small enterprises in rural areas of Indonesia. *Journal of Financial Services and Rural Development*, *22*(2), 49-61.

Matan, M. H., Aluoch, M. O., & Suva, M. (2024). Agency banking and profitability of commercial banks listed at Nairobi Securities Exchange, Kenya. *International Academic Journal of Economics and Finance*, *4*(3), 229-247.

McKinsey & Company. (2018). Digital banking transformation: Shaping the future of financial services. *McKinsey Insights*.

Mohamed, H. (2023). Credit risk in microfinance institutions: A comparative study of Islamic and conventional MFIs. *International Journal of Financial Risk Management, 35*(4), 112-130.

Mutarindwa, R., Gashaka, D., & Rwangye, M. (2024). The impact of branchless banking models on financial inclusion: A global study. *Journal of Financial Inclusion, 9*(1), 18-34.

OECD. (2020). The future of banking: Market competition and digital transformation. *OECD Publishing*.

Okolie, A., & Eze, E. (2023). The impact of electronic banking on financial institution performance in Nigeria. *Journal of Digital Finance and Innovation, 18*(2), 78-92.

Ombui, P. (2019). The impact of agency banking on the financial performance of Kenyan banks. *Journal of African Banking and Finance, 10*(3), 134-148.

Owens, J. (2006). Branchless banking: Providing financial services to the poor. *Consultative Group to Assist the Poor (CGAP)*.

Palaon, D., Reyes, C., & Santos, J. (2020). Satisfaction and business continuity of branchless banking agents: A case study. *Asian Banking Review, 16*(2), 233–248.

Pikkarainen, M., Pahikkala, T., & Vainio, A. (2004). Electronic banking and its impact on customer relationships. *Journal of Financial Services Marketing, 8*(3), 234-245.

Prior, S., & Mora, J. (2019). The impact of branchless banking partnerships on the efficiency and product offerings of microfinance institutions: Evidence from Attawfiq Microfinance, Morocco. *International Journal of Microfinance and Development, 25*(4), 55-70.

Reddy, S., Nair, S., & Prabhu, V. (2019). Cybersecurity challenges in the banking sector: A framework for risk management. *Journal of Banking Regulation, 20*(3), 178–190.

Sarma, M., & Pais, J. (2011). Financial inclusion and development. *Journal of International Development, 23*(5), 613–628.

Shrivastava, P., Sharma, R., & Verma, M. (2021). Alternative banking channels and employee productivity: A case study of the State Bank of India. *International Journal of Banking and Finance, 42*(5), 35-51.

Siedek, H. (2008). Banking agents: A practical guide to increasing financial access. *Consultative Group to Assist the Poor (CGAP)*.

Stapleton, R. (2013). Overcoming barriers to branchless banking in Indonesia. *Indonesia Economic Review, 8*(1), 22–35.

Zahid, S., Ali, M., & Iqbal, A. (2021). Measuring the sustainability of branchless banking: Development of a new scale. *Journal of Sustainable Banking, 11*(6), 214-230.

Zhao, J., Wang, J., & Wang, S. (2017). Systemic risk and financial stability in the age of branchless banking. *Journal of Banking Regulation, 18*(3), 156–168.

APPENDIX

Questionnaire

Dear Respondent,

I am Namindra Prasad Bhattarai, an MBS student at Shanker Dev Campus, Putalisadak, Kathmandu. As part of my research project, I am conducting a survey on "Branchless Banking and Financial Performance of Commercial Banks in Nepal." The information collected will be used only for academic purposes and strict confidentiality is assured. You are kindly requested to please fill the following questionnaire so that I can gather the information required. Thank you for your cooperation.

Section A: Demographic Information

1. Gender

a) Male
b) Female

2. Age

a) Below 20 years
b) 20 years to 30 years
c) 31 years to 40 years
d) 41 years to 50 years
e) Above 50 years

3. Educational Qualification

a) School Level
b) Bachelor Level
c) Master Level
d) Above Master Level

4. Occupation

a) Student
b) Employed
c) Unemployed

5. Monthly Income Level

a) Below Rs. 10,000
b) Rs. 10,000 to Rs. 20,000
c) Rs. 20,001 to Rs. 30,000
d) Rs. 30,001 to Rs. 40,000
e) Rs. 40,001 to Rs. 50,000
f) Above Rs. 50,000

7. Experience with Branchless Banking Services

a) No experience with branchless banking
b) Limited experience (using mobile banking, ATMs, etc.)
c) Regular user of branchless banking services (mobile banking, agent banking, ATMs, etc.)

Section B: Statements for Study Variables

Following are the statements for the variables for the topic "Branchless Banking and Financial Performance of Commercial Banks in Nepal." The variables include Agent Banking (AB), Mobile Banking (MB), ATMs and Financial Performance (FP). Please select your option that shows your level of agreement or disagreement. The answer will be measured on a five-point Likert scale, explained as follows:

5 - Strongly Agree

4 - Agree

3 - Neutral

2 - Disagree

1 - Strongly Disagree

Agent Banking

S.N.	Statement	Response				
		5	4	3	2	1
AB1	Agent banking services reduce transaction costs for customers.					
AB2	Agent banking helps in increasing bank revenue.					
AB3	Agent banking improves financial accessibility for underserved areas.					
AB4	The use of agent banking reduces the bank's operational costs.					
AB5	Agent banking increases customer retention and engagement.					
AB6	Agent banking contributes to improved overall financial performance.					

Mobile Banking

S.N.	Statement	Response				
		5	4	3	2	1
MB1	Mobile banking enhances convenience for customers.					
MB2	Mobile banking increases the volume of transactions.					
MB3	Mobile banking reduces the cost of banking operations.					
MB4	Mobile banking has a significant impact on bank profitability.					
MB5	Mobile banking improves customer satisfaction.					
MB6	Mobile banking contributes to overall financial performance improvement.					

ATMs

S.N.	Statement	Response				
		5	4	3	2	1
ATM1	ATMs increase the ease of access to banking services.					
ATM2	ATMs help reduce customer waiting time at branches.					
ATM3	ATMs reduce operational costs for banks.					
ATM4	ATMs contribute to generating additional revenue streams.					
ATM5	ATMs improve customer satisfaction and loyalty.					
ATM6	The use of ATMs positively impacts financial performance.					

Financial Performance

S.N.	Statement	Response				
		5	4	3	2	1
FP1	The use of mobile banking has significantly increased the profitability of the bank.					
FP2	Agent banking has contributed to the reduction of operational costs, improving financial performance.					
FP3	ATMs have expanded customer outreach and improved revenue generation.					
FP4	Branchless banking services, including mobile banking, agent banking, and ATMs, have enhanced overall customer satisfaction, impacting financial performance positively.					
FP5	The integration of branchless banking services has strengthened the bank's competitive position in the financial market.					
FP6	Mobile banking, agent banking, and ATMs have collectively improved the financial performance of the bank by increasing operational efficiency.					

PAPER NAME

BRANCHLESS BANKING AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN NEPAL

AUTHOR

Namindra Prasad Bhattarai

WORD COUNT

14860 Words

CHARACTER COUNT

88859 Characters

PAGE COUNT

53 Pages

FILE SIZE

79.1KB

SUBMISSION DATE

Jun 11, 2025 2:23 PM GMT+5:30

REPORT DATE

Jun 11, 2025 2:24 PM GMT+5:30

12% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

- 11% Internet database
- 9% Publications database
- Crossref database
- Crossref Posted Content database
- 0% Submitted Works database

Excluded from Similarity Report

- Bibliographic material
- Quoted material
- Small Matches (Less then 10 words)