GREEN BANKING INITIATIVES AND THE GREEN FINANCING MEDIATING ROLE OF ENVIRONMENT PERFORMANCES

MPhil Thesis

Submitted by
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degree in Management

Submitted to
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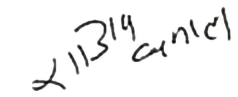
Birendranagar, Surkhet, Nepal

April, 2025

DECLARATION

I, Rajiv Khanal, declare that the study titled "GREEN BANKING INITIATIVES AND THE GREEN FINANCING MEDIATING ROLE OF ENVIRONMENT PERFORMANCES" submitted to the Graduate School of Management, Mid-West University, is my original work. It has not been submitted anywhere else for any degree or academic award. I understand that this report will now become a part of the Mid-West University library's physical and electronic collection and may be used for academic and research purposes.



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To,

The Chairman, MPhil/PhD Research Committee

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Re.: Recommendation for MPhil Study Defense.

This is to recommend that, Mr. Rajiv Khanal, a MPhil research scholar of Graduate School of Management, Mid-West University, Birendranagar, Surkhet, Nepal has accomplished the study entitled "GREEN BANKING INITIATIVES AND THE GREEN FINANCING MEDIATING ROLE OF ENVIRONMENT PERFORMANCES" for the Master of Philosophy (MPhil) degree in Management under my supervision. I have observed that the study has been prepared in tune with the official guidelines, and the report bears an adequate quality of work and documentation. Therefore, I forward this study for the evaluation and defense to the award of Master of Philosophy (MPhil) in Management.

With Regards,

Associate Prof. Dr. Purna Man Shrestha

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We approve

the thesis entitled **GREEN BANKING INITIATIVES AND THE GREEN FINANCING MEDIATING ROLE OF ENVIRONMENT PERFORMANCES** undertaken by **Rajiv Khanal** has been found satisfactory for the award of Master of Philosophy (MPhil) degree in Management.

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Rajiv Khanal

MPhil Student

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AMOS	Analysis of Moment Structures
ASEAN	Association of Southeast Asian Nations
BFI	Banks and Financial Institutions
CSR	Corporate Social Responsibility
EFA	Exploratory Factor Analysis
EIA	Environmental Impact Assessment
Eps	Equator Principles
EPS	Environmental Performance Score
ESG	Environmental, Social, and Governance
FDI	Foreign Direct Investment
GBI	Green Banking Initiative
GDP	Gross Domestic Product
GFI	Green Finance Index
GHG	Greenhouse Gas
GoB	Government of Bangladesh
ISO	International Organization for Standardization
KMO	Kaiser-Meyer-Olkin
NPL	Non-Performing Loan
RMSEA	Root Mean Square Error of Approximation
SDGs	Sustainable Development Goals
SEM	Structural Equation Modeling
SPSS	Statistical Package for the Social Sciences
UN	United Nations
UNEP FI	United Nations Environment Programmer Finance Initiative
WB	World Bank

ABSTRACT

This study investigates the impact of green banking initiatives on environmental performance, emphasizing the mediating role of green financing within the banking sector of Nepal. As environmental sustainability becomes a critical concern globally, the banking industry is increasingly adopting green banking practices to promote eco-friendly financial services and support sustainable development. The research aims to examine how green banking initiatives influence environmental performance and to assess the extent to which green financing mediates this relationship.

Employing a quantitative research design grounded in a positivist philosophy, primary data were collected through structured questionnaires administered to bank employees and stakeholders involved in green banking practices. The study utilized descriptive and inferential statistical methods, including Structural Equation Modeling (SEM), to analyze the data. Measurement model assessments ensured reliability and validity, while the structural model tested the hypothesized relationships among variables.

The findings reveal a significant positive effect of green banking initiatives on environmental performance. Moreover, green financing was found to play a crucial mediating role, enhancing the influence of green banking on environmental outcomes. These results underscore the importance of integrating green financing mechanisms within banking operations to achieve better environmental sustainability.

The study concludes that banks and policymakers should prioritize green banking and financing strategies to foster sustainable development and environmental stewardship. Recommendations are provided to strengthen green banking frameworks and promote wider adoption of environmentally responsible financial practices in Nepal.

CHAPTER 1
INTRODUCTION

1.1. Background of Study

Green banking has become a vital component in the global effort towards sustainable development and environmental conservation (Dijkstra et al., 2021). Green financing acts as an essential mediator that connects green banking initiatives with improved environmental performance. This innovative financial strategy directs capital specifically towards environmentally beneficial projects, including renewable energy development, energy-efficient infrastructure, sustainable agriculture, clean technology advancement, and climate adaptation initiatives. Financial institutions play a central role in economic growth, as their operations and investment choices significantly impact the environment (Choubey & Sharma, 2022). Green banking involves the adoption of environmentally friendly practices and policies by banks, aiming to lower their carbon footprint, enhance resource efficiency, and support projects that advance environmental sustainability (Dikau & Volz, 2021). This strategy encompasses various initiatives, such as financing renewable energy ventures, promoting paperless transactions, implementing energy-saving measures within bank branches, and providing green loans or bonds to support eco-friendly companies and technologies.

Likewise, the significance of green banking lies in its ability to foster positive environmental change while maintaining financial stability (Park & Kim, 2020). By incorporating environmental considerations into their decision-making, banks can direct funds towards sectors and activities that are less damaging to the environment (Xu et al., 2023; Zhang et al., 2021). Major initiatives in the banking sector include developing green financial products, adopting sustainable lending standards, investing in clean technologies (Choubey & Sharma, 2022) and engaging in corporate social responsibility (CSR) activities focused on environmental preservation (Liu et al., 2017). These efforts help reduce environmental risks and improve the reputation and competitiveness of banks in a marketplace that increasingly prioritizes sustainability.

Moreover, research on green banking, green financing, and environmental performance in the financial sector emphasizes the interconnectedness of these concepts (Aslam &

Jawaid, 2023). Studies demonstrate that banks adopting green banking practices are more likely to offer green financing, which involves providing financial resources to projects that have positive environmental impacts, such as renewable energy, energy efficiency, and pollution control (Khairunnessa et al., 2021). Moreover, research indicates that strong environmental performance-measured by factors like reduced emissions, efficient resource use, and compliance with environmental regulations enhances a bank's capacity to attract and allocate green finance (Sharma & Vredenburg, 1998). Similarly, banks with effective environmental management systems are better placed to identify and support sustainable investment opportunities, thereby strengthening the connection between green banking initiatives and green financing (Sun et al., 2020).

The mediating role of environmental performance is a vital aspect of this relationship. Environmental performance can serve as a bridge, translating green banking initiatives into concrete green financing results (Kumar et al., 2024). When banks enhance their environmental performance by reducing waste, conserving energy, and adopting sustainable methods (Chen et al., 2022) they not only set an example for their clients but also strengthen their internal capacity to assess and manage environmental risks in their lending and investment portfolios (Nizam et al., 2019). This, in turn, increases their willingness and ability to finance green projects, making environmental performance a key mediator in the connection between green banking initiatives and green financing.

Despite the increasing body of literature on these topics, several research gaps still exist. Much of the existing research tends to examine green banking, green financing (Saberi et al., 2019), and environmental performance separately, without fully exploring the dynamic interactions among them (Bhutta et al., 2022). There is a lack of comprehensive studies investigating how environmental performance mediates the relationship between green banking initiatives and green financing (Sun et al., 2020) particularly in the context of developing countries where regulatory frameworks and market conditions may differ from those in developed economies (Khan et al., 2023; Rehman et al., 2021). Additionally, empirical evidence on the effectiveness of specific green banking practices in improving environmental performance (Zimmerer, 2011)

and promoting green financing remains limited, emphasizing the need for more detailed and context-specific research.

This study tackles these gaps by examining the mediating role of environmental performance in the relationship between green banking initiatives and green financing (Ning et al., 2022). The main research question is: How do green banking initiatives and environmental performance influence green financing (Dikau & Volz, 2021) and why is this a significant issue? Understanding this connection is vital for banks, policymakers, and stakeholders aiming to promote sustainable finance and meet broader environmental targets (Debrah et al., 2022). By revealing the mechanisms through which green banking initiatives lead to increased green financing via improved environmental performance, this study seeks to offer practical insights for improving the effectiveness of sustainability strategies within the banking sector.

Therefore, this study aims to understand how environmental performance influences the connection between green banking initiatives and green financing. Green banking is essential for encouraging sustainable growth and protecting the environment by motivating banks to adopt eco-friendly policies and support green projects. However, focusing solely on green banking or green financing is not enough. Enhancing a bank's environmental performance helps it better manage risks and discover sustainable investment opportunities. This, in turn, boosts the bank's capacity to provide financial support for environmentally friendly projects. This study examines how banks' efforts to reduce waste, conserve energy, and adhere to environmental standards assist in transforming green banking initiatives into tangible financial actions for green projects. It also considers factors influencing this process and provides insights to aid banks and policymakers in developing more effective green banking strategies, especially across different markets and regulatory environments. The study seeks to fill gaps in existing research and promote the growth of sustainable finance.

1.2. Statement of the Problem

Despite the rapid growth of Nepal's banking sector and the increasing global focus on sustainable finance, the adoption of environmental sustainability practices within Nepalese commercial banks remains limited and inconsistent (Mishra & Aithal, 2022). Although regulatory guidelines such as those issued by Nepal Rastra Bank in 2018 promote sustainable banking, there is a notable lack of empirical evidence regarding

the effectiveness of green banking initiatives in improving environmental performance in Nepal's financial sector (Bhandari et al., 2024). This gap in understanding not only prevents financial institutions from adopting meaningful sustainability measures but also leaves policymakers without sufficient evidence to inform regulatory decisions, and restricts businesses and communities from accessing effective green financing options.

However, the limited understanding of how green banking practices covering employee-related, operational, consumer, and policy initiatives affect environmental performance and, in turn, influence green financing outcomes in Nepalese commercial banks. This issue is particularly important as Nepal, a country highly vulnerable to climate change, aims to meet its international climate commitments while developing its financial sector.

Failing to close this knowledge gap could lead banks to persist with superficial sustainability measures that yield minimal ecological benefits, cause misallocation of resources, and result in ineffective regulatory efforts, ultimately worsening environmental degradation and economic instability. The lack of clear metrics linking banking practices to environmental outcomes further hampers efforts to align financial development with sustainable environmental practices.

In conclusion, Nepal's banking sector is growing quickly and global interest in sustainable finance is rising, Nepalese commercial banks have not fully embraced environmental sustainability. Existing rules support green banking, but there is little clear evidence showing how well these efforts improve the environment. This lack of knowledge makes it hard for banks to take strong actions, for policymakers to create effective rules, and for businesses and communities to benefit from green financing. Therefore, this research focuses on understanding how different green banking activities affect environmental performance and green finance in Nepal. Addressing this issue is important for helping Nepal meet climate goals while building a stronger financial system. Without better understanding, banks may continue with weak sustainability efforts that do not protect the environment or support economic stability. This gap highlights the need for clear information and measures linking banking practices to real environmental outcomes, making it a crucial topic for research.

1.3. Objectives of the Study

The primary objective of this research study is to investigate the influence of green banking initiatives, specifically bank employee-related practices, consumer-related practices, operational practices, and policy-related practices, on green financing in commercial banks, and to assess the mediating role of environmental performance in these relationships. The secondary objective is as follows.

a. To explore the effect of bank customer-related green practices on green financing and environmental performance.
b. To investigate how bank employee-related green practices impact green financing and environmental performance.
c. To examine the influence of bank operational-related green practices on green financing and environmental performance.
d. To analyze the role of bank policy-related green practices in shaping green financing and environmental performance.
e. To understand the mediating role of green financing in the relationship between green banking initiatives and environmental performance.

This study seeks to provide clear insights into how various green banking practices influence environmental performance through green financing. The results offer valuable guidance to banks and policymakers for developing strategies that promote sustainable development while ensuring effective and responsible banking operations.

1.4. Research Question

This study is designed to explore the link between green banking practices and environmental performance, with green financing as a key connecting factor. By breaking down green practices into customer, employee, operational, and policy aspects, the research aims to provide a detailed understanding of how each area contributes to sustainability in the banking sector.

a. How do bank customer-related green practices affect green financing and environmental performance?
b. What is the impact of bank employee-related green practices on green financing and environmental performance?

c. How do bank operational-related green practices influence green financing and environmental performance?
d. What role do bank policy-related green practices play in shaping green financing and environmental performance?
e. How does green financing mediate the relationship between green banking initiatives and environmental performance?

These questions guide the study towards aims to offer clear insights that can help banks and policymakers design effective green strategies. The findings are expected to support efforts toward stronger environmental performance and responsible banking, contributing to the broader goals of sustainable development.

1.5. Limitations of the Study

There are certain challenges and constraints that may impact the outcomes of this research. Factors such as limited data sources, the changing environment of the banking sector, and the specific focus on selected green practices may limit how widely the results can be applied to other contexts.

a. This study was only done in Nepal. So, the results cannot be applied to other countries.
b. The participants were only middle-level staff from Nepalese commercial banks.
c. The study used cross sectional data.
d. Responses about digital banking procedures were collected using a five-point Likert scale. This can cause a central tendency error.
e. Out of 20 commercial banks in Nepal, only a few were selected. These may not fully represent all banks.
f. The research is based on a new idea. There are not many theories about this topic. Only one hypothesis was used in the theoretical review.
g. Bank customers who do not use the green banking system were not included. Therefore, the study was unable to compare the opinions of users and non-users.

Despite these limitations, the study provides valuable insights into green banking and financing. Recognizing these boundaries allows for clearer understanding of the results

while offering a foundation for future research to build on and expand the knowledge in this important field.

1.6. Delimitation of the Study

The delimitations of this study clearly define its boundaries and specify what areas are not included. This focus helps ensure clarity about the research's scope and objectives. The study is confined to banks engaged in green banking within the Lumbini and Gandaki provinces of Nepal and considers only selected aspects of green banking practices.

Likewise, this study clearly defines its scope by focusing only on certain areas and excluding others, which helps maintain clarity about what the research covers. It is limited to banks engaged in green banking within the Lumbini and Gandaki provinces of Nepal. The research considers four key green banking practices: consumer-related, policy-related, employee-related, and operational practices. These practices are examined for their impact on environmental performance as a mediating factor and green financing performance as the main outcome. Other possible factors affecting these outcomes are not included in the study.

The data for this research were collected solely from bank employees in the two provinces, which means the findings apply mainly to this regional context. The study uses cross-sectional data collected at a single point in time, so it does not observe changes over time. It focuses only on green banking practices that are officially supported by current Nepalese policies, leaving out informal or new practices. Environmental performance is measured with specific indicators, which may not fully capture all sustainability aspects. Additionally, the research is limited to the banking sector and does not consider other industries that may also use green practices. These delimitations provide a clear and focused understanding of green banking initiatives within a specific context, offering valuable insights for future studies and practical applications in similar environments.

1.7. Research Hypotheses

The research hypotheses are created to test the expected relationships between green banking practices and their effects on green financing and environmental performance. This study focuses on four main green banking areas: customer-related, policy-related,

employee-related, and operational practices. The goal is to understand how these practices influence green financing and, in turn, improve environmental performance. These hypotheses are based on earlier research and theories, providing a clear guide to explore both the direct effects of green banking and the important role of green financing as a middle factor.

Employee Practices and Green Financing

Bank employee-related practices are positively correlated with sources of green financing (Gulzar et al., 2024). This indicates that when bank employees engage in eco-friendly actions such as reducing paper use, conserving electricity, and supporting green products they contribute to increasing the funds available for green loans and investments (Dangelico & Vocalelli, 2017). Previous research from Nepal and other countries demonstrates that employee involvement in green banking, including staff training on environmental issues and encouragement of daily green habits, facilitates the effective offering and management of green financial products. When employees understand and support green practices, they are better equipped to guide customers and promote green financing options, thereby enhancing banks' capacity to grow their green funding and support environmentally friendly projects. Bank staff play a critical role, as they interact directly with customers and perform daily operations; thus, their positive behaviors have a direct impact on the success of green financing. Therefore, the study has developed the following hypothesis:

H_1: Bank employee-related practices have a significant positive effect on green financing.

Operational Efficiency and Green Financing

Green banking operational efficiency has been shown to positively impact sources of green financing (Zhang et al., 2022). Improving daily operations such as reducing paper consumption, saving energy, and adopting online banking creates smoother workflows and cost savings for banks (Rehman et al., 2021). This operational efficiency allows banks to offer more green loans and support environmentally friendly projects. Evidence from both Nepal and other countries indicates that banks with strong green operational practices experience better financial performance and are able to allocate more funds to green investments. By running operations in an efficient and eco-friendly

manner, banks gain the resources and confidence needed to expand green financing, leading to benefits for both the financial system and the environment. Therefore, the study has developed the following hypothesis:

H_2: Green banking operational efficiency has a positive impact on sources of green financing.

Consumer Practices and Green Financing

Bank consumer-related practices are positively correlated with sources of green financing (Taneja & Ali, 2021). Moreover, customers select eco-friendly banking options such as using online banking, supporting green loan products, or participating in programs that reward sustainable behaviors the bank's capacity to provide funds for green projects and investments increases (Tseng & Hung, 2013). Existing research demonstrates that customers who are interested in green products help banks grow their green financing by boosting demand and building loyalty. Studies have found that the introduction of green products encourages greater customer loyalty and higher usage of green financial services, which in turn enables banks to support more environmentally friendly projects (Khan et al., 2023). Active customer use and demand for green banking options motivate banks to expand their offerings, resulting in increased support for green financing that benefits both the bank and the wider environment. So, the study has developed the following hypothesis:

H_3: Bank consumer-related practices are positively correlated with sources of green financing.

Banking Policy and Green Financing

Green banking policy has a direct and positive relationship with green financing performance. Likewise, banks put strong rules and strategies in place to encourage eco-friendly projects, they are more likely to provide loans and financial support for sustainable activities such as renewable energy and clean technology (Taneja & Ali, 2021). Research shows that banks with effective green policies and clear guidelines achieve better financial results and can fund more green projects compared to those without such frameworks. Adopting green banking policies helps banks improve the quality and amount of green financing, which benefits both environmental goals and financial performance. Strong policies also guide staff and encourage customers to

select green financing options, making a meaningful difference for sustainability and the long-term success of the bank. As a result, the study has developed the following hypothesis:

H_4: Green banking policy directly relates to green financing performances.

Employee Practices and Environment Performances

Employee-related practices refer to actions taken by banks to encourage their staff to work in environmentally friendly ways. Additionally, green training, promotes energy-saving habits, and rewards eco-friendly behavior among employees. Research shows that investing in green human resource management increases employees' likelihood of engaging in environmentally responsible actions (Zhang et al., 2022). Some countries like India and Nepal reveal that green recruitment and training programs in banks contribute to lower emissions and more efficient use of resources. Active employee participation, such as volunteering for green initiatives and following environmental guidelines, supports banks in achieving their environmental targets. Overall, evidence confirms that employees play a vital role in reducing the bank's environmental footprint and enhancing sustainability efforts. Hence, the study has formulated the following hypothesis:

H_5: Bank employee-related practices have a significant positive effect on environmental performance.

Operational Practices and Environmental Performances

Operational-related practices are the changes banks make in their daily activities to be more eco-friendly. Furthermore, using less paper, saving energy, and adopting green technology in offices and branches. Research finds that these operational changes strongly affect environmental performance (Zhang et al., 2022). For instance, banks that use energy-efficient equipment and digital processes reduce their carbon footprint and waste. Studies in India and Nigeria show that operational practices are among the most effective ways for banks to improve their environmental outcomes. These improvements are visible and measurable, making operational changes a key part of a bank's sustainability efforts. Hence, the study has formulated the following hypothesis:

H_6: Bank operational-related practices have a significant positive effect on environmental performance.

Consumer Practices and Environment Practices

Consumer-related practices in green banking mean how banks involve their customers in protecting the environment. This can include giving eco-friendly loans, promoting green investments, or working with customers who care about sustainability (Jitmaneeroj, 2016). These actions help raise customer awareness and can influence how the bank performs regarding environmental goals. In this case, environmental performance results from how well the bank uses these consumer-based green practices. When banks involve customers in environmental efforts, they can improve their public image and environmental results, like lowering carbon emissions or funding more green projects (Cui et al., 2018). Therefore, the study has developed the following hypothesis:

H_7: Environmental performance mediates the relationship between consumer-related practices and green financing.

Policy Practices and Environmental Performances

Policy-related practices are the official rules and guidelines banks create to support sustainability. This includes adopting green banking policies, setting environmental targets, and following government regulations. Similarly, strong policy support improves bank environmental performance (Shen et al., 2024). For example, studies in Nepal, India, and Nigeria found that banks with clear green policies have better results in reducing emissions and resource use. Policies provide direction and accountability, ensuring that all parts of the bank work towards environmental goals. This top-down approach is often the most effective, as it sets standards for employees, customers, and operations. Therefore, the study has developed the following hypothesis:

H_8: Bank policy-related practices have a significant positive effect on environmental performance.

Environment Performances and Green Financing

Environmental performance demonstrates a positive and significant association with green financing in commercial banks, as supported by extensive empirical evidence from multiple banking contexts (Aslam & Jawaid, 2023). This relationship indicates that banks achieving better environmental outcomes through reduced waste generation, lower energy consumption, improved carbon footprint management, and successful implementation of sustainable operational practices tend to develop more robust and

extensive green financing portfolios. The underlying mechanism operates through enhanced institutional credibility and stakeholder confidence, where superior environmental performance signals genuine commitment to sustainability principles, thereby attracting environmentally conscious investors, customers, and partners who prioritize green financial products and services. Moreover, banks with measurable environmental improvements, such as decreased resource consumption and pollution reduction, experience increased demand for their green loans, sustainable investment products, and environmentally focused financial services. Furthermore, environmental performance acts as a competitive advantage in the green finance market, as customers and institutional investors increasingly scrutinize banks' actual environmental impact rather than merely their policy statements (Nguyen et al., 2023). This relationship is particularly significant in emerging markets like Nepal, where environmental challenges are acute and stakeholder awareness of sustainability is growing. Banks that can demonstrate tangible environmental improvements through metrics such as renewable energy adoption, waste reduction, and carbon emission decreases are better positioned to expand their green financing activities and capture market opportunities in the rapidly growing sustainable finance sector. Therefore, the study has developed the following hypothesis:

H_9: Environmental performance plays a mediating role in the green financing of the bank.

Environmental Performances Mediates on Employee-related Practices and Green Financing

Employee-related practices in green banking involve how banks educate, engage, and incentivize their staff to support sustainability efforts. Training employees in eco-friendly behaviors, involving them in environmental initiatives, and recognizing their contributions help foster a culture of environmental awareness. Likewise, environment practices in between green banking and green financing enhance a bank’s environmental performance by reducing energy consumption, minimizing waste, and lowering the overall ecological footprint (Nguyen et al., 2018). Improved environmental performance builds trust and credibility, which can lead to greater support for green projects and increased access to green financing. Moreover, importance of employee participation in achieving better environmental outcomes,

while Renwick et al. (2013) highlight the role of green human resource practices in strengthening sustainability. Recent studies also confirm that green training equips employees with skills that promote environmental improvements (Jabbar et al., 2023). This study suggests that environmental performance acts as a crucial mediator, linking employee practices to the bank's green financing success.

H_{10}: Environmental performance mediates the relationship between employee-related practices and green financing.

Environmental Performances Mediates on Operational-related Practices and Green Financing

Operational-related practices in banks are the steps taken to make daily activities eco-friendlier. Several studies show that their environmental performance improves when banks use green operational practices. Zhang et al. (2022) found that operational practices strongly affect environmental performance. On the other hand, Risal and Joshi (2018) also found that using energy-efficient equipment and green policies in daily operations helps banks lower their environmental impact. When a bank's environmental performance improves, it can offer more green financing because it gains customer trust and meets the standards needed to support green projects. This step-by-step relationship means that environmental performance acts as a bridge, or mediator, between operational practices and green financing. In the same way, better environmental performance shows real results from green operations, allowing banks to expand their green financing activities. Therefore, the study has developed the following hypothesis.

H_{11}: Environmental performance is the mediator between operational-related practices and green financing of the bank.

Environment Performance Enhance Mediation Consumer Related Practices and Green Financing.

Green banking practices significantly improve environmental performance through several important pathways. Additionally, employee engagement, operational improvements, customer participation, and policy enforcement, all aimed at reducing the environmental impact of banks. Zhang et al. (2021) found that banks adopting energy-efficient operations and promoting green loans effectively lower carbon

emissions and conserve energy. Importantly, green financing serves as a key mediator in this process, where green banking practices lead to increased green financing, which in turn enhances environmental outcomes. This aligns with findings by Chen et al. (2022) who reported that operational and policy-related practices strongly boost environmental performance, while customer-related efforts have a lesser impact. Similarly, Sun et al. (2020) emphasized that actions like reducing paper use and managing environmental risks directly contribute to better environmental results. Collectively, these studies demonstrate that green banking initiatives not only advance sustainability goals but also strengthen banks' reputations and stakeholder trust. Based on this, the following hypothesis is proposed:

H_{12}: Environmental performance enhances the relationship between consumer related practices and green financing in banks, serving as a critical mediating factor.

Environmental Performance as Mediator Between Policy Practices and Green Financing

Environmental performance serves as a crucial mediating variable in the relationship between bank policy-related practices and green financing outcomes, establishing that policy implementation effectiveness depends on achieving measurable environmental improvements (Zhang et al., 2022). Moreover, the mediation effect suggests that while comprehensive environmental policies, clear sustainability guidelines, and regulatory compliance frameworks are essential foundations for green banking, their ultimate impact on green financing success operates through actual environmental performance achievements rather than policy existence alone. The mediation process occurs through a sequential pathway where well-designed environmental policies lead to concrete operational changes and measurable environmental improvements, which then enable and enhance green financing activities. Likewise, the mediation relationship showing that banks with strong policy frameworks but poor environmental implementation achieve limited green financing growth, while institutions that successfully translate policies into environmental performance gains experience significant expansion in sustainable finance offerings. Similarly, the mediation effect is particularly important for policymakers and bank management, as it demonstrates that policy development must be coupled with effective implementation mechanisms and performance monitoring systems to achieve desired green financing outcomes (Zheng et al., 2021).

On the other hand, banks should focus not only on creating comprehensive environmental policies but also on ensuring these policies translate into measurable environmental improvements through operational changes, employee engagement, and systematic performance tracking. The strength of this mediation relationship indicates that environmental performance acts as the critical link between policy intentions and green financing success, emphasizing the importance of results-oriented approaches to sustainable banking policy implementation. Therefore, the study has developed the following hypothesis:

H_{13}: Environmental performance mediates the relationship between bank policy-related practices and green financing.

In conclusion, all these hypotheses show that green banking practices-such as good policies, efficient operations, trained employees, and supportive customers-can help banks improve their environmental performance and increase green financing. Environmental performance is important because it connects what banks do inside to the green loans and projects they support outside. When banks focus on being eco-friendly in their daily work and encourage staff and customers to do the same, they become better at supporting green projects and protecting the environment. Therefore, green banking benefits the planet and helps banks grow and succeed. By following these ideas, banks can make a real difference for the environment and their future.

1.8. Operational Definition of Key Terms

The researcher has defined several essential terms throughout this research report for better reader comprehension. This author has defined several operational meanings for major study concepts that appear throughout the report used in the study report.

Bank Employee-Related Practices (BERP): The practices bank employees use to foster environmental sustainability include their training, motivational structures, and green initiative participation. The evaluation of these practices depends on how well employees understand green banking principles together with their training programs and their involvement in sustainable banking activities.

Bank Operational-Related Practices (BORP): Different operational strategies exist to lower banking operations' environmental effects, including paperless banking and energy-saving protocols and waste management systems. Institutional measurement of

sustainability occurs through implementing eco-friendly operational technologies and procedures.

Bank Consumer-Related Practices (BCRP): Financial institutions employ promotional measures to boost customer adoption of environmentally sustainable giving and receiving products, including green loans, digital banking and sustainable financial products. The measurement of these practices exists through consumer awareness programs along with green product promotion activities.

Bank Policy-Related Practices (BPRP): Environmental sustainability promotion in banking operates through bank-implemented policies which include environmental risk assessments along with green financing schemes as well as compliance with environmental regulations. The measurement of these practices relies on the level of sustainability integration within bank policies and management decisions.

Environment Performances(EP): A bank measures its green initiatives evaluation results as environmental performance by assessing its environmental footprint impact through carbon emission reduction and energy efficiency and waste management practices. The metric functions as an intermediary force to link green banking practices with their financial outcomes.

Green Financing(GF): Green financing refers to the provision of financial resources for environmentally sustainable projects, such as renewable energy, energy efficiency, and waste management. This study defines green financing as the dependent variable that responds to practices of green banking and environmental performance.

1.9. Organization of the Study

The present study is divided into five separate chapters. The first chapter included the general background of the study, statement of the problems, objectives of the study, research questions, working hypothesis, scope and significance of the study, limitations, delimitations of the study, operational definitions of the key terms, and organization of the study.

Similarly, the second chapter includes different kinds of reviews of pieces of literature, likewise conceptual reviews, reviews of policy documents, reviews of institutional practices, and reviews of related studies. Similarly, chapter three contains the philosophical paradigms, methods, design, population, sampling methods, sample size,

sources of information or data, questionnaire design and administration, validity and reliability tests, data presentation and analysis, and socio-ethical considerations. Besides that, chapter four includes results and discussion grounded by descriptive and inferential statistics.

In the fifth chapter, a summary of the whole research report, conclusions, and some valuable recommendations were included in this study. Finally, the present study was completed by highlighting the sources, instruments, and calculation-related information that readers can benefit from when they conduct comparable research work in the future.

CHAPTER 2
LITERATURE REVIEW

2.1. Introduction

This chapter examines the existing research and scholarship on green banking initiatives and sustainable financing. Its aim is to synthesize findings from prior studies, highlight the theoretical frameworks used, and identify unresolved questions in the field. The chapter starts with an overview of the background and development of green banking and green financing. It then critically analyses key research related to bank policies, employee practices, consumer behavior, and operational strategies within the context of sustainability. Throughout, the focus remains on how empirical studies, theoretical models, and ongoing debates have shaped current understanding of green finance.

2.2. Review of Conceptual and Theoretical Perspectives

The conceptual perspective illustrates how various components of green banking such as institutional policies, employee practices, customer engagement, and operational strategies are interconnected and collectively influence the effectiveness of green financing and environmental performance. Empirical studies demonstrate that sustainable banking practices enable financial institutions to reconcile profitability with environmental stewardship, as banks that integrate green financing into their operations not only improve environmental outcomes but also enhance customer loyalty and trust, contributing to long-term profitability. Chen et al. (2022) highlights that policy-driven green banking initiatives significantly impact banks' environmental performance.

From a theoretical standpoint, Stakeholder Theory posits that banks must consider the interests of all relevant groups, including customers, employees, communities, and the natural environment, to achieve sustainable outcomes (Gulzar et al., 2024). This theory is complemented by the Resource-Based View, which argues that banks can gain competitive advantage by leveraging their unique resources such as skilled personnel, innovative technologies, and sustainable processes to advance green financing (Barney & Arikan, 2005). Together, these theories provide a robust framework for

understanding how banks can align their strategic objectives with environmental and social goals.

Therefore, research on green banking and green financing consistently demonstrates that the integration of sustainable practices across policies, operations, human resources, and customer engagement drives both environmental and financial performance. The conceptual perspective reveals that these elements are interdependent: effective green policies enable employee adoption of sustainable practices, which in turn influences customer behavior and operational efficiency, ultimately strengthening the bank's capacity to deliver impactful green financing. The application of Stakeholder Theory and the Resource-Based View further elucidates how banks can navigate the complexities of sustainability by balancing diverse interests and capitalizing on their organizational strengths. However, challenges such as limited customer awareness, high initial investment costs, and technical barriers persist, highlighting the need for continued innovation, education, and collaboration among banks, governments, and communities. Overall, the convergence of empirical research and theoretical frameworks underscores the transformative potential of green banking to foster environmental sustainability, enhance financial resilience, and contribute to the broader transition toward a low-carbon economy.

2.2.1. Conceptual Perspectives

Green banking is a new idea that is becoming more popular worldwide. People and organizations may define green banking in different ways.

The United Nations Environment Program explains green banking as moving bank funds toward environmentally friendly assets, making public commitments to change, and creating new green banking standards. It also means adhering to international principles and applying specific rules to protect the environment.

Green banking also means investing in projects that positively impact the environment, such as reducing air, water, and land pollution, lowering greenhouse gas emissions, and using energy and natural resources more efficiently. Green finance refers to banking practices that consider environmental impacts and aim to support sustainable investments while reducing investments that harm the environment. Green finance is

used in many parts of the financial sector, both public and private, and helps manage environmental risks in the financial system (G20 Green Finance Study Group).

According to the International Finance Corporation (IFC), green banking uses green finance principles, including investing in green assets, considering environmental and social factors, and aiming for a positive impact in financial products.

Therefore, green banking is the part of banking that focuses on protecting the environment and supporting sustainable development by changing financial activities. It involves investing in projects that help the environment and using green finance in decision-making. Green banking mainly addresses pollution, greenhouse gas emissions, energy efficiency, and renewable energy to fight climate change and support adaptation strategies (Mozib Lalon, 2015). Internally, it includes saving paper, using less energy, and teaching staff about environmental values. Externally, it supports funding for climate solutions, new green investment products, and sustainable agriculture, all of which support sustainable development (Owen et al., 2018). Green banking is about using sustainable economic practices to solve social and environmental problems in banking by turning ideas into real actions.

2.2.2. Theoretical Perspective

Theoretical frameworks are essential as they provide a solid foundation for selecting and understanding the variables involved. The discussion includes Institutional Theory, which examines how rules and culture influence banks; Resource-Based View (RBV) Theory, which explains how banks utilize their resources to achieve success; Systems Theory, which views banks as part of a larger system; Stakeholder Theory, emphasizing the importance of considering all parties involved; Triple Bottom Line Theory, focusing on people, planet, and profit; Asset, Motivation, and Opportunity (AMO) Theory, which addresses factors that enhance employee performance; and Organizational Change Theory, which explains how banks can adapt to become more environmentally sustainable. Through these theories, the research is grounded in a comprehensive understanding of the factors shaping sustainable banking practices.

Institutional Theory: Institutional theory provides insight into how banks and other organizations follow established rules, habits, and accepted ways of operating within society. This theory examines the formation of rules and routines and explains why

individuals within organizations adhere to them. It also offers understanding into how and why these rules evolve over time. According to institutional theory, external factors such as government regulations, social expectations, and economic conditions heavily influence banks. For example, banks may adopt green banking practices in response to governmental mandates or societal demands for greater environmental responsibility. This theory is valuable because it highlights that banks do not operate in isolation but are part of a larger system that requires responsiveness to societal and governmental pressures. Institutional theory is particularly relevant for explaining the adoption of green banking initiatives under external pressures like new laws or increasing public concern for the environment.

Environmental Interest Theory: This study draws on Environmental Interest Theory, which explains that banks adopt green banking practices because of their desire to protect the environment. The theory suggests that banks recognize the importance of preserving nature and therefore implement policies and actions to reduce pollution and use resources efficiently. Examples include energy-saving measures, waste reduction, and support for clean energy projects. Media outlets like television and newspapers, along with interpersonal communication, play a vital role in raising awareness about environmental risks and promoting sustainable practices. As banks and individuals gain more knowledge about environmental issues, their concern grows, leading to actions that benefit nature. This ongoing process of learning and adaptation forms a cycle where increased awareness drives improved behaviors, which in turn lead to further learning. The theory is relevant for this research because it highlights how education, communication, and effective policies collectively encourage banks and people to make more responsible environmental decisions.

Stakeholder Pressure Theory: Stakeholder Pressure Theory explains that banks adopt green banking primarily due to demands from various groups, including customers, investors, government agencies, and social organizations, urging them to enhance their environmental responsibility. When external stakeholders such as customers and regulators call for more sustainable actions, banks respond by strengthening their environmental initiatives and supporting green projects. This external pressure encourages banks to implement green banking practices to meet expectations and contribute to sustainable development. Research indicates that pressure from diverse

stakeholder groups and international bodies directly influences banks to adopt green policies, with social pressure playing a crucial role in promoting sustainable growth. The theory is valuable because it considers both external perspectives from customers and society and internal views from bank employees and management. Studies confirm that involving all stakeholders leads to improved green banking performance. This theory is included in the study to capture how stakeholder influence drives banks toward greater environmental responsibility.

Consumer Awareness Theory: This study uses Consumer Awareness Theory to explain that as people become more informed about green banking and seek eco-friendly services, banks experience pressure to offer green products such as paperless banking, green loans, and sustainable investments. Growing environmental concern among customers motivates banks to develop and promote these green services. Research indicates that customer awareness significantly influences the adoption and growth of green banking. For instance, Adhikari et al. (2021) found that increased knowledge about e-banking, green investments, and sustainable banking leads customers in Nepal to use green banking services more frequently. Another study suggests that banks should focus on raising customer awareness to encourage wider use of green products and support environmental goals. This theory is relevant to the study because multiple sources confirm that customer knowledge and demand play vital roles in initiating and expanding green banking practices, illustrating how informed customers drive banks toward greater environmental responsibility.

Triple Bottom Line Theory: This study draws on the Triple Bottom Line Theory, which emphasizes that businesses should balance three key areas: profit, people, and the planet. For banks, this means offering green banking products that benefit the environment, support communities, and maintain profitability. Research published in leading journals indicates that applying the triple bottom line approach helps banks measure their performance holistically and encourages investment in sustainable projects and social initiatives. Many banks adopt this framework to demonstrate accountability and attract environmentally and socially conscious customers. This theory is central to the study because it provides a comprehensive perspective on how banks can achieve growth while contributing positively to society and the environment, aligning well with the goals of green banking research.

However, after examining various theories related to green banking, the most popular and relevant theory for this research topic is Stakeholder Theory. This theory is widely used because it explains how different groups, such as customers, investors, the government, and even employees, can influence banks to adopt green banking practices. Many studies indicate that stakeholder pressure is a significant factor behind banks implementing green policies and eco-friendly services. Stakeholder Theory is important because it considers both external and internal groups, demonstrating how everyone's needs and opinions are vital when banks decide on green banking initiatives. Research also shows that when banks take into account the perspectives of all stakeholders and work together, they can improve their green banking performance and support environmental sustainability.

2.3. Review of Related Policy

The Review of Related Policy examines the main rules and guidelines that help banks use green banking. This involves reviewing international and Nepalese policies that outline how banks should manage environmental care. For example, big rules cover the whole banking system and smaller rules focus on specific bank actions (Dikau & Volz, 2021). In Nepal, important policies include the Environmental and Social Risk Management (ESRM) Guidelines and the Climate Change Policy. These rules guide banks to consider the environment and social issues before giving loans or investing.

2.3.1. Green Banking Policy Instrument

A Green Banking Policy Instrument is a set of rules, guidelines, and tools by governments or central banks to help banks support the environment and fight climate change. Green banking policy instruments can be categorized into four policy categories: macro-prudential, micro-prudential, market-making, and credit allocation, as identified by Dikau & Volz (2021), denoted in Table 2.1 below. The green macro-prudential policy considers setting guidelines for financial institutions or preventing and reducing systemic financial risks to the macro economy due to climate change. It is possible that green macro-prudential tools could comprise a climate stress-testing of the banking system, capital requirements that vary with the share of the green portfolio of the bank, and limits on credit risk and financial ratios. Similar tools can assist some central banks or other regulators in fostering lending activity in banks and making them invest more in green projects.

Table 2.1

Green Banking Policy Instruments

Policy area	Type of Instrument	Concept	Practitioner
Macro prudential	1. Stress testing 2. Differentiated capital requirements 3. Loan-to-value and loan-to-income caps 4. Loan exposure restrictions 5. Sectoral leverage ratio 6. Liquidity restrictions	1. Assess the impact of climate risks on the financial system 2. Assign higher risk weights to carbon-intensive assets when evaluating the capital-to-risk assets ratio of banks 3. Limit the flow of resources to sectors or companies that exceed specified carbon-emission targets 4. Limit the credit exposure by banks to carbon-intensive borrowers 5. Limit an overleveraged position to carbon-intensive assets 6. Introduce an incentive mechanism for the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) requirements to link the climate targets and the liquidity/maturity mismatch requirements	1. Under consideration by the Bank of England and DNB 2. Banco Central do Brasi
Micro prudential	1. Disclosure requirements 2. E&S risk management 3. Reserve requirements	1. Require information disclosure of climate-related financial risks by banks 2. Require banks to develop E&S risk management framework and standards and implement 3. Lower reserve requirements for banks' green portfolios to encourage green investments	1. TCFD 2. Bangladesh Bank, People's Bank of China 3. Banque du Liban
Market making	1. Sustainable finance principles 2. Green bond guidelines	1. Provide guidelines to banks 2. Develop green bond guidelines to encourage the issuance of green bonds	1. Nigeria 2. People's Bank of China; China Securities Regulatory Commission
Credit allocation	1. Lending quotas 2. Green refinancing windows 3. Concessional loans for priority sectors	1. Require a minimum proportion of bank lending to climate and environment-related sectors 2. Exclusive refinancing windows to encourage green finance initiatives 3. Provide concessional loans to banks that lend to climate-sensitive sectors	1. Reserve Bank of India 2. Bangladesh Bank 3. Bank of Japan

Source: CCCU (2014); Volz (2017); EBF (2017); Dikau and Volz (2021); NGFS (2019).

These policies tell banks how to give loans for clean energy, manage environmental risks, and avoid investing in harmful projects like coal or oil. For example, in Nepal,

the Environmental and Social Risk Management (ESRM) Guidelines help banks check if their loans and investments are safe for nature and people. Internationally, many countries use green banking guidelines to make sure banks follow eco-friendly actions, such as lending to renewable energy or supporting small businesses that help the environment. These policy instruments can be strict rules, regulations, helpful advice guidelines, or special programs like green bonds and loans for solar energy. The main goal is to help banks make better choices for the planet while still doing good business.

Similarly, micro prudential policy instruments focus on individual banks and their daily actions. These include rules for banks to tell the public about their climate risks, manage environmental and social risks, and sometimes get rewards for green investments. For example, banks may need to share information about how climate change could affect them or set up systems to check if their loans hurt the environment. Research highlights the importance of these tools, especially disclosure requirements from groups like TCFD, which help make banks more open and responsible. Bangladesh Bank and the People's Bank of China are good examples of banks using these rules. Many articles often show how these rules help banks in developing countries start their green journey. These instruments help banks build trust with customers and investors by showing they care about the environment and manage risks carefully.

Furthermore, macro prudential policy instruments are big-picture rules that help keep the whole financial system safe from climate risks. These tools include stress testing, capital requirements, and loan limits for polluting companies. For example, stress testing checks how climate risks could hurt banks, while capital rules make banks hold more money if they invest in dirty industries. Much research, like that by international banks and the Bank of England, shows these tools are under serious review to protect the financial system from climate change problems. Research articles also discuss these tools, but often focus more on local or smaller banks. Practitioners such as Banco Central do Brazil and the Bank of England are leading in using these instruments. These rules help banks think about long-term risks, not just short-term profits, which is important for fighting climate change and strengthening the financial system.

In the same way, market-making policy instruments help banks and markets create and use green financial products. This includes making rules for green bonds and setting up sustainable finance principles. Green bonds are special loans for projects that help the

environment, like clean energy or pollution control. China and Nigeria show that clear green bond guidelines make it easier for banks to raise money for green projects and attract investors who care about the planet. These articles also show how these rules help build a bigger market for green finance. Many articles often focus on the challenges of starting these markets in smaller countries. Practitioners like the People's Bank of China and the China Securities Regulatory Commission are leaders in this area. These instruments are important because they help banks move money into projects that protect the environment and support sustainable growth.

Moreover, credit allocation policy instruments ensure banks lend enough money to green projects and important sectors. This includes rules for lending quotas, green refinancing, and cheap loans for climate-friendly businesses. For example, the Reserve Bank of India and Bangladesh Bank require banks to give certain loans to renewable energy or climate projects. Research articles show these rules are very effective in pushing banks to support green sectors and help countries meet climate goals. How these policies help smaller banks and new green businesses get the money they need. Practitioners like the Bank of Japan also use these tools to support climate-sensitive sectors. These instruments are important because they ensure green projects get enough funding, helping the environment and economy grow sustainably.

On the other hand, macro prudential and micro prudential policy instruments are important for making the banking system safer from climate risks and supporting green finance. Macro prudential tools, like stress testing and capital requirements, help protect the whole financial system by ensuring banks are ready for climate shocks and limiting risky loans to polluting companies. These tools are used by big organizations such as the Bank of England and Banco Central do Brazil, and are often discussed in international research for their strong role in fighting climate change. Micro prudential tools focus more on each bank's daily actions, such as sharing climate risk information and managing environmental risks in their loans. These rules help banks build trust with customers and investors and are used by banks like Bangladesh Bank and the People's Bank of China. Together, these policy instruments make banks think about long-term risks, support green projects, and help the environment and the economy grow safely and sustainably.

In conclusion, both macro prudential and micro prudential policy instruments are important for making the banking system safer from climate risks and supporting green finance. Macro prudential tools, like stress testing and capital requirements, help protect the whole financial system by ensuring banks are ready for climate shocks and limiting risky loans to polluting companies. These tools are used by big organizations such as the Bank of England and Banco Central do Brazil, and are often discussed in international research for their strong role in fighting climate change. Micro prudential tools focus more on each bank's daily actions, such as sharing climate risk information and managing environmental risks in their loans. These rules help banks build trust with customers and investors and are used by banks like Bangladesh Bank and the People's Bank of China. Together, these policy instruments make banks think about long-term risks, support green projects, and help the environment and the economy grow safely and sustainably.

2.3.2. Review of Related Nepalese Policy

Nepal Rastra Bank (NRB), the central bank of Nepal, has taken important steps to make banking more environmentally friendly. In 2018, NRB introduced the Environmental and Social Risk Management (ESRM) Guidelines for all banks and financial institutions in Nepal. These guidelines were updated in 2022 and require banks to look at environmental, climate, and social risks before giving loans or investing. The ESRM Guidelines cover many types of banking, such as loans for small businesses, commercial leasing, working capital, and big projects. Banks must set up an Environmental and Social Management System (ESMS) to help follow these rules and use special tools and templates to check risks.

Likewise, NRB also asks banks to report yearly on how well they follow these guidelines, including staff training and risk management. This helps banks avoid projects that could harm the environment and encourages them to support businesses that are good for nature and society. Studies show that most banks in Nepal are doing a good job following these policies, especially in making new rules, training staff, and including environmental and social checks in their main plans.

Moreover, NRB created a Green Finance Taxonomy, a clear system that helps banks and investors know what "green" finance in Nepal counts as. This taxonomy helps banks support green projects, attract more investment, and move Nepal towards a

greener economy. These policies and guidelines show that Nepal is working hard to make its banking sector more environmentally responsible and ready for the future.

In the same way, the government passed the Environmental Protection Act in 2019, which created the Environmental Protection Fund. That same year, NRB checked how well banks understood and used sustainable banking practices. These steps showed that the government and NRB were serious about protecting the environment and supporting green finance

Table: 2.2

Sustainable and Green Banking Initiatives and Guidelines in Nepal

Years	Initiatives
2014	Sustainable Banking Finance Network member.
2014 – 2016	The government body of Nepal Ministry of Population and Environment defines national climate targets through intended nationally determined contributions while the National Planning Commission releases Sustainable Development Goals Preliminary Report: 2016-2030.
2017	Government of Nepal, National Planning Commission publishes National Review of SDGs, SDGs Baseline Report and issues SDGs Status and Roadmap: 2016-2030.
2018	Nepal Rastra Bank (NRB) issues guidelines on Environmental and Social Risk Management (ESRM) for banks and financial institutions (BFIs), Environmental and Social Due Diligence (ESDD) Checklist and E&S Risk Rating tools and Annual Report Template.
2019	The government of Nepal passed the Environmental Protection Act,2019 which creates the Environmental Protection Fund, and NRB surveyed on awareness of sustainable banking practices among BFIs in October.
2020	NRB issued a unified directive that mandates all BFIs to follow the guideline on Environmental and Social Risk Management (ESRM), Government of Nepal issues Environmental Protection Rules 2020.
2022	NRB updates the Guideline on Environmental and Social Risk Management (ESRM) for BFIs to include consideration of climate risks.

Source: IFC Country Progress Report (2022)

In 2017, the National Planning Commission published more SDG reports, including a baseline report and a roadmap for 2016-2030. This helped everyone understand where Nepal stood on the SDGs and what steps were needed to reach these goals. It made it

easier for banks and other organizations to align their work with the country's development plans.

In 2018, Nepal Rastra Bank (NRB) introduced the Environmental and Social Risk Management (ESRM) Guidelines for banks and financial institutions. NRB also provided tools like the Environmental and Social Due Diligence (ESDD) Checklist and risk rating tools. These guidelines made it clear that banks had to think about environmental and social risks before giving loans, making green banking a real part of their daily work.

In 2014, Nepal became a member of the Sustainable Banking Finance Network. This was an important first step because it connected Nepal with other countries working on green banking. Being part of this network helped Nepal learn about international standards and best practices for making banks more environmentally friendly.

Additionally, during these years, the Nepalese government, through the Ministry of Population and Environment, set national climate goals. They did this by sharing their intended nationally determined contributions (NDCs) and releasing a first report on the Sustainable Development Goals (SDGs) for 2016-2030. These actions showed Nepal's strong commitment to fighting climate change and planning for a sustainable future.

In 2020, NRB made it a rule that all banks and financial institutions must follow the ESRM guidelines. The government also issued new Environmental Protection Rules. These changes made the rules for green banking even stronger and clearer, making sure that every bank had to follow them.

NRB updated the ESRM Guidelines in 2022 to include climate risks. Banks now have to look at how climate change could affect their loans and investments. This update shows that Nepal is keeping up with global trends and making its banking system safer and more responsible for the environment.

2.4. Review of Institutional Best Practices and Case Studies

Green banking is becoming popular worldwide because it helps protect the environment and supports sustainable growth. Countries like the USA, Canada, and Denmark are good examples of using green loans, green bonds, and running banks in ways that do not harm the environment. Big banks such as Danske Bank, JPMorgan Chase, and Bank of America have invested much money in clean energy and projects that support

sustainability. In developing countries like India, Pakistan, and Bangladesh, banks use green credit, ESG (Environmental, Social, and Governance) rules, and green bonds to help fight climate change. Islamic banks in Malaysia and other countries promote green and ethical banking services. These examples from different countries show how banks can work together to combine financial success with caring for the environment.

2.4.1. Evolution of Green Banking

Green banking means banks use eco-friendly methods and support activities that help protect the environment (Miah et al., 2021). This can include using less paper, saving energy, offering loans for green projects, and ensuring their work does not harm nature. Green banking also means following rules and policies that support a cleaner and safer planet.

Green banking is important because it helps reduce pollution and supports sustainable development. It also improves a bank's reputation and builds trust with customers (Wittneben et al., 2012). When banks care about the environment, they can attract more customers who want to support eco-friendly businesses. Green banking also helps banks save money in the long run by using energy more efficiently and reducing waste.

On the other hand, researchers agree that green banking benefits both banks and the environment. For example, studies from Nepal and other countries show that banks using energy-saving equipment, following green policies, and training their employees see big improvements in their environmental performance (Ning et al., 2022). Similarly, Yan et al. (2023) also shows that banks with strong policies and investments in green projects often do better financially. However, some studies found that just giving green loans is not enough unless banks also train their staff and raise awareness among customers (Bose et al., 2021). Challenges like high costs, low customer awareness, and a lack of skilled staff can make it harder for banks to go green.

Moreover, green banking depends on a few important things. First, banks must have clear green policies and rules guiding their actions. They should also invest in green technology and support eco-friendly projects. Training employees about green practices is important so they know how to help the environment at work (Wright, 2012). It is also helpful to teach customers about green banking and explain its benefits, so more people support these efforts (Sen & Ganguly, 2017). Finally, support from the

government and regulators makes it easier for banks to follow green rules. When banks focus on these areas, they are more likely to succeed in their green banking goals.

In conclusion, green banking is a smart and responsible way for banks to help the environment and improve their business. Research from many countries and journals shows that green banking works best when banks have strong policies, invest in green projects, and educate employees and customers. To improve green banking, banks should focus on training, customer awareness, and support from the government. Green banking can play a big role in building a cleaner and more sustainable future with these steps.

2.4.2. GB Practices in Developed Countries

Green banking practices in developed countries are advanced and well-integrated into the financial system (Daily & Huang, 2001). These countries have created strong laws and frameworks that require banks to consider the environment in every part of their business (Epstein et al., 2018). This approach supports sustainable development and helps banks reduce their negative impact on the planet.

In developed countries, banks make it easy for customers to use green banking services. Many banks offer online banking, mobile apps, and paperless statements. For example, customers in the United States and Europe often use digital banking, which helps reduce paper waste and saves energy (Park & Kim, 2020). Some banks even reward customers who choose eco-friendly options, such as e-statements or green loans for buying electric cars or solar panels. However, research (Shrivastava, 1995) shows that while these customer-focused practices are standard, they sometimes have less impact on overall environmental performance than other areas, because customer awareness and engagement can still be a challenge.

Likewise, operational practices are a significant focus for banks in developed countries. Banks invest in green buildings, use renewable energy, and work to make their daily operations more energy-efficient (Martinez, 2014). Additionally, many European banks have switched to using solar power in their offices and reduced their paper use by moving to digital records (Brownlie et al., 2023). These changes help banks lower their carbon footprint and show their commitment to sustainability. Studies confirm that

these operational changes have a strong, positive effect on the environment and the bank's reputation.

In the same way, employees in developed countries are also trained to support green banking (Guo et al., 2020). Banks offer regular training programs to teach staff about energy-saving habits, recycling, and how to promote green products to customers (Elmore, 2022). Employees are encouraged to use double-sided printing, recycle paper, and save electricity in the office. This culture of sustainability helps banks meet their green goals and improves their environmental performance. Moreover, Saeed et al. (2019) shows that when employees are involved and knowledgeable about green banking, they are more likely to support and promote eco-friendly initiatives, which benefits both the bank and the environment.

However, bank policies in developed countries are strict and straightforward about supporting green banking (Akomea-Frimpong et al., 2022). Governments and central banks require financial institutions to follow environmental standards. For example, banks must report their carbon emissions and consider environmental risks before giving loans. Many banks in Europe and North America have policies that require them to fund renewable energy projects and avoid lending to businesses that harm the environment (Bäckstrand, 2022). These policy-related practices have the most significant positive impact on environmental performance, as they guide banks to make decisions that support sustainability.

Similarly, green banking practices lead to more green finance. Banks in developed countries offer green loans, bonds, and other financial products that support environmentally friendly projects (Belousova et al., 2022). They invest in renewable energy, energy-efficient buildings, and clean technology. On the other hand, Saeed et al. (2019) shows that green finance is a key driver for improving environmental performance, as it channels money into projects that help protect the planet.

Environmental performance acts as a bridge between green banking practices and green finance (Khan et al., 2023). When banks follow green policies, run their operations sustainably, train their employees, and engage customers in eco-friendly services, their environmental performance improves (Dwivedi et al., 2022). This, in turn, makes it easier for them to offer more green finance products and attract customers who care about sustainability. Studies Li et al. (2009) confirm that green finance mediates the

relationship between green banking practices and environmental performance. As banks improve their practices, they also increase their positive impact on the environment through green finance.

In summary, developed countries lead the way in green banking by making it part of every aspect of banking-from customer service and daily operations to employee training and strict policies. These efforts help protect the environment and support the growth of green finance, creating a cycle where better practices lead to better environmental outcomes and more sustainable financial products.

2.4.3. Green Banking Practices in Developing Countries

Green banking in developing countries means banks are taking steps to protect the environment and support clean energy by creating special policies and activities. Many developing nations now understand that banks have a significant role in fighting climate change and helping with environmental protection (Dwivedi et al., 2022). However, green banking is still a new idea in these countries, and most companies have a green score of less than 40 percent compared to those in developed countries (Yasir et al., 2020). Countries like Brazil and India have done the most research and work in this area, while others, such as China, Malaysia, Pakistan, Bangladesh, Sri Lanka, UAE, and Indonesia, are just starting to grow their green banking systems.

In contrast, bank consumer-related practices are important for green banking. Many banks in developing countries now offer online banking, mobile apps, and e-statements (Aker & Mbiti, 2010). These services help customers do their banking without using paper. For example, banks in Sri Lanka and India encourage people to use digital banking instead of visiting branches. This reduces paper waste and saves energy. In resent research Lalon (2015) shows that banks can lower their carbon footprint when customers use green banking products. However, many customers in developing countries do not know much about green banking (Mishra & Aithal, 2022). Banks need to teach their customers about the benefits of these services. When more customers use green banking, it helps the environment and supports green finance.

Similarly, bank operations can have a significant impact on the environment (Abdallah & Ghwayeen, 2020). Many banks are changing their daily work to be eco-friendly. They use less paper, recycle more, and save energy using solar power and LED lights

(Sarma & Roy, 2021). For example, some banks in Nepal and Bangladesh have started using solar panels in their branches. They also use digital tools to store information instead of printing documents. Garg et al. (2025) research, changes help banks lower their costs and become more sustainable. When banks run their operations sustainably, it leads to better environmental performance. This also makes it easier for banks to offer green finance products.

Likewise, employees play a key role in green banking. Banks in developing countries train their staff about environmental issues (Choubey & Sharma, 2022). They teach employees to save energy, reduce waste, and support green projects. For example, banks in India hold workshops to help staff learn about green banking. When employees understand these ideas, they can explain them to customers. Research shows trained employees are more likely to promote green products and services (Samueal & Singh, 2023). Similarly, good employee practices also support the growth of green finance.

Moreover, bank policies guide how banks act towards the environment. Many central banks in developing countries now have rules for green banking (Rehman et al., 2021). For example, the central bank in Bangladesh asks banks to give loans to green projects (Julia & Kassim, 2019). Some banks must check if a project is environmentally safe before loaning. These policies push banks to support eco-friendly businesses. Likewise, strong green policies lead to better environmental results (Owen et al., 2018). Good policies help banks create more green finance options for customers.

Additionally, environmental performance connects green banking practices to green finance (Zhang et al., 2022). When banks use green practices, their environmental performance improves. This means they use less energy, create less waste, and help protect nature. Better environmental performance makes it easier for banks to offer green loans and products. Similarly, banks with good environmental performance attract more customers who care about the environment (Chen et al., 2022). This creates a cycle where green practices lead to better environmental results, supporting more green finance.

In summary, green banking practices in developing countries include actions by customers, employees, bank operations, and policies. These practices help banks improve their environmental performance. Banks can offer more green finance products

when they do better for the environment. This helps protect nature and supports sustainable growth for the future.

2.4.4. Green Banking Practices in Nepal

Green banking practices in Nepal have proliferated in recent years, as banks and financial institutions recognize the importance of supporting environmental protection and sustainable development (Tandukar et al., 2021). The concept of green banking in Nepal is still new (Mishra, 2023). However, it is gaining momentum as regulators and banks adopt eco-friendly policies and activities to reduce their environmental impact and support green growth.

On the other hand, one of Nepal's most visible green banking practices is the move toward paperless banking. Almost all commercial banks now encourage customers to use e-banking services such as mobile banking, internet banking, debit and credit cards, and ATMs (Bhandari et al., 2024). This shift reduces paper waste and makes banking faster and more convenient for customers. For example, Laxmi Bank has pioneered in promoting digital banking, offering mobile money services and internet banking to minimize paperwork and customer waiting times (Mishra, 2023). Banks also advise their staff to use as little paper as possible in daily operations, reducing their carbon footprint.

Moreover, energy conservation is another important area for green banking in Nepal. Many banks have started using energy-efficient lighting like CFL bulbs and have conducted energy audits in their offices to ensure efficient energy use (Tandukar et al., 2021). Some banks, such as Clean Energy Development Bank and Sanima Bank, have invested in renewable energy projects, including hydropower and solar energy development funds. These banks reduce their energy consumption and support the growth of clean energy in Nepal by financing eco-friendly projects.

In the same way, Nepalese banks are also involved in lending to eco-friendly projects. Major banks such as Standard Chartered Bank, Laxmi Bank, Civil Bank, and Nepal Investment Bank provide loans for solar energy, hydropower, biogas, and other environmental projects. For instance, Laxmi Bank and other banks have supported the “Go Green” concept by funding projects that help preserve the environment, such as the Million Tree Project in Lumbini, which aimed to plant one million trees by

2020. Similarly, banks like Rastriya Banijya Bank have supported the “Clean Bagmati” project to help clean up the Bagmati River.

However, Nepal Rastra Bank (NRB) has issued the Environmental and Social Risk Management (ESRM) Guideline to encourage further green investments, which requires all banks and financial institutions to integrate environmental and social risk management into their credit processes. This means that before giving loans, banks must assess the environmental and social risks of the projects they are financing. The guideline also requires banks to develop an Environmental and Social Management System (ESMS) and use risk management tools and templates to help staff evaluate risks properly. These measures ensure that banks only support environmentally responsible and socially beneficial projects.

On the other hand, Nepal’s green banking journey was the issuance of the country’s first-ever green bond by NMB Bank in 2025, with support from international partners like IFC and British International Investment. This $60 million investment fund sustainable projects such as electric vehicles and solar energy, create thousands of jobs, and set a benchmark for future green finance in Nepal. The green bond demonstrates Nepal’s commitment to attracting international investment for climate-friendly growth and shows how banks can lead in climate finance.

Furthermore, empirical studies show that green banking practices in Nepal positively impact commercial banks' performance. On the other hand, Bhandari et al. (2024) finds that adopting green policies, using energy-efficient equipment, and supporting environmental training improve banks’ environmental performance and reputation. Although challenges remain, such as raising awareness and ensuring all banks follow green guidelines, the progress is promising.

In conclusion, green banking practices in Nepal include paperless banking, energy conservation, lending to eco-friendly projects, implementing environmental risk management, and innovative financing like green bonds. These efforts help protect the environment and improve Nepalese banks' efficiency, reputation, and competitiveness, paving the way for a more sustainable future.

2.5. Review of Empirical Works

Adopting green banking means banks are changing their work to be more environmentally friendly. This change affects everything they do (Hussain et al., 2018). Green banking means banking in a way that helps the environment (Silva, 2015). Green banking tries to lower pollution and reduce the use of things that harm the Earth, like too much paper or energy (Narang, 2015). At first, green banking started in Western countries to use less paper because cutting down trees for paper was bad for forests and the air (Lalon, 2015). Now, green banking means using many good practices that help banks be better for the environment, society, and economy (Khan et al.,2023; Rehman et al., 2021; Khairunnessa et al., 2021; Bose et al., 2021). Green banking is a new idea that helps banks grow in a way that is good for the Earth. It encourages banks to use eco-friendly methods and lower pollution (Malliga, 2016). Many studies show that green banking is important for protecting the environment and helping future generations (Singh, 2015: Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014; Sindhu, 2015).

Rahman et al. (2023) studied how green banking practices affect banks' environmental performance in Coimbatore City, India. Banks only saw "green" as the color of money in the past, but now they are taking real steps to protect the environment. The study found that after banks started using green practices, such as installing ATMs, giving environmental training to staff, using energy-saving equipment, and supporting green projects, there was a significant positive change in their environmental performance. Data was collected from 143 bankers in both public and private banks. The results showed that environmental training, energy-efficient practices, and green projects had the most significant impact on helping banks become eco-friendlier. This means that when banks focus on training their staff and using less energy, they can make a real difference for the environment. The study proves that green banking is good for business and helps protect nature and fight pollution.

Moreover, the impact of green banking practices on banks' environmental performance: Evidence from Islamic Bank Khan et al. (2023) study financial sector is the backbone or engine of growth of any economy. It mobilizes and allocates financial resources most productively and efficiently and induces investment, increases employment opportunities and productivity, achieves growth targets and attains overall macro-

economic development. In a global financial system, each country has to reform its financial sector. The reform process should be properly sequenced. Nepal initiated financial sector reform in mid-1980s and HMG/N and Nepal Rastra Bank have been implementing comprehensive Financial Sector Reform Program since 2001. HMG/N has strongly committed for the reform of the financial sector in general and RBB, NBL, ADB/N and NIDC in particular. Much depends on the proper implementation of the Financial Sector Reform Program. The financial sector may invite financial crisis which may easily transfer to other sectors of the economy. As such, we have to be extra cautious for the financial liberalization and reforms of the financial sector.

Additionally, Zhang et al. (2022) studied how green banking activities affect green financing and the environmental performance of private banks in Bangladesh. They found that their environmental performance improves when banks do more green banking, like giving green loans and supporting eco-friendly projects. Green financing is important because it connects green banking activities with better environmental results. The study also showed that green banking faces challenges in Bangladesh, such as customers not knowing much about green banking, high costs, technical problems, and insufficiently skilled staff to check green loans. Despite these problems, green banking brings many benefits, like helping banks compete, saving money in the long run, offering online services, building customer trust, and reducing pollution. Other studies from Nepal and India agree that green banking helps banks and the environment, but also point out the need for more awareness, better policies, and training. The research shows that green banking and green financing help banks do better for the environment. However, more work is needed to overcome the challenges and strengthen green banking.

In the same way, how green banking practices affect the environment in Pakistan. Rehman et al. (2021) found that banks can help fight climate change by adopting green policies, using eco-friendly daily operations, and investing in green projects. The study used surveys from several districts and analyzed the data using structural equation modeling. Results showed that policy-related practices positively affected environmental performance, followed by daily operations and employee-related practices. However, customer-related practices did not have a substantial impact. The research also highlighted that banks are starting to use more green finance, like loans

for clean energy, and are becoming more open about their carbon emissions. These changes help banks improve their reputation, meet international standards, and support a greener future. Still, the study noted challenges like a lack of awareness, high costs, and insufficiently skilled staff. Rehman et al. (2021) suggest that strong policies and more training can help banks better protect the environment.

However, Zhang et al. (2021) studied China's Green Credit Policy (GCP), which started in 2012, and helps direct money towards companies that pollute less and use less energy. The policy asks banks to give more loans to clean and green businesses, and fewer loans to companies that pollute a lot. The study used data from many companies and provinces in China from 2004 to 2017. They found that the GCP encourages high-polluting companies to borrow more money in the short term, but over time, it makes them invest less in polluting projects. The GCP also helps lower pollution, such as sulfur dioxide and dirty water. The policy works better for big, state-owned companies than small ones and has more potent effects in China's eastern and western regions. However, the policy's effect is not as strong in the central region. Overall, the Green Credit Policy helps China move towards greener development by guiding banks to support cleaner businesses and reduce pollution.

On the other hand, Khairunnessa et al. (2021) reviewed how green banking has grown in Bangladesh, especially looking at the role of financial regulations and the central bank. Their study used reports, websites, and articles to see how banks and non-bank financial institutions are helping the country move toward a greener economy. The review found that Bangladesh Bank, the central bank, has been essential in making green banking popular by creating strong green policies and rules. Thanks to these efforts, Bangladesh has made good progress in building green banking systems, improving bank infrastructure, and supporting green growth, even though it still has a way to go compared to richer countries. The central bank's guidelines include managing environmental risks, green loans, climate risk funds, and making banks report on their green activities. Overall, the study shows that government support and clear policies have helped Bangladesh's banks take significant steps toward becoming more environmentally friendly.

Similarly, green finance affects the sustainability performance of banks and financial institutions in Bangladesh. They looked at different parts of green finance, like

economic, social, and environmental factors, and checked how these help banks meet Sustainable Development Goals (SDGs). The study used data from 2015 to 2020 and found that private commercial banks give most of the green loans-about 78% of the total green financing in Bangladesh (Zheng et al., 2021). Their results showed that green finance improves banks' sustainability by helping them improve in economic, social, and environmental areas. Almost all bankers in the study about 95% said that green finance is important for both short-term and long-term banking plans. The research also highlights that green finance is growing in Bangladesh, but more support from policies and bank managers is needed to strengthen it. This study helps us understand that green finance is key for banks to be more sustainable and support the country's green growth.

Bose et al. (2021) studied whether green banking helps banks improve their financial performance in Bangladesh, where there are special rules for green banking. They looked at data from 172 banks between 2008 and 2014. The study found that banks that perform well in green banking also do better financially, mainly because they save costs and work more efficiently. However, the study also found that this positive effect worsens if a bank has strong political connections. Political ties can lead to misuse of green funds and reduce the real benefits of green banking. The research is important because it shows that government rules about green banking can simultaneously help banks and the environment, but only if banks avoid political problems. These findings suggest that clear rules and less political influence can make green banking a win-win for banks, the environment, and society.

Green banking practices affect banks' environmental performance in Kathmandu, Nepal (Risal & Joshi, 2018). They collected data from 189 bankers in five major banks using surveys and analyzed the results with simple and stepwise regression methods. The study found that using energy-efficient equipment and having strong green policies greatly impacted the banks' environmental performance. Environmental training also helped, but only a little. However, giving green loans and working on green projects did not show much effect on environmental performance. The results showed that green banking practices explained about 6.8% of the change in environmental performance. The study suggests that banks and the government should do more to encourage the use of eco-friendly technology and raise awareness among customers. Overall, the research

shows that some green banking actions, like using better equipment and having good policies, help banks protect Nepal's environment.

Miah et al. (2018) study looked at factors that affect how well banks in Bangladesh perform environmentally. Using global guidelines, the researchers used data from 31 banks' annual reports for 2012 and scored their environmental performance (EnPS). They found that banks with higher credit ratings tended to have better environmental performance. However, banks with higher share prices premiums and those operating for a long time longevity had worse environmental scores. Surprisingly, bigger and more profitable banks were not necessarily better at environmental practices. This challenges the idea that large, profitable banks automatically lead in sustainability. The study suggests that policymakers should push big and profitable banks to take charge of environmental initiatives to drive Bangladesh's "green banking" revolution.

Shaumya and Arulrajah (2017) investigated how green banking practices affect banks' environmental performance in Sri Lanka. Their study used survey data from 155 employees across several commercial banks. The researchers measured green banking through four main areas: employee-related practices, daily operation practices, customer-related practices, and bank policy-related practices. The results showed that green banking practices positively and significantly impact a bank's environmental performance. Specifically, employee-related practices, daily operations, and policy-related practices had strong positive effects. However, customer-related practices did not show a significant impact on environmental performance. The study concluded that when banks focus on reducing paper use, improving energy efficiency, and managing environmental risks, they not only help preserve the environment and lower their ecological footprint but also improve their reputation and align better with sustainability goals. This research highlights the importance of internal green practices and policies in driving environmental improvements within the banking sector in Sri Lanka.

On the other hand, the Bank of Ceylon, a big bank in Sri Lanka, shows how banks are now trying to help the environment. Their 2015 annual report said they are changing how they work to use more technology and create better products for the environment. For example, they have a banking app called Smart Gen that does not need a passbook and can be used on phones and the internet. They also have digital branches and "Smart Zones" that use green banking ideas. For many years, banks in developing countries

like Sri Lanka did not pay much attention to protecting the environment (Deka, 2015). However, as people became more aware of climate change and the need to care for the environment, and as new laws and rules were made, banks started to care more about being environmentally friendly. The bank also supports projects that are good for the environment and encourages small businesses to use better environmental practices in their products, marketing, and packaging.

In conclusion, the review of these studies clearly shows that green banking practices have a strong and positive effect on banks' environmental performance. When banks focus on using less paper, saving energy, training staff, and following good green policies, they help protect the environment and improve their reputation. Even though customer involvement is still low, the main impact comes from what banks do inside their operations. These findings strongly support because they prove that green banking is good for the environment and helps banks do better overall. Therefore, banks in Nepal and other countries should keep working on green banking to achieve environmental and business success.

Table 2.3

Summary of Recent Empirical Studies

Green Banking Initiatives	**References**
Using online banking customers access their accounts via the internet, instead of visiting the bank in person.	Malliga & Rewathi 2016; Silva, 2015; Sohail & Shanmugham, 2003; Sudhalaksmi & Chinnadorai, 2014; Sarika & Gopel, 2016
Payment of utility bills etc. via online banking	Malliga & Rewathi, 2016; Silva, 2015; Sudhalaksmi & Chinnadorai,2014; Sharma et al., 2014
Cash/cheque receipt and payment transactions, cheque book requests etc. through ATMs	Silva, 2015; Sharma et al., 2014
Automated clearing systems and SLIPS transfers, which facilitate paperless transactions.	Silva, 2015; Sohail & Shanmugham, 2003
E-mail co respondence, instead of traditional postal correspondence practices	Silva, 2015; Sindhu, 2015
E-statements, SMS banking alerts,	Silva, 2015; Sudhalaksmi & Chinnadorai, 2014; Sindhu, 2015
E-fund transfers	Silva, 2015; Sindhu, 2015
Digital filling systems with a digital archived and digital index query system	Silva, 2015
Video conferencing instead of meetings	Silva, 2015, Sudhalaksmi & Chinnadorai, 2014
Green Channel counters and automated cash deposit terminals	Moorthy & Pradeepa, 2014 ; Silva, 2015
Green checking – converting checking accounts to online banking	Sudhalaksmi & Chinnadorai, 2014; Sharma et al., 2014; Silva, 2015
Green money market accounts convert savings accounts to online banking	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014 ; Sindhu, 2015
Green loans/ green financing - special attention to energy efficient projects, promote renewable energy	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014; Sharma et al., 2014; Silva, 2015; Narang, 2015
Green mortgages offer better interest rates and conditions for energy-efficient houses/ buildings	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014 ; Sharma et al., 2014; Silva, 2015
Green CDs – bonus rates for online banking	Malliga & Rewathi, 2016 ; Sudhalaksmi & Chinnadorai, 2014; Sharma, 2014: Silva, 2015 ; Sindhu, 2015
Green building green construction / sustainable building concept for branches	Singh, 2022; Silva, 2015; Lalon, 2015
Green credit cards with easy settlement schemes	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014; Silva, 2015 ; Sindhu, 2015
Remote deposits, express cash systems for easy domestic fund transfers	Malliga & Rewathi, 2016; Silva, 2015

2.6. Research Gap

Multiple research gaps persist about green banking and environmental performance effects because of the developing economic status of nations such as Nepal. Green

banking activities and environmental performance show a relationship that Zhang et al. (2022) and Chen et al. (2022) have studied, yet their research mostly focuses on developed and emerging economies and overlooks developing nations. The distinctive economic and ecological conditions of Nepal establish a strong basis for fully studying the relationships between green banking activities and environmental performance.

Similarly, the global concept of green banking has started to catch on, yet Nepal remains at an early stage of both adoption and implementation. The green banking in Nepal, which includes the studies by Shrestha (2020) and Mishra (2023), mainly investigates descriptive aspects of green banking practices, including green loans and energy-efficient technology adoption. Studies lack empirical evidence that analyzes environmental performance as an intermediary factor that affects the connection between green banking initiatives and green financing outcomes. The absence of evidence-based research restricts policy creators, together with banking institutions, from creating sustainable banking strategies.

The relationship between green banking practices and green financing remains understudied for environmental performance as a potential mediation pathway, according to Hasan et al. (2022) and other related research. The research lacks clarity on operational efficiency together with employee engagement and consumer-related practices that influence environmental performance and their collective effects on green financing outcomes. The present gap reveals that an enhanced comprehension of green banking initiative conversion into concrete environmental and financial advantages is required.

On the other hand, few studies examine individual components of green banking instead of creating entire systems that unite diverse elements within green banking practices. The research by Zhang et al. (2022) investigated green financing as a mediational element but failed to analyze relationships among employee-related practices and operational efficiency and policy-related practices. The fragmented analysis approach inhibits researchers from establishing complete conclusions regarding the total results between the environmental and financial impacts of green banking.

In the same way, present-day research focuses primarily on exclusive elements of green banking rather than developing comprehensive systems that integrate various green banking elements. Zhang et al. (2021) analyzed green financing mediation, yet they did

not evaluate the connections between employee-related practices and operational efficiency and policy-related practices. The fragmented nature of existing research creates challenges for researchers who want to establish comprehensive findings about total outcomes linking the environmental and financial aspects of green banking.

Research studies lack a clear investigation into the viewpoints of essential stakeholders, including bank workers alongside banking consumers and financial regulators. The research by Chen et al. (2022) investigates green banking's effects on environmental performance but fails to investigate stakeholder participation in motivating such practices. The design of efficient policies and strategies for green banking benefits from knowledge about diverse stakeholder beliefs and their participation in these initiatives.

These gaps should be addressed in subsequent research by including more countries in the study, assessing the future profitability of initiatives undertaken by the green bank, and studying customer incentives. This would culminate in the generation of a comprehensive database of green banking practices and their efficiencies as well as the difficulties they experience all over the world.

2.7. Conceptual Framework

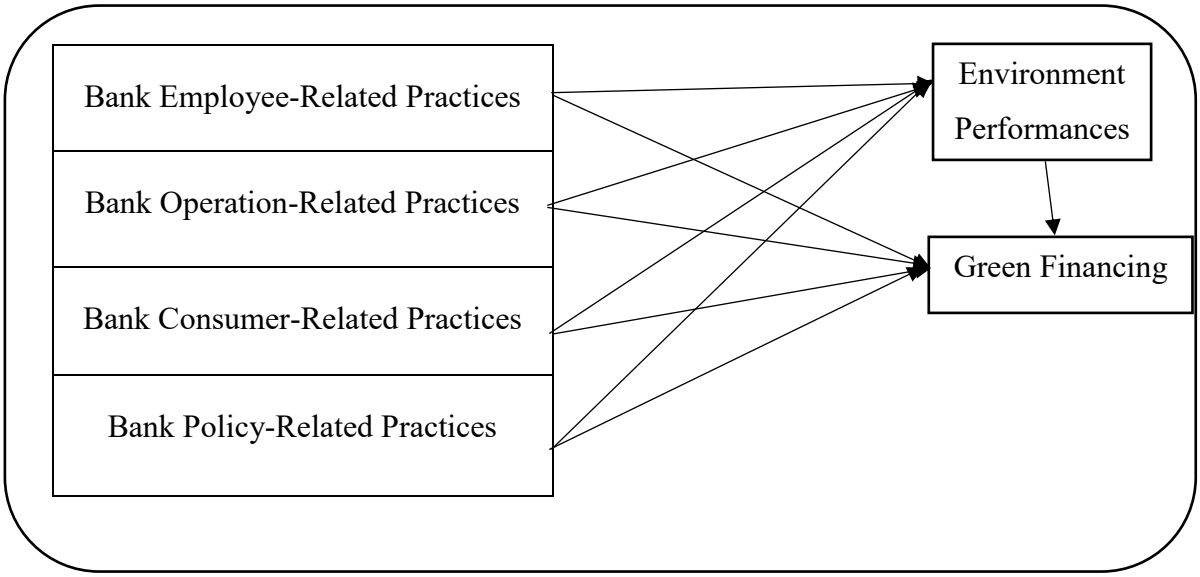
This research tries to understand how green banking activities can help protect the environment. It also examines how green finance can change or improve this effect (Iqbal et al., 2024). The conceptual framework is like a guide showing what is important in this study. There are four main green banking activities in this framework: employee-related practices, operation-related practices, consumer-related practices, and policy-related practices. These are called independent variables. They can change the main result, which is called green financing, the dependent variable. Environmental performance is the mediating variable. It can make the effect of these activities stronger or weaker, depending on how well financial tools match green goals (Chuah et al., 2020). This framework helps us see how everything is connected and why green finance matters. This model helps understand how banks can improve their impact on the environment.

Bank consumer-related practices are actions banks take to help customers use green banking services (Samueal & Singh, 2023). This includes making customers aware of online banking, green investments, and sustainable banking options. When customers know more about these services, they are more likely to use green banking, which is

good for the environment and the bank (Ebhota & Jen, 2020). For example, using online banking and digital payments helps reduce paper use. Customers with higher environmental knowledge and positive attitudes are more likely to adopt green banking practices. Banks can also offer green loans or eco-friendly financial products to encourage customers to make environmentally friendly choices (Nguyen et al., 2023). However, some studies found that customer-related practices have less of an impact on environmental performance than other areas, mainly because customer awareness is still low in many places. Therefore, banks need to focus more on educating their customers about green banking benefits and making green options easy to use.

Figure 2.1

Conceptual Frame Work



Source: Zhang et al., (2022)

Moreover, bank operational-related practices are the daily activities banks do to reduce their negative impact on the environment (Aslam & Jawaid, 2023). This includes using less paper, saving energy, managing waste, and using eco-friendly technology. For example, banks can use online systems for account opening and payments, which cuts down on paper and energy use. These practices help banks lower their carbon footprint and support environmental goals. Additionally, Guo et al. (2020) show that operational practices strongly and positively affect a bank's environmental performance. Banks can save costs, become more efficient, and improve their reputation by improving their operations. Operational changes like switching to renewable energy or implementing

recycling programs are important for building a greener future (Nguyen et al., 2018). In summary, operational practices are key for banks to become more sustainable and show their commitment to protecting the environment.

Likewise, bank employee-related practices focus on what staff can do to support green banking (Bhuiyan et al., 2025). This includes training employees about environmental issues, encouraging them to save energy, recycle paper, and use eco-friendly equipment at work. Employees can also help by promoting green banking services to customers. When employees are aware and motivated, they can significantly reduce the bank's environmental impact (Samueal & Singh, 2023). Furthermore, employee actions, like using less electricity and supporting recycling, help banks reach their sustainability goals. However, some studies found that while employee practices are important, they may have a more negligible direct effect on environmental performance than policy and operational practices. Still, employees play a key role in making green banking successful, especially when they are well-trained and supported by the bank (Park & Kim, 2020). Encouraging staff to act in an environmentally friendly way is an important part of any green banking strategy.

In the same way, bank policy-related practices are the rules and guidelines banks create to support environmental protection (Shen et al., 2024). These include setting clear environmental goals, making policies for green lending, and following national or international environmental standards. Strong policies help banks focus on sustainability and guide all other green activities, such as operations and investments (Aslam et al., 2025). Studies show that policy-related practices have the most significant positive impact on a bank's environmental performance. Good policies make it easier for banks to manage environmental risks, support green projects, and report progress (Owen et al., 2018). By having clear policies, banks can also encourage employees and customers to act in environmentally friendly ways. Therefore, effective policy practices are the foundation of successful green banking because they provide direction and support for all other green activities in the bank.

Furthermore, green financing means providing money for projects and activities that help the environment (Julia & Kassim, 2019). Banks offer loans, investments, and financial products that support renewable energy, energy-saving projects, and other green initiatives. Green finance helps banks and customers invest in eco-friendly

solutions, like solar power or waste management (Siddik et al., 2024). It is an important tool for banks to encourage sustainable development and reduce environmental harm. Studies show Chen et al. (2022) that green financing positively affects a bank's environmental performance, especially when combined with strong policies and operational practices. However, green finance works best when there is good awareness among customers and staff, and banks have clear policies to guide their green investments. Green financing is essential for supporting environmental projects and helping banks achieve their sustainability goals.

Likewise, environmental performance is how well a bank protects the environment through its activities and policies (Hasan et al., 2022). It is measured by reducing pollution, saving energy, reducing waste, and supporting green projects. Good environmental performance means the bank makes a real difference in protecting nature and fighting climate change. Studies show that banks with strong green policies, good operational practices, and active green financing perform better environmentally (Zubairu et al., 2025). This helps the planet and improves the bank's reputation and can attract more customers. Environmental performance is the primary goal of green banking, and it shows how successful a bank is in its efforts to be sustainable and eco-friendly (Yip & Bocken, 2018). Focusing on all areas-customers, employees, operations, policies, and green finance-banks can achieve higher environmental performance and support a greener future for everyone.

In conclusion, the selected variables-bank employee practices, operational practices, consumer practices, policy practices, and green financing-strongly support research topic about improving environmental performance in banks. However, from literature analysis, policy and operational practices have the most significant effect. Good policies give banks a clear direction, while better operations help reduce waste and save energy daily. Employee practices are also important because staff can lead by example and encourage green habits. Consumer practices matter, but their impact depends on how much customers know about green banking. Green financing ties everything together by supporting eco-friendly projects and making it easier for banks to invest in the environment. Overall, when banks focus on all these areas together, they can achieve much better results for the environment. This approach is practical, effective, and necessary for a sustainable future.

2.8. Concluding Remarks

This chapter provides a clear understanding of green banking practices, how they are moderated, and how they relate to environmental performance. The literature shows that banks can improve environmental sustainability by taking actions such as offering environmental training, creating green policies, and running energy-efficient programs. Studies by Zhang et al. (2021) highlight that green financing is essential for helping banks become more sustainable and for promoting eco-friendly banking activities. While the benefits of green banking are clear, there are still challenges, such as low customer participation, regulatory difficulties, and differences in practices across regions.

The experiences of countries like Bangladesh, Pakistan, and Sri Lanka show that green banking programs work differently in different places, which means solutions must fit each context. Measures like employee involvement and strong policies have shown positive effects, but areas still need more research. For example, there is a lack of studies on the life cycle costs and social benefits of green banking.

The chapter also notes some limitations, such as not comparing different contexts enough and not focusing enough on how to involve customers. These findings suggest that more research is needed to overcome current challenges, make green banking more effective, and support sustainable economic growth.

CHAPTER 3
RESEARCH METHODOLOGY

3.1. Introduction

This chapter establishes the methodological framework for the study based on Saunders' Research Onion Model (Saunders et al., 2016). This framework serves as the foundation for methodological choices. This model consists of six different layers, beginning with the philosophical stance and progressing through the research approach, methodological choices, strategies, time horizon, and data collection techniques (Saunders et al., 2016). By following Saunders' model, this study ensures methodological rigour, coherence, and alignment with research objectives (Aleksandras Melnikovas, 2018). This chapter has been divided into the following key sections: philosophy of research, approach to theory research, methodological choices, strategies of data collection, time horizon, tools and techniques, socio-ethical compliances and originality, plan of action, and chapter summary.

3.2. Philosophy of Research

This research is based on the philosophy of positivism. Positivism means that knowledge comes from facts, numbers, and things we can measure (Mokkink et al., 2010). In this study, use data from surveys of bank employees to understand green banking practices. In this study do not rely on personal opinions or feelings. Instead, look for clear and objective answers using scientific methods.

Positivism best fits of this research because testing relationships between different variables (Williams et al., 2009). For example, green banking policies or employee training can increase green finance. Collect information using closed-ended questions and analyze the results with statistical tools. This helps me find patterns and reliably test hypotheses.

Similarly, using positivism, research focuses on what can be proven with data. In this study, measure how many customers use digital banking or how much banks invest in green projects. This approach gives results that can be trusted and used by other researchers or banks. Positivism does not consider personal stories, but it is useful when the goal is to find facts and general rules.

Ontology: Ontology is about what we consider "real" or "true." In positivism, reality is seen as objective and measurable. For example, this study treats green banking practices like paperless banking as real facts that can be counted. That is an objective truth if 60 percent of customers use mobile banking. This matches studies in Nepal and Bangladesh that measured green banking activities as real, observable actions.

Epistemology: Epistemology is about how we gain knowledge. Positivism uses observation and measurement to create knowledge. This study collects data through surveys and bank reports, such as energy savings. For example, it uses SME PLS and SPSS software to analyse how employee training affects green finance. Similar methods were used in Nepal's green banking research, where data were analyzed statistically to find answers.

Axiology: Axiology is about the role of values in research. Positivism values neutrality and avoids personal opinions. This study focuses on facts, not beliefs. For example, it does not judge if green banking is "good" but measures its environmental impact. The Nepal study also stayed neutral, reporting only what the data showed. Ethical values like confidentiality were maintained to protect participants.

However, this study uses positivism as its research philosophy. Positivism focuses on facts and data that can be measured. For example, this research uses numbers and statistics to measure green banking practices like digital banking usage or employee training. It tests how these practices affect green finance and environmental performance. Positivism works here because it helps find clear answers about relationships between variables, consumer, operational, employee, policy practices, and outcomes of green finance. Studies in Nepal, Pakistan, and Bangladesh used similar methods, proving positivism works for green banking research. By focusing on facts, this philosophy ensures reliable results that can help banks improve their environmental performance.

3.3. Approach to Theory Development

This study uses a deductive approach to theory development. The deductive approach starts with theories and ideas that already exist. For example, there are already studies about green banking practices and their effects on green finance and the environment.

Based on these ideas, this research makes clear guesses, called hypotheses, about what happen in banks in Lumbini and Gandaki provinces.

On the other hand, the study collects data from bank employees and customers to test these ideas. It uses structured questionnaires with simple questions about green banking activities. After collecting the answers, the researcher uses numbers and statistics to check if the results match the original ideas. This helps to see if the theories work in the local context.

Likewise, this approach is good because it is clear and organized. Many studies in Nepal and South Asia have used the same method for green banking topics. By following this method, the research can produce substantial and valuable results. It also helps banks and researchers understand which green banking practices are most effective in these provinces.

In contract, deductive research design has been chosen to test hypotheses that stem from existing theories and research literature (Saunders et al., 2016). The research deduction approach proves suitable because it allows testing relationships between green banking practices, environmental performance, and green financing. The analysis starts by reviewing previously published research to produce research hypotheses. The investigation tests the hypothesis to show how bank employee-related practices enhance green financing through environmental performance outcomes. The researcher tests the proposed hypotheses through quantitative bank employee data from Lumbini and Gandaki Provinces.

Moreover, the research adopts a deductive approach because it uses established theoretical models such as the triple bottom line theory and stakeholder pressure theory to demonstrate the necessity of economic, social, and environmental objectives in banking operations. The research tests established theories regarding green banking through empirical evidence, leading to enhanced knowledge about theoretical propositions in this field. The research method helps detect individual elements shaping green banking practice acceptance rates and operational effectiveness, thereby supplying recommendations for bank industry practice and policy development.

Additionally, the deductive approach makes it possible to produce trustworthy, generalized results that become vital for guiding sustainable banking practices in

countries like Nepal with developing economies. Chen et al. (2022) said that the research tests hypotheses based on existing theories to create an organized structure that explains how green banking practices affect environmental performance and green funding steps. Such an approach establishes findings that serve both theoretical bases while meeting practical needs, making them helpful to policymakers, banking regulators, and institutions working toward sustainable development.

3.4. Methodological Choices

The present study employs a quantitative research methodology. This methodology is consistent with the positivist paradigm that in turn emphasizes objective measurements, statistical analysis, and hypothesis testing of the study (Bryman, 2012). Quantitative research enables the systematic examination of relationships between variables, ensuring reliability, validity, and generalizability so it is appropriate for this study. Quantitative research methodology allows the collection of numerical data and facilitate the testing of statistical inferences that helps to establish the causal relationships between variables (Kerlinger & Lee, 1999).

On the other hand, to ensure standardized responses from a large sample, reducing subjectivity and increasing the accuracy of findings, a survey-based data collection method has been employed (Fowler, 2013). This method facilitates efficient data gathering while minimizing biases, making it suitable for measuring satisfaction through structured rating scale questionnaires (Neuman, 2009). The use of statistical techniques such as descriptive statistics, regression analysis, and inferential tests enhances the robustness of the findings and helps to identify the relationships among variables (Hempel, 1966). This approach also aids in understanding how different factors are connected and ensures accurate data analysis in satisfaction studies by incorporating statistical tools like SMART-PLS (Guntu et al., 2022).

Likewise, the methodological choices in this study align with deductive reasoning, allowing hypotheses derived from theory to be tested through empirical data ensuring objectivity. By employing quantitative techniques, this study ensures methodological rigor, accuracy, and applicability in real-world contexts.

3.4.1. Research Design

Research design serves as a study guideline, defining the instruments and procedures for data collection and analysis. This study employs a quantitative, explanatory research design. This indicates that the research is grounded in numbers and data from various sources. The primary purpose of adopting a quantitative approach is to measure and analyses the relationships between variables clearly and objectively. The study can reveal patterns and trends that may not be easily discerned through words or personal opinions.

On the same way, focus of this research is to find out if environmental performance plays a role in green banking initiatives and green financing. Green banking initiatives are actions taken by banks to support the environment, such as offering loans for eco-friendly projects or using less paper. Green financing means providing money for projects that help the environment. Environmental performance is how well banks and their clients protect the environment. This study tries to see if good environmental performance can help make green banking initiatives lead to more green financing.

Moreover, an explanatory research design is used because it helps to find out if one thing causes another. For example, it can answer questions like, does better environmental performance lead to more green financing when banks use green banking initiatives? This design helps show cause and effect between different factors. It does not just describe what is happening, but also explains why it is happening. Using this design, the study can give clear answers about the links between the main topics.

In summary, this research design helps to explain the connections between green banking, environmental performance, and green financing. It uses numbers and data to find out if there is a cause-and-effect relationship. This makes the study more reliable and helps others understand the results easily.

3.4.2. Design of the Study

This study adopts a quantitative research approach, focusing on the collection of measurable data and its objective analysis. The design is both deductive, as it tests existing theories, and exploratory, as it seeks new insights. It follows the philosophy of positivism, which emphasizes reliance on facts and statistical evidence.

Similarly, the main variables in this study are clearly defined. The independent variables comprise bank employee-related practices, operational practices, consumer-related practices, and policy-related practices, whereas the dependent variable is green financing performance. Environmental performance serves as a mediating variable to elucidate the link between bank practices and green financing.

However, data for this study collected through a structured survey questionnaire. The survey employs a five-point Likert scale, with 1 representing strongly disagree and 5 indicating strongly agree. Participants are approached both online and in person. The sample includes 450 bank employees from the Gandaki and Lumbini provinces. The sampling technique utilized is non-probability convenience sampling, meaning participants are selected based on their availability.

Furthermore, the research strategy encompasses both causal-comparative and exploratory elements, indicating that the study examines cause-and-effect relationships while also exploring new patterns. A cross-sectional time horizon employed for data collection, meaning data gathered at a single point in time.

For data analysis, both descriptive and inferential statistics to utilized. Descriptive statistics aid in summarizing the data, such as calculating averages and percentages, while inferential statistics has been employed to test the study's hypotheses. SPSS and Smart PLS 4.0 software is facilitate the analysis, with regression analysis measuring direct effects and mediation analysis assessing the role of environmental performance.

The data collection process adheres to ethical guidelines. All participants are providing informed consent prior to participating in the survey, and their responses remain confidential to safeguard their privacy.

In conclusion, the design of this study is well-suited to address the research questions. It enables a clear examination of how bank practices influence green financing and the role of environmental performance. Collecting data from a large sample and employing robust statistical tools to be contribute to the reliability and significance of the results, thereby supporting the study's objectives and providing a sound basis for drawing conclusions.

3.5. Scope of Work

This study focuses on commercial banks in Nepal's Gandaki and Lumbini provinces. It does not cover rural banks, microfinance institutions, or banks in other provinces. The data is collected from 450 bank employees working in these regions, ensuring the findings reflect local banking practices and challenges.

The research examines how four types of green banking practices (employee-related, operational, consumer-related, and policy-related) affect green financing performance. It also tests whether environmental performance acts as a bridge between these practices and green financing. Other factors, like corporate banking or international financial policies, are not part of this study.

The study uses a quantitative approach with surveys and statistical tools. Data is collected through online and physical questionnaires using a 5-point Likert scale. The analysis relies on SPSS for basic statistics and Smart PLS 4.0 for testing complex relationships, like how environmental performance influences outcomes.

The study does not cover long-term trends only cross-sectional data or factors outside employee perceptions, like government policies or global market changes. Results are specific to Nepal's banking context and may not apply to other countries.

By focusing on Nepal's provinces, specific banking practices, and statistical tools, this study provides targeted insights into green financing. It helps banks adopt eco-friendly strategies while highlighting the role of environmental performance in achieving sustainability goals.

3.6. Strategy for Data Collection

The present study employs a survey-based data collection strategy. This strategy aligns with the positivist philosophy, which emphasizes structured methodologies for gathering empirical data (Saunders et al., 2016). In a study, Fowler (2013) states that surveys are a fundamental method of collecting quantitative information about a sample from the population. This approach facilitates standardized data collection, allowing researchers to obtain measurable responses from a large sample, thereby ensuring replicability and generalizability (Mullinix et al., 2016). Survey methodology focuses on the design, collection, processing, and analysis of survey data, considering the cost

and quality of research. It helps researchers to identify patterns and relationships among variables effectively (Groves et al., 2009).

A structured questionnaire has been developed to collect responses systematically, minimize bias, and enhance reliability. On the other hand, Krosnick and Presser (2010) emphasize that the design of questionnaires is a crucial phase in the survey process because it directly influences the quality of the data gathered. Likewise, Rindfleisch et al. (2008), the survey adopts a cross-sectional design, capturing data at a single point in time, which is efficient for analyzing correlations and trends in satisfaction measurement. Cross-sectional surveys are used to collect information about a population at a specific moment (Lavrakas, 2008). Employing a survey strategy in research ensures that the study adheres to objective, empirical, and quantifiable practices, which further reinforces the rigor of the findings (Gül, 2023). Therefore, by using a well-structured survey approach, the study guarantees that data collection remains systematic, objective, and aligned with empirical research standards, thereby strengthening the credibility and validity of the findings (Schuman & Presser, 1996).

3.7. Unit of Analysis

In this study, the main unit of analysis is the individual**,** which includes bank employees, customers, and managers involved in green banking practices. These individuals provide direct information through surveys about how green banking initiatives are applied in commercial banks. Along with this, the unit of action focuses on the green banking activities and practices carried out by these individuals and institutions. These actions include employee training, consumer awareness programs, operational changes, and policy efforts aimed at improving green financing and environmental performance. The study also considers banks as organizations and uses their reports and documents to understand broader actions and strategies. This combined approach helps to clearly study how individual behaviors and institutional actions influence green financing through environmental performance.

Moreover, choosing the correct unit of analysis is important because it guides how data is collected, what variables are measured, and how results are interpreted. For example, if a study collects survey data from individual bank employees about their experiences with green banking, then the individual employee is the unit of analysis. If the study instead compares the environmental policies of different banks, then the organization

becomes the unit of analysis. The unit of analysis should always match the research question and the objectives of the study to ensure that the findings are valid and meaningful.

Similarly, this study examines green banking practices, environmental performance, and green financing, the unit of analysis is the individual bank employee. This is because the study collects data from each employee about their views and experiences, and the analysis is done at the individual level. Selecting individuals as the unit of analysis is common in studies that use surveys and focus on attitudes, perceptions, or behaviors. Making the right choice helps ensure that the study's results accurately reflect the research goals and can be used to draw valid conclusions about the population being studied.

3.8. Sources and Method of Data Collection

The primary data for this study to be collected from bank employees working in commercial banks located in Gandaki and Lumbini provinces. The main method of data collection is a qualitative approach using a structured survey questionnaire. This questionnaire is distributed directly to bank employees to gather their views and experiences about green banking initiatives and green financing. The structured survey design ensures that responses are consistent and relevant to the research objectives. The collected data is being analyzed to understand the role of green banking practices in these provinces.

3.8.1. Data Collection Instrument

A structural questionnaire used as the data collection instrument in this study is organized into three main sections to gather comprehensive information from bank employees in Gandaki and Lumbini provinces. The first section is the Demographic Section, which collects basic personal and professional details of the respondents. This includes information such as age, gender, educational background, job position, and years of experience in the banking sector. Gathering demographic data helps to understand the background of the participants and allows for analysis based on different respondent profiles.

Additionally, the second section focuses on respondent information related to the green banking meaning and concept which is help to third section. Here, questions are

designed to assess the awareness, involvement, and experiences of bank employees regarding green banking initiatives and green financing. This section aims to capture how familiar the respondents are with green banking concepts, what types of green practices they have observed or participated in, and their general attitudes towards environmental sustainability within their banks.

Moreover, the third section covers the research variables and uses a five-point Likert scale to measure respondents' attitudes and perceptions. The Likert scale is a widely used rating system in research that allows participants to indicate their level of agreement or disagreement with specific statements about green banking practices, green financing, and environmental performance. In this study, the five response options are: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, and 5 = Strongly Agree. This scale provides a balanced and straightforward way to quantify subjective opinions, making it easier to analyze and interpret the data collected from the survey.

3.8.2. Techniques of Data Collection

In this study, primary data collection techniques were used to gather information directly from bank employees in Gandaki and Lumbini provinces. The main method was a structured survey, which was administered both physically and online. For the physical survey, printed questionnaires were distributed in person at selected banks, allowing respondents to fill them out on the spot. For the online survey, the KOBO Toolbox platform was used, making it easy for employees to submit their responses electronically and ensuring wider coverage with less paperwork. The questionnaire itself was carefully designed with three sections: the first section collected demographic details such as age, job role, and years of experience; the second section focused on topic-specific questions to assess employees' awareness and involvement in green banking initiatives; and the third section included research variables measured using a five-point Likert scale, ranging from 'Strongly Disagree' to 'Strongly Agree,' to capture attitudes and perceptions about green practices, operational efficiency, and policy effectiveness.

Similarly, to ensure a representative sample, both convenience and stratified sampling methods were used. Employees were selected based on their availability and willingness to participate, and further grouped by department to include a variety of

perspectives from different areas within the banks. The data collection process included distributing questionnaires either in person or through KOBO links, with all responses kept anonymous to encourage honest feedback and reduce social desirability bias. Before the main data collection, the questionnaire was pretested with a small group to ensure clarity and avoid misunderstandings. For data analysis, SPSS software was used to process quantitative responses from the Likert scale, while open-ended questions were reviewed to identify common themes and insights related to the challenges and successes of implementing green banking practices. These combined techniques provided systematic and reliable data, supporting a thorough evaluation of how green banking initiatives influence environmental performance and green financing outcomes in the study areas. The data collection process strictly followed the ethical research guidelines including informed consent and anonymity of participants (Bell et al., 2022).

3.8.3. Pre-Testing

The data collection process started by giving the survey to a small group of people from the target population before carrying out the full survey. The purpose of this pre-test was to find any problems with the survey questions or the way the survey was set up, as these issues could cause difficulties during the main study. The pre-test helps the researcher spot and fix these problems early (Hurst et al., 2017). In this study, the researcher did a pre-test with 30 respondents using the KOBO Toolbox from December 5 to December 12, 2024. This step was important to check the methods used and to find any issues that could affect the quality of the research. Any problems with how the survey was managed or formatted were carefully reviewed and corrected before starting the main data collection.

3.9. Time Horizon

In this study, the time horizon is cross-sectional, meaning that all data was collected at a single point in time rather than over a longer period. This approach was chosen because the main aim is to understand the current state of green banking initiatives and the mediating role of green financing on environmental performance. A cross-sectional time horizon is suitable for capturing a snapshot of opinions, practices, and conditions at one moment, which fits the objectives and time limits of this research project. This method also allows for efficient data collection and analysis within the available time frame.

3.10. Data Analysis

This research study combines qualitative and quantitative research methods for analyzing green banking practices and green financing through environmental performance as the mediating variable. The main approach for collecting primary data includes using standardized questionnaires to collect information from banking sector workers and managers and stakeholders at commercial banks in Gandaki and Lumbini Provinces of Nepal. Both IBM SPSS 20 and Smart PLS assist the research project by using coding and editing techniques and providing interpretation results. Structural equation modelling (SEM) evaluations from Smart PLS analyze variable relationships and environmental performance mediation. The investigation obtained secondary data through analysis of bank reports together with regulatory guidelines, as well as existing research publications.

3.11. Population of the Study

This study's population consists of all bank employees working in commercial banks located in the Gandaki and Lumbini provinces of Nepal. Commercial banks in Nepal are classified as Class "A" banks, and as of mid-January 2025, there were 20 such banks operating across the country. This study specifically focuses on the employees from these commercial banks based in the Gandaki and Lumbini provinces.

The study does not include employees from development banks, microfinance institutions, or banks located outside Gandaki and Lumbini provinces. Only those staff members who are currently employed in commercial banks within the selected provinces form the target population for this research.

3.12. Sampling Technique and Sample Size Determination

In this study, a non-probability convenience sampling technique was used to select participants. Convenience sampling means that participants are chosen based on their availability and willingness to take part in the research. This method is often used when it is difficult to access the entire population or when time and resources are limited. It allows the researcher to collect data quickly and easily from those who are accessible, such as bank employees who are present and willing in the selected branches of commercial banks in Gandaki and Lumbini provinces.

Convenience sampling does not give every member of the population an equal chance of being selected, so the results may not fully represent all bank employees in these provinces. However, it is practical and suitable for exploratory studies like this one, where the main goal is to gain initial insights and understand trends rather than to generalize findings to the whole population.

In summary, convenience sampling was chosen because it allowed the researcher to reach a large number of bank employees efficiently and to gather the required data within the available time and resources. The most popular equation to determine sample size is described and discussed by Adcock in 1997.

$n = Z^2pq/e^2$ (Sughra et al., 2021)

Where

n = sample size of the study

Standard tabulated value for 5 percent level of significance (Z) =1.96. Prevalence of an event 50 percent = 0.50

So, p = 0.5, q = 1− p = 0.5

Allowable error that can be tolerated (e) = 5 percent. So, total population for the study

$$(n) = Z^2pq/e^2$$
$$= (1.96)^2 \times 0.5 \times 0.5/ (0.05)^2$$
$$= 384.16$$

Non-response error 5 percent, i.e. 384.16×5/100 =19.208

Now, sample size needed is n = 384.16+19.208 = 403.368(403)

Thus, the sample size needed is 403 for the study, but due to the constraint of the time frame, only 450 sample sizes were collected. Data was obtained from 450 Lumbini and Gandaki province respondents.

3.13. Method of Analysis

Structural equation modelling is a sophisticated statistical tool used to establish the connection between the different categories of variables (Kline, 2023). It can handle a type of active and increase in variables of production and can handle different hidden variables that are not measured (Williams et al., 2009). As a result, SEM is also known as a latent modelling variable. SEM is also known as causal path modelling, where the primary goal is to assess the causal relationship between the variables discussed. Some

of the estimation techniques that are often used on SEM models include: factor analysis, maximum likelihood estimation (MLE) techniques, CMIN, and Root Mean Square of Approximation (RMSEA). The model has been applied well in solving many constructive social and behavioral issues and is used in the traditional standard areas of sociology, psychology, education, economic measurements, and even marketing. SEM is used largely as a confirmatory procedure for data analysis though in the analysis to determine if a specific model is accurate with the use of SEM. As to the present research, while SEM modelling has been applied in many fields of study, there is very limited information available in the literature on the adoption of Green Banking practices. To try and minimize the literature gap, therefore, the present study uses SEM. Structural equation models can be divided into two parts, and they are as follows: Dimension idea and Structural equation model. Generally, the measurement model discussed in Muthen & Asparouhov (2013) is specified as:

$y = \Lambda y\, \eta + \varepsilon$…… (1)

$x = \Lambda x\, \xi + \delta$…… (2)

and the structural equation model is specified as:

$H = \alpha + \beta\eta + \Gamma\xi + \zeta$ …… (3)

Where,

y = outcome variables

x = input variables

Λy = latent variables (observed response variables)

Λx = latent variables (observed response variables)

ε and δ = error

η = latent variables (observed response variables)

ξ = latent variables (observed response variables)

Where y refers to the vector of observed variables, and x is a vector of input variables. The vectors ε and δ are measurement errors in y and x. Both latent variables (η and ξ) are unobserved, the observed response variables y and x are used to estimate the factor loadings (Λy and Λx) on these latent variables. The structural model parameter α is a vector of intercepts, β is the matrix of co-efficient for the regressions among the endogenous variables (ηi), which has zeros in the diagonal, and $(I - \beta)$ is nonsingular; Γ is a matrix of coefficients of exogenous latent variables (ξ) in the structural relationship; and ζ is a random vector residual.

However, if there are errors only in the y-variables, then the reduced form of the structural model in equations (1) – (3) can be expressed as:

$$y = \Lambda y\,(I-\beta)\,-1\,(\Gamma\xi + \zeta) + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

3.14. Variables and Their Definition

The following subsection focuses on the variables that are necessary for the research. To satisfy the aforementioned objectives, the following variables have been adopted for the study and defined. Firstly, 4 items of Green Banking Initiatives, 10 items of Bank employees' practices, 10 items of Bank operational-related practice, 10 items of consumer-related practices, 10 items of policy-related practices, 10 items of environmental knowledge, and 10 items of green financing were adapted for the study. However, during the clearing and management of data, some items were deleted due to low loading. However, the following variables may not be the only variables to be used in this study and the necessary variables are taken as follows. The detailed description of observed variables that SEM has verified is shown in the table:

3.14.1. Bank Employee Related Practices

Bank employee-related practices involve actions employees take to support green banking (Bhuiyan et al., 2025). This includes training on environmental issues and encouraging behaviors like saving energy, recycling, and using eco-friendly equipment. Employees also promote green banking services to customers. Motivated and informed staff can significantly reduce environmental impact (Samueal & Singh, 2023). While some studies suggest employee actions have less direct impact than policies or operations, employees remain essential for green banking success, especially when supported by training and management (Park & Kim, 2020). Encouraging environmentally friendly behavior among staff is a vital part of green banking efforts

Table 3.1

Detail of Observed Variables (Bank Employee Related Practices)

Observed Variables	Notation	Description	Sources
Awareness and Training	BERP 1	Bank employees are adequately trained in green banking practices and environmental sustainability.	Chen et al. (2022); Hasan et al. (2022); Zhang et al. (2022)
Motivation and Support	BERP 2	The bank provides sufficient incentives to motivate employees to adopt green banking practices.	
Employee Participation	BERP 3	Employees actively participate in the bank's green initiatives and programs.	
Knowledge Sharing	BERP 4	Bank employees share knowledge and best practices related to green banking with colleagues and customers	
Commitment to Sustainability	BERP 5	Bank employees demonstrate a strong commitment to implementing green banking policies in their day-to-day work.	
Use of Technology	BERP 6	Employees are encouraged to use digital tools and technologies to reduce paper usage and improve operational efficiency.	
Support from Management	BERP 7	Management supports employees in implementing green banking initiatives through clear policies and guidelines.	
Employee Awareness of Environmental Goals	BERP 8	Employees are aware of the environmental goals and objectives outlined in the bank's green banking strategy.	
Employee Involvement in Policy Making	BERP 9	Employees are involved in formulating and updating the bank's green banking policies.	
Challenges in Implementation	BERP 10	Employees face challenges in implementing green banking initiatives due to a lack of resources or support.	

Table 3.1, illustrate the employee related practices (BERP) how bank employees help and support green banking efforts. This part of the research uses ten main questions. The first question checks if employees get enough training about green banking and caring for the environment (Chen et al., 2022; Hasan et al., 2022; Zhang et al., 2022). The next question looks at whether the bank gives rewards or support to encourage employees to use green practices. Another question asks if employees take part in the bank's green programs. There is also a question about how much employees share green banking knowledge with their coworkers and customers. Support from management is checked by asking if leaders give clear help and rules for green banking. The survey includes a question about whether employees know the bank's environmental goals and if they are involved in making or updating green policies. Finally, the last question

looks at whether employees face any problems, like not having enough resources, when trying to follow green banking practices. All these questions together help show how employees are involved in making green banking work in their banks.

3.14.2. Bank Operation Related Practices

Bank operational-related practices focus on daily activities that reduce environmental harm (Aslam & Jawaid, 2023). These include reducing paper use, saving energy, managing waste, and using eco-friendly technology. Using online systems for account opening and payments reduces paper and energy consumption. Studies indicate that operational improvements strongly improve a bank's environmental performance (Guo et al., 2020). Operational changes like switching to renewable energy and recycling programs help banks lower costs, become efficient, and enhance their reputation (Nguyen et al., 2018). Overall, operational practices are critical for banks to demonstrate commitment to sustainability and build a greener future.

Table 3.2

Detail of Observed Variables (Bank Operation Related Practices)

Observed Variables	Notation	Description	Sources
Paperless Banking	BORP 1	The bank has adopted paperless banking operations to minimize environmental impact	Chen et al. (2022); Hasan et al., (2022); Zhang et al. (2022)
Energy Efficiency	BORP 2	The bank prioritizes energy-efficient practices in its daily operations	
Digital Banking Services	BORP 3	Bank promotes digital banking services	
Green Infrastructure	BORP 4	The bank invests in environmentally friendly infrastructure and office facilities	
Recycling Practices	BORP 5	The bank implements effective recycling programs for waste management within its operations.	
Green Procurement	BORP 6	The bank prioritizes the procurement of eco-friendly materials and services for its operations	
Reduction in Carbon Footprint	BORP 7	The bank has policies in place to monitor and reduce its operational carbon footprint	
Sustainable Supply Chain	BORP 8	The bank ensures that its suppliers and partners comply with sustainable and green practices	
Renewable Energy Usage	BORP 9	The bank uses renewable energy sources for its operational needs where feasible.	
Policy Alignment	BORP 10	The bank's operational practices are aligned with its green banking policies and environmental goals	

The table 3.2, illustrates observed variables for bank operational practices focus on how banks are working to reduce their environmental impact through their daily activities.

These include moving towards paperless banking, where banks use less paper and encourage digital transactions to help the environment (Chen et al., 2022; Hasan et al., 2022; Zhang et al., 2022). Energy efficiency looks at whether banks are saving energy in their offices and branches, such as by using energy-saving equipment or lighting. Digital banking services checks if banks are promoting online and mobile banking to reduce the need for physical visits and paperwork. Green infrastructure means the bank invests in eco-friendly buildings and office spaces. Recycling practices focus on how well banks manage waste and recycle materials. Green procurement is about banks choosing to buy eco-friendly products and services for their operations. Reduction in carbon footprint measures if banks have policies to track and lower their carbon emissions, which is important for environmental performance. Sustainable supply chain checks if banks make sure their suppliers also follow green practices. Renewable energy usage looks at whether banks use solar, wind, or other renewable energy sources in their operations. Policy alignment means the bank's daily work matches its green policies and goals. These variables together help show how banks are putting green banking into practice and how these efforts can improve their environmental performance.

3.14.3. Bank Consumer Related Practices

Bank consumer-related practices involve actions that banks take to help their customers use green banking services (Samueal & Singh, 2023). This includes informing customers about online banking, green investments, and sustainable options. When customers are more aware, they tend to use green banking services, which benefits both the environment and the bank (Ebhota & Jen, 2020). For example, online banking and digital payments reduce the need for paper. Customers with better knowledge and positive attitudes toward the environment are more likely to choose green banking. Banks may also offer green loans or eco-friendly products to encourage environmentally friendly decisions (Nguyen et al., 2023). However, customer awareness is still low in many areas, limiting the impact of these practices.

Table 3.3

Detail of Observed Variables (Bank Consumer Related Practices)

Observed Variables	Notation	Description	Sources
Consumer Awareness Programs	BCRP 1	The bank actively educates consumers about green banking practices and their benefits.	Chen et al., (2022); Hasan et al., (2022); Zhang et al., (2022)
Promotion of Green Products	BCRP 2	The bank encourages consumers to adopt green financial products, such as green loans and green bonds	
Digital Banking Adoption	BCRP 3	Bank promotes the use of digital banking services among consumers to reduce environmental impact	
Paperless Transactions	BCRP 4	Consumers are encouraged to opt for paperless statements and e-receipts	
Green Financing Options	BCRP 5	The bank provides financial incentives for consumers who choose environmentally friendly projects and businesses	
Consumer Feedback Integration	BCRP 6	The bank incorporates consumer feedback into its green banking policies and practices	
Awareness of Environmental Policies	BCRP 7	Consumers are aware of the bank's green policies and initiatives	
Green Behavior Encouragement	BCRP 8	Green actively promotes environmentally conscious behavior among its consumers.	
Support for Eco-Friendly Investments	BCRP 9	The bank offers tailored support to consumers investing in eco-friendly and sustainable projects	
Customer Relationship Management	BCRP 10	The bank maintains strong communication with consumers about its environmental performance and green banking activities.	

Table 3.3, shows the study, of observed variables for consumer-related practices look at how banks involve and educate their customers about green banking. The first variable is consumer awareness programs, which checks if the bank teaches customers about green banking and its benefits. The promotion of green products looks at how the bank encourages customers to use green financial products like green loans and green bonds (Chen et al., 2022; Hasan et al., 2022; Zhang et al., 2022). Digital banking adoption focuses on whether the bank promotes online banking to help reduce paper use and trips to the bank. Paperless transactions see if customers are encouraged to use e-statements and e-receipts instead of paper. Green financing options check if the bank gives financial benefits to customers who support eco-friendly projects. Consumer feedback integration looks at whether the bank listens to customer suggestions and uses them to improve green banking policies. Awareness of environmental policies checks if customers know about the bank's green policies and actions. Green behavior encouragement is about the bank motivating customers to act in environmentally

friendly ways. Support for eco-friendly investments means the bank helps customers who want to invest in green and sustainable projects. Customer relationship management looks at how well the bank keeps customers informed about its green banking efforts and environmental results. These variables help show how banks engage their customers in supporting green banking and caring for the environment.

3.14.4. Bank Policy Related Practices

Bank policy-related practices consist of rules and guidelines that support environmental protection (Shen et al., 2024). Banks set clear sustainability goals, create green lending policies, and follow environmental standards. Strong policies guide other green activities and help banks manage environmental risks effectively (Aslam et al., 2025). Research shows policy-related practices have the greatest positive effect on environmental performance (Owen et al., 2018). Clear policies assist banks in supporting green projects, reporting progress, and encouraging sustainable actions by employees and customers. Effective policies are the foundation for successful green banking.

Table 3.4

Detail of Observed Variables (Bank Policy Related Practices)

Observed Variables	Notation	Description	Sources
Environmental Policy Integration	BPRP 1	The bank has integrated environmental sustainability into its core policies and strategic objectives	Chen et al., (2022); Hasan et al., (2022); Zhang et al., (2022)
Clear Green Banking Guidelines	BPRP 2	The bank provides clear guidelines for implementing green banking practices across all departments	
Regular Policy Updates	BPRP 3	The bank regularly updates its policies to align with evolving environmental standards and regulations.	
Policy Support for Green Financing	BPRP 4	The bank's policies strongly support financing environmentally sustainable projects and businesses	
Environmental Risk Management	BPRP 5	The bank's policies include comprehensive measures to manage environmental risks in its operations	
Compliance with Environmental Regulations	BPRP 6	The bank ensures strict compliance with national and international environmental laws through its policies	
Employee Training on Policies	BPRP 7	The bank provides regular training to employees on its green banking policies and practices.	
Consumer-Oriented Policies	BPRP 8	Bank policies encourage consumers to adopt environmentally friendly financial practices	
Monitoring and Evaluation	BPRP 9	The bank has robust mechanisms to monitor and evaluate the implementation of its green banking policies	
Transparency and Reporting	BPRP 10	The bank maintains transparency by regularly reporting on the outcomes of its green banking policies and initiatives.	

The table 3.4, illustrate observed variables for bank policy-related practices in this study center on how banks incorporate environmental sustainability into their main policies and daily operations. The first variable, environmental policy integration, assesses whether the bank has made environmental sustainability a key component of its primary policies and goals (Chen et al., 2022; Hasan et al., 2022; Zhang et al., 2022). Clear green banking guidelines examine whether the bank provides explicit instructions for all departments to adhere to green practices. Regular policy updates evaluate if the bank revises its policies to comply with new environmental regulations and standards. Policy support for green financing checks if the bank's rules facilitate funding for eco-friendly projects and businesses. Environmental risk management considers whether the bank has measures in place to address environmental risks in its operations. Compliance with environmental regulations assesses how effectively the bank adheres to national and

international environmental laws. Employee training on policies verifies if the bank routinely trains staff on green banking regulations. Consumer-oriented policies investigate whether the bank's policies encourage customers to utilize environmentally friendly financial services. Monitoring and evaluation examines whether the bank has robust systems in place to assess how well its green policies are functioning. Lastly, transparency and reporting focuses on whether the bank regularly shares updates about its green banking outcomes and activities with the public. These variables help illustrate how banks leverage their policies to support green banking and enhance their environmental performance.

3.14.5. Green Financing

Green financing means funding projects that benefit the environment (Julia & Kassim, 2019). Banks provide loans and investments for renewable energy, energy-saving initiatives, and other eco-friendly projects. Green finance helps banks and customers invest in sustainable solutions like solar power or waste management (Siddik et al., 2024). Studies find that green financing enhances a bank's environmental performance, especially when combined with strong policies and operations (Chen et al., 2022). It works best with good customer and staff awareness and clear guidelines. Green finance is crucial for supporting environmental projects and meeting sustainability goals.

Table 3.5

Detail of Observed Variables (Green Financing)

Observed Variables	Notation	Description	Sources
Renewable Energy	GF 1	My bank has invested more in renewable energy sectors.	Chen et al., (2022); Hasan et al., (2022); Zhang et al., (2022)
Energy Efficiency	GF 2	My bank has invested more in energy efficiency projects.	
Recycling Project	GF 3	My bank has invested more in recycling and recyclable products.	
Ecofriendly Projects	GF 4	My bank has invested more in waste management and other eco-friendly projects.	
Alignment with Environmental Goals	GF 5	Green financing initiatives are aligned with national or global environmental sustainability goals.	
Support for Renewable Energy Projects	GF 6	The bank prioritizes and promotes financing for renewable energy projects.	
Ease of Access to Green Loans	GF 7	The process of obtaining green loans is simple, transparent, and customer-friendly.	
Impact of Green Financing on Business Operations	GF 8	Green financing options offered by the bank positively impact businesses' environmental sustainability practices.	
Encouragement of Green Entrepreneurship	GF 9	The bank encourages green entrepreneurship by providing financial support to environmentally conscious startups and ventures	
Customer Perception of Green Financing	GF 10	Customers perceive the bank's green financing initiatives as a commitment to environmental sustainability	

Table 3.5, refers the observed variables for green financing how banks support environmental projects through their financial actions. The first variable, renewable energy, checks if the bank invests more in renewable energy sectors like solar or wind power (Chen et al., 2022; Hasan et al., 2022; Zhang et al., 2022). Energy efficiency looks at whether the bank puts money into projects that save energy. Recycling project if the bank invests in recycling and products that can be recycled. Ecofriendly projects check if the bank supports waste management and other projects that help the environment. Alignment with environmental goals looks at whether the bank's green financing matches national or global goals for sustainability. Support for renewable energy projects checks if the bank gives priority and promotes loans for renewable energy. Ease of access to green loans sees if getting a green loan from the bank is simple and clear for customers. Impact of green financing on business operations looks at whether these green loans help businesses improve their environmental practices. Encouragement of green entrepreneurship checks if the bank supports new businesses

that focus on the environment. Customer perception of green financing looks at whether customers see the bank's green financing as a real effort to help the environment. These variables help to understand how banks use green financing to support an encourage environmental sustainability.

3.14.6. Environment Performances

Environmental performance measures how well a bank protects the environment through its activities (Hasan et al., 2022). It includes reducing pollution, conserving energy, minimizing waste, and investing in green projects. Banks with strong policies, good operations, and active green financing tend to perform better environmentally (Zubairu et al., 2025). Good environmental performance benefits nature, fights climate change, and boosts the bank's reputation, attracting more customers. It is the main aim of green banking and shows how successful a bank is in being sustainable (Yip & Bocken, 2018). By focusing on customers, employees, operations, policies, and green finance, banks can improve their environmental impact and support a greener future.

Table 3.6

Detail of Observed Variables (Environment Performances)

Observed Variables	Notation	Description	Sources
Reduction in Carbon Emissions	EP 1	Green initiatives have significantly contributed to reducing its carbon emissions	Chen et al., (2022); Hasan et al., (2022); Zhang et al., (2022)
Energy Efficiency Improvements	EP 2	The bank has successfully improved energy efficiency in its operations through green practices	
Waste Management Practices	EP 3	The bank has implemented effective waste management practices to minimize environmental harm	
Promotion of Renewable Energy	EP 4	The bank actively supports and uses renewable energy in its operations	
Reduction in Resource Consumption	EP 5	Green banking practices have resulted in a noticeable reduction in resource consumption	
Eco-Friendly Infrastructure Development	EP 6	The bank has invested in environmentally friendly infrastructure to enhance sustainability	
Support for Green Projects	EP 7	Financed projects that promote environmental conservation and sustainability	
Alignment with Environmental Standards	EP 8	The bank's practices align with national and international environmental standards and goals	
Community Environmental Awareness	EP 9	Bank's initiatives have increased environmental awareness among the communities it serves	
Contribution to Biodiversity Protection	EP 10	The bank's policies and practices contribute to protecting biodiversity and natural ecosystems	

The observed variables for environmental performance in table 3.6, show how green banking practices help banks protect the environment. The first variable, reduction in carbon emissions, checks if green actions by the bank have helped lower carbon emissions (Chen et al., 2022; Hasan et al., 2022; Zhang et al., 2022). Energy efficiency improvements look at whether the bank has saved energy through its green efforts. Waste management practices see if the bank has good ways to handle waste and reduce harm to the environment. Promotion of renewable energy checks if the bank supports and uses renewable energy in its work. Reduction in resource consumption looks at whether the bank uses fewer resources because of green banking. Eco-friendly infrastructure development focuses on the bank investing in buildings and facilities that are good for the environment. Support for green projects checks if the bank gives money to projects that help the environment. Alignment with environmental standards looks at whether the bank's actions match national and international rules for protecting the environment. Community environmental awareness sees if the bank's green programs

have helped people in the community learn more about caring for the environment. Contribution to biodiversity protection checks if the bank's policies and actions help protect plants, animals, and natural places. These variables help show the real results of green banking on the environment.

Finally, this study looks at how banks and their employees support green banking through training, rewards, participation, and management support, as well as how banks reduce their environmental impact by using less paper, saving energy, recycling, and using renewable energy. It also examines how banks educate and involve customers in green practices, promote green financial products, and listen to customer feedback. The research reviews bank policies for supporting green projects, updating rules, managing risks, and being open about results. Green financing is studied by looking at investments in renewable energy, energy efficiency, waste management, and how easy it is for customers to get green loans. Finally, the study measures environmental performance by checking if banks lower carbon emissions, save energy, manage waste, use renewable energy, and help protect biodiversity. These observed variables together show how banks put green banking into action and the impact on the environment.

3.15. Data Analysis Techniques

The research used both descriptive and inferential analysis techniques for data processing. The study used structural equation modelling with multiple latent constructs in its inferential analysis, yet relied on tables and figures together with chart display as part of its descriptive approach. The analysis tools included KOBO Toolbox, together with Smart PLS 4.0 for data processing and Microsoft Excel for data entry and tabulation purposes.

3.16. Descriptive Analysis

Organizational statistics convert data into variables to track usual values and measure value distribution per variable throughout the dataset (Larose et al., 2014). The descriptive analysis of the study includes socio-demographic information and the current status of green banking initiatives. The initial section, named Socio-Demographic Information, collects vital respondent background facts which encompass gender, marital status, age, educational level, and job position. The information plays an essential role in establishing participant demographic

characteristics. The examination of green banking initiatives together with environmental performances takes place in the second section, which concentrates on Lumbini and Gandaki provinces.

3.17. Inferential Analysis

Population parameters receive estimates through inferential statistics by using descriptive data collected from samples (Amrhein et al., 2019). The broad collection of methods surpasses basic data description to let researchers obtain conclusions about populations through their sample data (Thomas & Harden, 2008). The analysis of descriptive data draws its inferences through specific error or limit intervals, or confidence ranges. Researchers make two types of inferential errors: Type I errors refer to accepting false alternative hypotheses against contrary evidence, and Type II errors occur when researchers wrongly reject true alternative hypotheses based on evidence (Forstmeier et al., 2017). Multiple sample analysis becomes possible through these research techniques, which allow scientists to discover relationships between two or more variables. Measures for evaluating the measurement model consist of assessments for internal consistency reliability along with evaluative and discriminant validity, and methods to analyze common method bias and model fit indicators (Rönkkö & Cho, 2022). The structural model assessment technique depends upon a bootstrapping method and path coefficients, bias-corrected confidence intervals, coefficient of determination (R^2), effect size (f^2), predictive power (Q^2), and robustness checks. The research utilizes MS Excel together with Smart PLS 4.0 for conducting its data analysis.

Measurement Model Assignment: Latent constructs get connected through the outer model, which serves as the measurement model (Hair et al., 2012). Evaluation of latent variable measurements to manifest variables relationships occurs through this analysis since it demonstrates two essential points: how well the indicators represent the structural model constructs. The outer model of SEM includes validation tests for both reliability and validity through methods such as convergent validity measurement and assessment of discriminant validity combined with composite reliability tests to determine measurement quality (Henseler et al., 2015).

The quality assessment of the measurement model must be performed initially to proceed with investigating latent variable correlations. Performance measurement between indicators and latent variables receives assessment within the measurement

model of the outer model (Hair et al., 2020). The evaluation of reflective indicators includes tests for both convergent validity and discriminant validity, and average variance extracted (AVE) and composite reliability. Formative indicators usually need to pass a Variance Inflation Factor (VIF) test for multi-collinearity to determine if their correlations remain within safe limits because strong interrelations can deteriorate the latent structure (Nicolas et al., 2020).

Internal Consistency Reliability: The level to which multiple markers of one structural dimension relate to each other represents internal consistency reliability (Cronbach, 1951). Our assessment of reliability depends on Cronbach's alpha and composite reliability statistics. The widely used statistic Cronbach's alpha serves to evaluate test and scale suitability for research purposes by adopting 0.70 as a threshold and higher (Taber, 2018). In less differentiated measurement models, the proportion of true score variance compared to the overall scale score variance is measured by composite reliability. The acceptable threshold for Cronbach's alpha should be at least 0.70 (Henseler et al., 2015).

Convergent Validity: Introducing convergent validity helps researchers understand the extent of agreement between constructs that use formative approaches to assessment and alternative reflective approaches targeting the same concept (Cenfetelli & Bassellier, 2009). This measurement demonstrates that indicators utilized to assess the same construct align and maintain coherence with alternative reflective measurements of the same construct (Bergkvist & Rossiter, 2007). Research validity requires analysts to examine both factor indicator measurement strength and extracted average variance results. The minimum requirement for factor loading stands at 0.60 or above (Fahmi et al., 2022). The required measure for AVE stands at a minimum value of 0.50 (Hair et al., 2020).

Discriminate validity: The Discriminant Validity measure evaluates construct uniqueness from other elements within the structural model (Rönkkö & Cho, 2022). This measurement ability describes how well a method separates similar things. The examination of discriminant validity uses three methods, including the Fornell-Larcker Criterion (FLC) and Cross Loading and Heterotrait–Monotrait Ratio (HTMT). The FLC states that in model analysis, no two constructs can share variance that exceeds their respective average variance extracted (AVEs). The HTMT metric calculates

indicator cross-construct correlation averages while utilizing 0.90 or lower as the acceptable limits (Wright, 2012). The validity of a model becomes compromised when indicators cross-load onto two or more latent constructs.

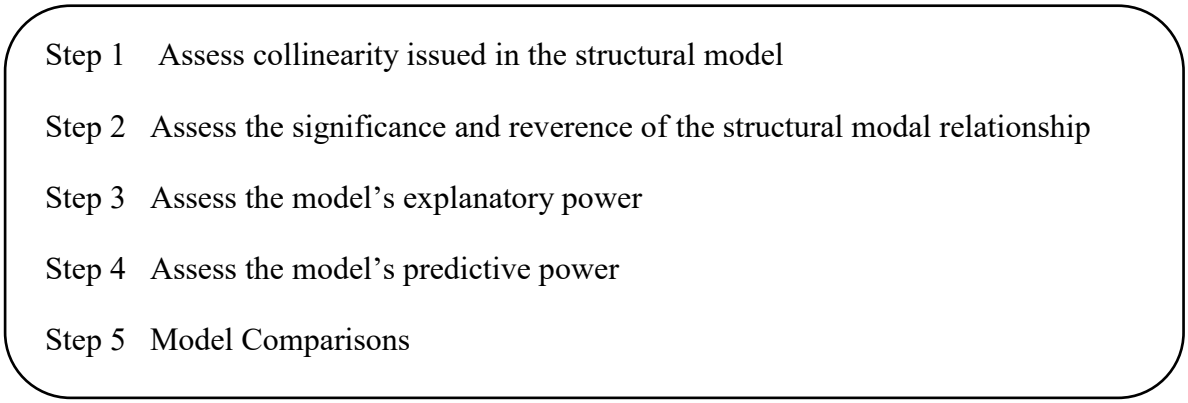
Collinearity Analysis for Multicollinearity: A significant increase in coefficient standard error occurs when predictors demonstrate correlation with each other. A high standard error indicates that any independent variable coefficient could be different from zero. Predictors belong to the same category of collinearity when they assess components of an identical construct. The connections between indicators in formative measurement models demonstrate strong correlations, known as collinearity. The variance inflation factor serves as a standard evaluation method for detecting indicator multicollinearity. A thorough multicollinearity test indicates freedom from the problem if every VIF value remains at or below 3.3 or 5 (Vu et al., 2015).

Model Fit Test: An evaluation of statistical model adequacy to describe data occurs through model fit testing. The test enables researchers to establish whether the model correctly represents observed data and whether substantial anomalies exist. Two key indicators to evaluate model fit in studies include standardized root mean square residual (SRMR). A model fit assessment succeeds when SRMR stands below 0.085 or 0.12 (Scherer et al., 2019).

*Structure Model Assessment:*A structural model shows connections between unknown factors we refer to as constructs. It details changes in order from one construct to another plus depicts their influence the inner model. Hair et al. (2020) show in their figure the steps to evaluate this type of model design.

Figure 3.1

Structural Model Assessment Procedure



Bootstrapping: Our bootstrap procedure starts the path analysis process in the structure model. Bootstrapping represents a statistical resampling method employed for inference analysis. It serves as a key tool for finding confidence limits plus detecting estimator bias and measurement spread or approving test performance (Chernick & LaBudde, 2014). PLS-SEM is a non-statistical method that needs bootstrapping to calculate error measures and produce results, which requires 10000 sub-sample collections recommended (Jabbar et al., 2023).

Path Coefficient: Using Path coefficient analysis shows its statistical validity to split correlation numbers into direct and indirect effects according to (Preacher & Hayes, 2008). A path coefficient shows how much an endogenous construct value shifts when you alter a standard deviation of one predictor construct value at specific intervals from other predictor values. When evaluating a path between two variables, it ranges from -1 to +1; large negative values show strong negative ties, and large positive values display strong positive connections. The statistic shows the beta level (Sabol et al., 2023).

Mediating Testing: The structural equation modeling assessment tool known as SMART PLS offers a strong approach to detecting mediation effects. The mediating variable analysis determines the influence of an MV that links an IV and a DV relationship. Bootstrapping methods determine full, partial and no mediation by measuring both direct and indirect effect significance through its analysis. The graded modeling technology of SMART PLS works best for complex systems with limited data supplies and non-standard distributions to reveal the causes between variables.

Coefficient of Determination (R^2): The Coefficient of Determination (R^2) measures the part of the dependent variable results that come from independent variable effects. The coefficient R^2 shows how the dependent variable changes when the independent variable is active in statistical modeling. Purwanto & Sudargini (2021) suggest these minimum criteria for understanding latent variable strength: substantial at 0.67, moderate at 0.33, and weak at 0.19.

Effect Size (f^2): The effect size indicates how much variability in the dependent variable can be explained by an independent variable or a group of exogenous constructs. According to Mohajeri et al. (2020), f^2 statistics reveal small, medium, and large effects

of external variables, with 0.02, 0.15, and 0.35 serving as standard benchmarks. Very small effect sizes of 0.02 are deemed non-existent (Carneiro et al., 2018).

Predictive Power (Q^2): Through SEM, Q^2 examines how accurately the model can forecast outcomes for its dependent variables. It discloses the extent to which changes in the endogenous construct can be predicted by our model design (Sarstedt et al., 2022). The test illustrates how well the model and its computed values align with actual measurement results. The predictive power test (Q2) assesses RMSE results from both PLS-SEM and LM models. Bands of predicted values with low RMSE indicate greater accuracy. According to Hair et al. (2013), predictive relevance is evident in Q^2 values greater than zero, whereas models with negative Q^2 results lack predictive power.

Robustness Check: To validate test results a researcher makes minor adjustments to their primary regression model while watching the outcome behavior. The technique validates essential results that should perform regardless of individual model settings (Oberkampf & Roy 2010). The practice of robustness checks detects whether modification of the model changes the study results and ensures that our findings are credible despite assumptions being broken or non-standard data being present.

Linearity: The linearity test shows in research if the connection between model variables runs in straight lines. A researcher can tell if a non-linear model better describes relationships by using this method. Smart PLS 4.0 provides a quadratic effect tool to evaluate the straight-line condition. When the quadratic coefficient shows statistical significance, we find that the link between our variables is not straight, and simple linear regression not deliver satisfactory results.

Heterogeneity: Heterogeneity exists when variations appear between the statistical interactions and smaller sample groups. Data subgroups with obvious variations in model results make up unobserved heterogeneity (Sarstedt et al., 2022). Smart PLS 4.0 FIMIX-PLS can uncover and handle patterns in the data which are undetected through conventional analysis methods.

Endogeneity: A predictor construct in PLS-SEM commonly aligns with the errors in the dependent construct when these elements show a statistical connection. The predictor only measures what both the dependent construct and its measurement errors represent (Sarstedt et al., 2022). A repressor variable in a model create endogeneity

when it shows connections with errors in the measured variable. The Gaussian Copula method chosen by Smart PLS 4.0 needs to display insignificant results for every endogeneity test (Sarstedt et al., 2022).

3.18. Socio-Ethical Compliances

The study requires protecting all information that holds strategic importance because of its sensitive nature. The researcher avoided both ambiguous or irrelevant questions and verbalized language that could cause discomfort to respondents (Patton, 2015). The study gained consent from research participants, while the brokerage firms permitted the research.

The researcher gathered information through knowledgeable respondents whom he had chosen strategically. The research agenda became clear to respondents before they made their decision about participating. All respondents received participation information without being forced or pressured to participate more than once. The sources from the literature review obtained proper acknowledgment according to both the American Psychological Association (APA) 7th edition style guidelines and the Mid-West University study research guidelines.

The present researcher has decided to use the research opportunity exclusively to support MPhil study research. The research report exists exclusively for its MPhil study research purpose and has not been sent to any other entity for a different use. The researcher went to great lengths to protect both survey respondents' confidentiality and the confidentiality of consulted organizations by maintaining complete privacy during all phases of research.

3.19. Concluding Remarks

This chapter describes various concerns associated with methodology and contains research methods applied to the study. These are: Research design, theoretical framework, conceptual framework or empirical model, methods of data collection, and the analytical approach used. This chapter focuses on the general approach of carrying out the research and the reasons for choosing particular research methods regarding the specific aims of the research. The conceptual framework has been represented based on Green Banking practices where Different activities of banks- Bank employee-related practices, Bank operational-related practices, Bank consumer-related practices, and

Bank policy-related practices are taken as Independent variables and Green Financing and Environmental performances as dependent and mediation variables. In this study, explanatory research design is used based on structural equation modeling. For data analysis, the method applied is structure equation modeling. The areas of interest in the current study comprise the provinces of Lumbini and Gandaki. Both primary data are involved in the study and are collected through structured questionnaire surveys, interviews, many websites, and unpublished publications. The hypostudy was used so that there would be a yardstick for determining the type of relationship between the independent and dependent variables. This chapter also highlighted the main variables under investigation, the development, and the application of data collection instruments. The samples of the research for the study have been 450 bank employees in Lumbini and Gandaki providences. The last part of this paper deals with data analysis, whereby data analysis tools and techniques were applied in the breakdown of the collected information, and some software used were Excel, SPSS IBM 20, and SME PLS.

CHAPTER 4
DATA PRESENTATION AND ANALYSIS

4.1. Introduction

This chapter is divided into three main parts to provide a clear and comprehensive analysis of the data collected. The first part presents basic information about the participants in the study, including their age, gender, job experiences, education level, and current job position. It employs numerical data such as frequency, percentage, average mean, and standard deviation to convey this information clearly.

The second part evaluates the reliability and accuracy of the survey questions and measurements. It employs various statistical methods, including Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and tests such as the Fornell-Larcker criterion and HTMT ratio to ensure the data is trustworthy.

The third and final part examines the primary research model and evaluates the study's central ideas or hypotheses using a technique known as partial least squares structural equation modelling (PLS-SEM). It clarifies the relationships among various variables by presenting key findings such as path coefficients, R^2 values, effect sizes (f^2), and utilizes bootstrapping to verify whether the results are statistically significant.

Data for this study was collected from 450 bank employed in Gandaki and Lumbini Province, Nepal. The data was processed and analyzed using IBM SPSS 20 and Smart-PLS version 4.1.0.9.

4.2. Demographic Statistics

This section presents the descriptive analysis of the data collected through structured questionnaires. The analysis focuses on statistical measures such as central tendency mean and variability standard deviation. The main objective of this study is to understand the trends and practices of green banking initiatives by Nepal's commercial banks, with special attention to how these practices affect environmental performance and green financing outcomes. This approach helps to clearly capture the perceptions and experiences of bank employees regarding the implementation and impact of green banking initiatives in Nepalese commercial banks.

Table 4.1

Demographic Information

Variables		Frequency	Percent
Gender	Male	284	63.1
	Female	166	36.9
Total		450	100
Age	16-25	0	0
	26-35	66	14.7
	36-40	136	30.2
	41-45	192	42.6
	46-50	42	9.3
	Above 51	14	3.2
Total		450	100
Education	Intermediate	0	0
	Under Graduate	9	2
	Graduate	429	95.3
	Post Graduate	12	2.7
Total		450	100
Experience in the Banking Industry	Less than 5 Years	10	2.2
	5 to 10 Years	45	10
	10 to 15 Years	316	70.3
	15 to 20 Years	74	16.5
	Above 20	5	1
Total		450	100
Current Job Position	Assistant Level	16	3.5
	Officer Level	380	84.5
	Managerial Level	33	7.4
	Department Head	20	4.4
	CEO	1	0.2
Total		450	100

Source: Survey Report, 2024

Table 4.1, shows research data including 450 respondents, consisting of 284 male participants, which constitute 63.1 percent of the group, and the remaining 166 participants are female which makes up 36.9 percent of the total. The banking sector shows a predominance of male employees among its workforce, thus suggesting possible employment inequalities based on gender.

The study shows that 42.6 percent of respondents 192 people belong to the 41 - 45 age group, which is the largest demographic. After the 41- 45 age group 42.6 percent, 136

people 30.2 percent belong to the 36 - 40 age category. A quarter of the workforce comprises employees between 26 and 35 years old, making up 66 of 449 bank employees 14.7 percent, among bank staff members, 46 - 50 years old make up another 42 workers 9.3 percent. A small number of 14 workers 3.2 percent belong to the age group above 51 years, while the majority belong to the 26 - 50 age bracket. Banking organizations did not select any participants who are under 26 years old because their workforce mainly consists of professionals between 26 and 50.

Graduate degrees are the most common academic level among bank employees because 429 respondents, or 95.3 percent, hold this qualification. After graduates come individuals with postgraduate degrees, totaling 12 people or 2.7 percent of the sample. The overall number of undergraduates holds only 2.0 percent 9 people of the workforce. Every banking sector employee holds at least a graduate-level education since no one stated they possessed only intermediate education.

The majority of bank employees have spent 10 to 15 years working in the financial industry, according to 316 respondents who represent 70.3 percent of the total sample. However, 74 employees 16.5 percent maintain 15 to 20 years of work experience in the banking industry. The results also show that 45 employees 10.0 percent have 5 to 10 years of experience. The majority of 70.3 percent of work professionals possess 10 to 15 years of industry experience, whereas 2.2 percent of employees have five years or less experience. Likewise, 1.0 percent have worked in the industry for more than twenty years. The banking sector workforce consists mainly of well-experienced professionals who bring significant expertise from years in banking.

A total of 380 workers, representing 84.5 percent of respondents, occupy officer-level positions as the majority of employee's function in mid-level management roles. Among the respondents of the survey, 33 were working at the managerial level, and 20 held department head positions. Among the workforce, the assistant-level group represents 16 people 3.5 percent, although the CEO position is held by just one employee 0.2 percent. The present distribution demonstrates that the banking sector has a hierarchical structure featuring many employees at officer-level positions combined with fewer senior management staff members.

4.3. Respondent's Information about Green Banking Initiatives, Green Financing, and Environment Performance

The information level of bank customers regarding their financial institution's environmental policies and practices forms the basis of Respondent's Information on Green Banking Initiatives. The familiarity with green banking tracks alongside training participation and operational frequency of green banking methods as well as the extent of implemented paperless transactions by the bank. The assessment includes environmental initiatives the bank takes to actively promote eco-friendly banking among customers while rewarding employees for green banking promotion and renewable energy investments and its complete dedication to environmental sustainability. The gathered responses determine how well green banking integration and employee participation exist within the system.

Table 4.2

General Information About Respondents Green Banking Initiatives

Particulars	Categories	Frequencies	Percents
Have you heard about green banking initiatives?	Yes	450	100%
	No	0	0
Total		450	100
How often do you engage in green banking practices at your workplace?	Yes	418	92.89%
	No	5	1.11%
	Sometime	27	6%
Total		450	100%
Are there any incentives provided by your bank to employees for promoting green banking initiatives	Yes	265	58.89%
	No	185	41.10%
Total		450	100

Source: Survey Report, 2024

Table 4.2, presents general information about respondents' awareness and involvement in green banking initiatives at their workplace. All respondents 100 percent reported that they have heard about green banking initiatives, showing full awareness among employees. When asked about their engagement in green banking practices at work, 92.89 percent said they regularly engage in such practices, 6 percent reported engaging sometimes, and only 1.11 percent said they do not participate. Regarding incentives, 58.89 percent of the respondents stated that their bank provides incentives to employees

for promoting green banking initiatives, while 41.10 percent said no incentives are provided. These results indicate that awareness and participation in green banking are very high among employees, but there is still room for improvement in offering incentives to further encourage green practices.

Table 4.3

Respondents Information Assessing Awareness and Practices of Green Banking

Particulars	Categories	Frequencies	Percent
How familiar are you with your bank's green banking policies?	Yes	450	100%
	No	0	0
Total		450	100
Does your bank provide training on green? banking and environmental sustainability?	Yes	412	92%
	No	38	8.00%
Total		450	100.00%
Has your bank implemented paperless transactions as a part of green banking?	Yes	450	100%
	No	0	0
Total		450	100
Does your bank invest in renewable energy? projects as part of its financing strategy?	Yes	374	83%
	No	76	16.89%
Total		450	100.00%
How would you rate your bank's commitment? to environmental sustainability?	Yes	450	100%
	No	0	0
Total		450	100

Source: Survey Report, 2024

Table 4.3, illustrates the level of awareness and implementation of green banking practices among bank employees and customers. The data shows that all respondents are 100 percent familiar with their bank's green banking policies, and all confirmed that their banks have implemented paperless transactions and are committed to environmental sustainability. Additionally, 92 percent reported receiving training on green banking and environmental sustainability, while 8.5 percent indicated a lack of such training. Furthermore, 83 percent of the respondents stated that their banks invest in renewable energy projects as part of their financing strategy, whereas 16.89 percent reported otherwise. Overall, the findings suggest a high degree of awareness and adoption of green banking initiatives, although there remains scope for improvement in training provision and investment in renewable energy.

4.4. Descriptive Statistic

In this section, green Banking can be affected by Bank Employee-Related Practices, Bank Consumer-Related Practices, Bank Operational-Related Practices, and Bank Policy-Related Practices by controlling Environmental Knowledge. The motivation of the study is centered on banking practices and their linkage to green banking initiatives. The analysis is done for three constructs: one independent variable, one dependent variable, and one mediating variable. For this research, the selected variables are Bank Practices, Employees, Consumers, Operational and Policy Related, Green Banking, and Environmental Knowledge.

The analysis is structured to investigate under what conditions bank practices shape green banking through environmental knowledge as a mediator. Presented separately, in tabular form, is each construct and a set of statements that are to be used to measure respondents' perceptions. The responses are recorded on a five-point Likert scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5).

4.4.1. Bank Employee-Related Practices

The term Bank Employee Related Practices (BERP) is the umbrella term used to describe the practices that banks carry out in order to promote environmentally responsible behavior among employees. Some of the practices included in this are green HRM, training in sustainability, eco-friendly workplace policies, and incentives for green behavior. BERP is imperative in sustaining a culture of sustainable banking as well as facilitating green banking.

Table 4.4

Bank Employee-Related Practices

Code	Likert Scale					Descriptive Statistic	
	SA	A	N	D	SD	Mean	S.D
BERP1	319 (70.9 %)	107 (23.8 %)	21 (4.7 %)	2(0.4 %)	1(0.2 %)	4.65	.613
BERP2	173 (38.4 %)	222 (49.6 %)	41 (9.1 %)	12 (2.7 %)	1 (0.2 %)	4.23	.741
BERP3	300 (66.7 %)	120 (26.7 %)	25 (5.6 %)	4 (0.9 %)	1 (0.2 %)	4.59	.659
BERP4	195 (43.3 %)	199 (44.2 %)	40 (8.9 %)	16 (3.6 %)	-	4.27	.769
BERP5	258 (57.3 %)	147 (32.7 %)	40 (8.9 %)	4 (0.9 %)	1 (0.2 %)	4.46	.712
BERP6	228 (50.7 %)	271 (38 %)	32 (7.1 %)	18 (4.0 %)	1 (0.2 %)	4.35	.798
BERP7	307 (68.2 %)	112 (24.9 %)	24 (5.3 %)	6 (1.3 %)	1 (0.2 %)	4.60	.675
BERP8	218 (48.4 %)	180 (40.0 %)	31 (6.9 %)	19 (4.2 %)	2 (0.4 %)	4.32	.814
BERP9	218 (48.4 %)	180 (40.0 %)	31 (6.9 %)	19 (4.2 %)	2 (0.4 %)	4.24	.806
BERP10	131 (19.1 %)	210 (46.7 %)	74 (16.4%)	33 (7.3 %)	2 (0.4 %)	3.97	.889
Overall	-	-	-	-	-	4.36	.747

Source: Survey and Calculation Report, 2024

The table 4.4, Bank Employee-Related Practices (BERP) were analyzed based on responses from commercial bank employees in Nepal, using a five-point Likert scale. The results show that employees generally have positive perceptions about green banking practices in their banks. The highest mean score 4.65 was found for the statement that employees actively promote the adoption of digital banking to reduce paper usage, indicating strong support for digital transformation as a green practice. Other statements, such as regular training on environmental sustainability mean = 4.23, encouragement to suggest innovative green banking practices mean = 4.59, and motivation to create awareness among customers about eco-friendly products mean = 4.46, also received high mean scores, suggesting that banks are making efforts to involve employees in green initiatives. The mean scores for the use of energy-efficient devices 4.35, provision of incentives for supporting green strategies 4.60, and the inclusion of green banking in the bank's code of conduct 4.32 further highlight the banks' commitment to environmental performance. However, the lowest mean score 3.97 was for the internal reward system for employees excelling in green banking practices, indicating that there is less recognition or formal rewards for employees who perform well in this area. The standard deviations for all items were below 1, showing that most employees shared similar views. Overall, these findings suggest that while employees are actively involved in and supportive of green banking initiatives, there is still room for improvement, especially in recognizing and rewarding outstanding green banking efforts.

In conclusion, the analysis of bank employee-related practices reveals that employees in Nepal's commercial banks are generally supportive of green banking initiatives. They are actively involved in promoting digital banking, participating in training, and encouraging innovative and environmentally friendly practices. The findings also show that banks provide resources and include green practices in their policies. However, the results suggest that there is a need to strengthen the internal reward system to better recognize and motivate employees who excel in green banking efforts. Overall, these positive attitudes and practices among employees are important for improving the environmental performance of banks and advancing green financing in Nepal.

4.4.2. Bank Operation Related Practices (BORP)

Bank Operation Related Practices (BORP) are physical and practical instruments that banks implement to decrease their ecological footprint. The practices include digital banking services to mitigate paper consumerism, energy efficiency banking operation practices, and waste management initiatives. All these are part of the broader framework of green supply chain management, eco-friendly infrastructure, and sustainable procurement. Banks' integration of green technology and automated processes promotes efficiency and sustainability. All these operational strategies make a huge contribution towards decreasing carbon emissions, enhancing resource efficiency and supporting green banking in general.

Table 4.5

Bank Operational-Related Practices

Code	Likert Scale					Descriptive Statistic	
	SA	A	N	D	SD	Mean	S.D
BORP1	162 (36.00%)	207 (46.00%)	59 (13.10%)	21 (4.70%)	1 (0.20%)	4.13	0.826
BORP2	312 (69.3 %)	101 (22.4 %)	29 (6.40 %)	7 (1.6 %)	1 (0.20%)	4.59	0.701
BORP3	115 (25.6 %)	143 (31.8 %)	74 (16.4 %)	105(23.3%)	13(2.9 %)	3.54	1.184
BORP4	290 (64.4 %)	116 (25.8 %)	32 (7.1 %)	10 (2.2 %)	2 (0.4 %)	4.52	0.762
BORP5	185 (41.1 %)	154 (34.2 %)	40 (8.9 %)	61 (13.6%)	10 (2.2 %)	3.98	1.116
BORP6	301 (66.9 %)	97 (21.6 %)	32 (7.1 %)	16 (3.6 %)	4 (0.9 %)	4.50	0.845
BORP7	251 (55.8 %)	151 (33.6 %)	35 (7.8 %)	11 (2.4 %)	2 (0.2 %)	4.42	0.775
BORP8	86 (19.1 %)	230 (51.1 %)	49 (10.9 %)	72 (16 %)	13 (2.9 %)	3.68	1.047
BORP8	202 (44.9 %)	189 (42.0 %)	51 (11.3 %)	8 (1.8 %)	-	4.30	0.738
BORP10	282 (62.7 %)	113 (25.1 %)	38 (8.4 %)	16 (3.6 %)	1 (0.2 %)	4.46	0.812
Overall						4.21	0.88

Source: Survey and Calculation Report, 2024

Table 4.5, the analysis of Bank Operational Related Practices (BORP) shows that a majority of respondents agreed or strongly agreed with most green operational practices in their banks. For example, 69.3 percent of respondents strongly agreed and 22.4 percent agreed that the use of renewable energy sources, such as solar power, is encouraged across all branches, giving a high mean score of 4.59 and a low standard deviation of 0.701. Similarly, 64.4 percent strongly agreed and 25.8 percent agreed that waste management protocols are effectively implemented in daily operations mean = 4.52. For operational audits including environmental sustainability metrics, 66.9 percent strongly agreed and 21.6 percent agreed mean = 4.50. The move towards digital banking services to reduce physical transactions was also well supported, with 55.8 percent strongly agreeing and 33.6 percent agreeing mean = 4.42. Monitoring and

reducing water usage in bank facilities was recognized by 62.7 percent of respondents as strongly agree and 25.1 percent as agree mean = 4.46. The implementation of a paperless transaction system was supported by 36 percent strongly agreeing and 46 percent agreeing mean = 4.13. However, some areas showed lower agreement. Only 25.6 percent strongly agreed and 31.8 percent agreed that energy-efficient equipment is installed and maintained in all offices, with 16.4 percent neutral and 23.3 percent disagreeing mean = 3.54, S.D. = 1.184. The switch to eco-friendly office supplies had 41.1 percent strongly agree and 34.2 percent agree, but 13.6 percent disagreed mean = 3.98. Tracking and reporting of energy consumption and carbon emissions had 19.1 percent strongly agree and 51.1 percent agree, but 16 percent disagreed mean = 3.68. These percentages provide a clear view of how employees perceive each operational practice, making it easier to see which green practices are widely accepted and which need improvement.

In conclusion, the descriptive statistics and percentage breakdowns show that Nepalese commercial banks are making strong progress in adopting green operational practices, especially in using renewable energy, managing waste, and promoting digital banking. Most employees agree or strongly agree with these efforts. However, there is less agreement on the use of energy-efficient equipment, eco-friendly office supplies, and the tracking of energy use and emissions, indicating areas where banks can focus more attention. Overall, these operational practices are important for improving environmental performance and supporting green financing in Nepal's banking sector.

4.4.3. Bank Consumer-Related Practices

The Bank Consumer-Related Practices (BCRP) consist of the initiatives of banks to encourage environmentally responsible behavior of the customers. They include paperless banking services, green loans, eco-friendly financial products, digital payment systems, and the like of sustainable banking awareness programs. BCRP encourages customers to be on the way of green banking that reduces the environmental impact and enhances sustainability efforts.

Table 4.6

Bank Consumer-Related Practices

Code	Likert Scale					Descriptive Statistic	
	SA	A	N	D	SD	Mean	S.D
BCRP1	213 (47.3 %)	203 (45.1 %)	26 (5.8 %)	8 1.8 %)	-	3.64	1.028
BCRP2	205 (45.6 %)	182 (40.4 %)	42 (9.3 %)	19 (4.2 %)	2 (0.4 %)	3.66	1.157
BCRP3	225 (50.0 %)	154 (34.2 %)	65 (14.4 %)	6 (1.3 %)	-	4.37	0.819
BCRP4	303 (67.3 %)	118 (26.2 %)	25 (5.6 %)	4 (0.9 %)	-	4.05	0.943
BCRP5	171 (38.0 %)	221 (49.1 %)	34 (7.6 %)	22 (4.9 %)	2 (0.4 %)	4.17	0.867
BCRP6	172 (38.2 %)	210 (46.7 %)	51 (11.3 %)	17 (3.8 %)	-	4.25	0.837
BCRP7	262 (58.02%)	155 (34.4 %)	16 (3.6 %)	16 (3.6 %)	1 (0.2 %)	3.99	0.862
BCRP8	215 (47.8 %)	198 (44.00%)	30 (6.7 %)	6 (1.30%)	1(0.2 %)	4.34	0.886
BCRP9	199 (44.2 %)	212 (47.1 %)	31 (6.9 %)	7 (1.6 %)	1 (0.2 %)	4.44	0.774
BCRP10	132 (29.3 %)	230 (51.1 %)	69 (15.3 %)	17 (3.8 %)	2 (0.4 %)	4.10	0.819
Overall						4.10	0.89

Source: Survey and Calculation Report, 2024

Table 4.6, results show that most employees believe their banks are making good efforts to involve consumers in green banking. For the statement on offering competitive green loans for renewable energy projects, 47.3 percent of respondents strongly agreed, 45.1 percent agreed, 5.8 percent were neutral, and only 1.8 percent disagreed, resulting in a mean score of 3.64 and a standard deviation S.D. of 1.028. When asked if consumers are provided with discounts for using digital banking platforms, 45.6 percent strongly agreed, 40.4 percent agreed, 9.3 percent were neutral, 4.2 percent disagreed, and 0.4 percent strongly disagreed, with a mean of 3.66 and S.D. of 1.157. The promotion of environmentally friendly banking products through marketing campaigns was strongly supported, with 50 percent strongly agreeing and 34.2 percent agreeing mean = 4.37, S.D. = 0.819. A large majority 67.3 percent strongly agree and 26.2 percent agree also reported that customers are educated about the benefits of sustainable banking practices mean = 4.05, S.D. = 0.943. For financial products tailored for environmentally conscious consumers, 38 percent strongly agreed and 49.1 percent agreed mean = 4.17, S.D. = 0.867. Regular incorporation of consumer feedback into green product development was confirmed by 38.2 percent strongly agreeing and 46.7 percent agreeing mean = 4.25, S.D. = 0.837. Priority services for consumers engaged in green projects were recognized by 58.02 percent strongly agreeing and 34.4 percent agreeing mean = 3.99, S.D. = 0.862. Incentives for switching to e-statements over paper statements were supported by 47.8 percent strongly agreeing and 44 percent agreeing mean = 4.34, S.D. = 0.886. Promotion of eco-friendly savings accounts or fixed

deposits was highly rated, with 44.2 percent strongly agreeing and 47.1 percent agreeing mean = 4.44, S.D. = 0.774. Awareness campaigns about the environmental impact of banking choices were supported by 29.3 percent strongly agreeing and 51.1 percent agreeing mean = 4.10, S.D. = 0.819. The standard deviations for most items are below 1, which means most employees have similar views. From this analysis show that the highest agreement was seen in the promotion of green banking products, education on sustainable practices, and incentives for eco-friendly choices. However, the mean scores for competitive green loans and discounts for digital banking, while positive, were slightly lower, suggesting areas for further improvement.

In conclusion, the descriptive statistics and response percentages show that Nepalese commercial banks are actively engaging customers in green banking through various initiatives. Most employees agree or strongly agree that their banks offer green loans, promote eco-friendly products, educate customers, and provide incentives for sustainable choices. While the majority of responses are positive, there is still room to improve the competitiveness of green loans and the provision of digital banking discounts. Overall, these consumer-related practices are important for supporting environmental performance and encouraging green financing in Nepal's banking sector.

4.4.4. Bank Policy-Related Practices

The formal policies and guidelines of the banks regarding promoting sustainability and environmental responsibility are known as Bank Policy Related Practices (BPRP). The practices include integrating green banking in the code of conduct of the bank, setting targets for reducing carbon emissions and maintaining compliance with environmental laws. Concerning the creation of policies that can support green financing, eco-friendly banking products and green investment practices, BPRP is also involved. Banks ensure environmental responsibility by integrating it into their policies, thus being instrumental in promoting sustainability both within them and across their operations.

Table. 4.7

Bank Policy-Related Practices

Code	Likert Scale					Descriptive Static	
	SA	A	N	D	SD	Mean	S.D
BPRP1	213 (47.3 %)	203 (45.1 %)	26(5.8 %)	8(1.8 %)	-	4.38	0.677
BPRP2	205 (45.6 %)	182 (40.4 %)	42 (9.3 %)	19 (4.2 %)	2 (0.4 %)	4.26	0.830
BPRP3	225 (50.0 %)	154 (34.2 %)	65 (14.4 %)	6 (1.3 %)	-	4.33	0.769
BPRP4	303 (67.3 %)	118 (26.2 %)	25 (5.6 %)	5 (0.9 %)	-	4.60	0.637
BPRP5	171 (38.0 %)	221 (49.1 %)	34 (7.6 %)	22 (4.90%)	2 (0.4 %)	4.19	0.809
BPRP6	172 (38.2 %)	210 (46.7 %)	51 (11.3 %)	17 (3.8 %)	-	4.19	0.781
BPRP7	262 (58.2 %)	155 (34.4 %)	16 (3.6 %)	16 (3.6 %)	1 (0.2 %)	4.47	0.749
BPRP8	215 (47.8 %)	198 (44.00%)	30 (6.7 %)	6 (1.3 %)	1 (0.20%)	4.38	0.690
BPRP9	199 (44.2 %)	212 (47.1 %)	31 (6.9 %)	7 (1.6 %)	1 (0.2 %)	4.34	0.694
BPRP10	132 (29.3 %)	230 (51.1 %)	69 (15.3 %)	17 (3.8 %)	2 (0.40%)	4.05	0.798
Overall						4.31	0.74

Source: Survey and Calculation Report, 2024

The survey table 4.7, refer responses from employees of Nepal's commercial banks show that most banks have strong policies supporting green banking initiatives. For the statement "The bank has policies requiring environmental risk assessment before financing projects," 213 respondents strongly agreed 47.3 percent, 203 agreed 45.1 percent, 26 were neutral 5.8 percent, 8 disagreed 1.8 percent, and 0 strongly disagreed. The mean score was 4.38 with a standard deviation of 0.677. For "Environmental sustainability policies are integrated into all levels of decision-making," 205 strongly agreed 45.6 percent, 182 agreed 40.4 percent, 42 were neutral 9.3 percent, 19 disagreed 4.2 percent, and 2 strongly disagreed 0.4 percent, with a mean of 4.26 and S.D. of 0.830. The update of green banking policies to align with international standards was supported by 225 strongly agreeing 50.0 percent and 154 agreeing 34.2 percent, while 65 were neutral 14.4 percent and 6 disagreed 1.3 percent, mean 4.33, S.D. 0.769. For specific financing schemes for renewable energy and sustainable projects, 303 strongly agreed 67.3 percent, 118 agreed 26.2 percent, 25 were neutral 5.6 percent, and 5 disagreed 0.9 percent, mean 4.60, S.D. 0.637. The prohibition of funding environmentally harmful industries was strongly agreed by 171 (38.0%), agreed by 221 (49.1%), neutral by 34 (7.6%), disagreed by 22 (4.9%), and strongly disagreed by 2 (0.4%), mean 4.19, S.D. 0.809. Policies incentivizing investment in eco-friendly infrastructure projects had 172 strongly agree 38.2 percent, 210 agree 46.7 percent, 51 neutral 11.3 percent, and 17 disagree 3.8 percent, mean 4.19, S.D. 0.781. For periodic reviews to ensure compliance with environmental sustainability policies, 262 strongly agreed 58.2 percent, 155 agreed 34.4 percent, 16 neutral 3.6 percent, 16 disagreed 3.6

percent, and 1 strongly disagreed 0.2 percent, mean 4.47, S.D. 0.749. Partnerships with organizations promoting environmental sustainability were strongly agreed by 215 (47.8%), agreed by 198 (44.0%), neutral by 30 (6.7%), disagreed by 6 (1.3%), and strongly disagreed by 1 (0.2%), mean 4.38, S.D. 0.690. Internal guidelines mandating green practices across departments had 199 strongly agree (44.2%), 212 agree (47.1%), 31 neutral 6.9 percent, 7 disagree 1.6 percent, and 1 strongly disagree 0.2 percent, mean 4.34, S.D. 0.694. Participation in national and global green finance initiatives was supported by 132 strongly agree (29.3%), 230 agree (51.1%), 69 neutrals (15.3%), 17 disagree 3.8 percent, and 2 strongly disagree 0.4 percent, mean 4.05, S.D. 0.798. These results show high levels of agreement and consistency among respondents for most policy-related practices.

Main finding that the highest agreement was for the availability of specific financing schemes for renewable energy and sustainable projects, with a mean score of 4.60 and 67.3 percent of respondents strongly agreeing. Periodic reviews to ensure compliance with environmental sustainability policies also received strong support mean = 4.47. Most statements have mean scores above 4, indicating positive attitudes towards green banking policies. The lowest mean score was for participation in national and global green finance initiatives mean = 4.05, though it still shows general agreement. Standard deviations are below 1, showing consistent responses among employees.

In conclusion, the descriptive statistics and percentage breakdowns indicate that Nepalese commercial banks have well-established green banking policies. Employees generally agree that their banks require environmental risk assessments, integrate sustainability into decision-making, update policies to meet international standards, and provide financing for renewable projects. The strong support for periodic policy reviews and partnerships with environmental organizations highlights the banks' commitment to sustainability. While participation in national and global green finance initiatives has slightly lower agreement, it remains positive. Overall, these policy-related practices are crucial for enhancing environmental performance and supporting green financing in Nepal’s banking sector.

4.4.5. Green Financing

Green Banking is a banking practice that supports sustainability and reduces environmental impacts. In the context of the study, the BERP, BORP, BCRP and BPRP are considered. Paperless banking systems, promoting digital platforms that reduce paper, renewable energy sources in bank branches and so on, are all green banking initiatives. At decision-making levels, environmental sustainability policies are embedded, and green loans and eco-friendly project incentives are given for successful customers, and the employees look towards the environment-friendly activities. All these are done in a way that helps reduce the carbon footprint of the bank and promote a more sustainable financial system.

Table 4.8

Green Financing

Code	Likert Scale					Descriptive Statistic	
	SA	A	N	D	SD	Mean	S.D
GB1	138 (30.7 %)	192 (42.7 %)	60 (13.3 %)	56 (12.4%)	4 (0.9 %)	3.90	1.005
GB2	156 (34.7 %)	179 (39.8 %)	51 (11.3 %)	62 (13.8%)	2 (0.4%)	3.94	1.025
GB3	283 (62.9 %)	120 (26.7 %)	33 (7.3 %)	13 (2.9 %)	1 (0.2 %)	4.49	0.773
GB4	215 (47.8 %)	185 (41.1 %)	36 (8.00 %)	12 (2.70%)	2 (0.4 %)	4.33	0.772
GB5	249 (55.3 %)	154 (34.2 %)	31 (6.9 %)	14 (3.1 %)	2 (0.4 %)	4.41	0.788
GB6	257 (57.1 %)	143 (31.8 %)	36 (8.0 %)	14 (3.1 %)	-	4.43	0.770
GB7	340 (75.6 %)	77 (17.1 %)	22 (4.9 %)	9 (2.00%)	2 (0.4 %)	4.65	0.706
GB8	156 (34.7 %)	179 (39.8 %)	51 (11.3 %)	62 (13.8%)	2 (0.4 %)	3.94	1.025
GB9	325 (72.2 %)	94 (20.9 %)	22 (4.9 %)	8 (1.8 %)	1 (0.20%)	4.63	0.682
GB10	215 (47.8 %)	158 (35.1 %)	58 (12.9 %)	15 (3.3 %)	4 (0.9 %)	4.26	0.870
Overall						4.29	0.84

Source: Survey and Calculation Report, 2024

Table 4.8, the results show that most employees believe their banks are actively involved in green financing. For the statement “Bank has invested more in renewable energy sectors," 30.7 percent of respondents strongly agreed, 42.7 percent agreed, 13.3 percent were neutral, 12.4 percent disagreed, and 0.9 percent strongly disagreed, with a mean score of 3.90 and a standard deviation (S.D.) of 1.005. Similarly, for investments in energy efficiency projects, 34.7 percent strongly agreed and 39.8 percent agreed (mean = 3.94, S.D. = 1.025). The highest agreement was found for investments in recycling and recyclable products, with 62.9 percent strongly agreeing and 26.7 percent agreeing mean = 4.49, S.D. = 0.773. Investments in waste management and eco-friendly projects also received strong support, with 47.8 percent strongly agreeing

and 41.1 percent agreeing mean = 4.33. Regarding alignment of green financing initiatives with national or global sustainability goals, 55.3 percent strongly agreed and 34.2 percent agreed mean = 4.41. The bank's prioritization and promotion of financing for renewable energy projects was supported by 57.1 percent strongly agreeing and 31.8 percent agreeing mean = 4.43. A notable finding is that 75.6 percent of respondents strongly agreed and 17.1 percent agreed that the process of obtaining green loans is simple, transparent, and customer-friendly, with the highest mean score of 4.65 and the lowest S.D. of 0.706, indicating strong consensus. Support for green entrepreneurship was also high, with 72.2 percent strongly agreeing and 20.9 percent agreeing mean = 4.63. When asked if customers perceive the bank's green financing as a commitment to sustainability, 47.8 percent strongly agreed and 35.1 percent agreed (mean = 4.26). Across all items, standard deviations were generally below 1, showing that most employees shared similar positive views.

This variable highlight that employees recognize their banks' strong commitment to green financing, especially in recycling, waste management, and supporting green entrepreneurship. The process for green loans is seen as simple and transparent, and mostgreen financing initiatives are perceived as aligned with broader sustainability goals. However, investment in renewable energy and energy efficiency, while positive, showed slightly more mixed responses, indicating areas where banks can increase their focus.

In conclusion, the descriptive statistics and Likert scale responses show that Nepalese commercial banks are making significant progress in green banking. Employees largely agree that their banks invest in renewable energy, energy efficiency, recycling, and eco-friendly projects, and that green financing processes are customer-friendly and transparent. The strong support for green entrepreneurship and alignment with sustainability goals further demonstrates the banks' commitment to environmental performance. While there is room for improvement in increasing investments in some areas, overall, these green banking practices are helping to strengthen both environmental and financial outcomes, supporting the main objectives of this study.

4.4.6. Environmental Performance

Environmental Performance as a mediator variable refers to the measurable impact of a bank's environmental initiatives on its overall sustainability goals. This symbolizes

the bank's green practice that is intended to decrease energy consumption, handling of waste and the introduction of eco-friendly policies. The environmental performance medium, the relationship between green banking activities and bank's performance shows the impact of environmental work on the outcomes related to customer's perception, profitability and regulator compliances. This captures that tangible outcome of the commitment of a bank towards sustainability as well as its influence on business success.

Table 4.9

Environmental Performance

EP	Likert Scale					Descriptive Statistic	
	SA	A	N	D	SD	Mean	S.D.
EP1	215 (47.8 %)	195 (43.3 %)	29 (6.4 %)	9 (2.00 %)	2 (0.4 %)	4.36	0.731
EP2	222 (49.3 %)	167 (37.1 %)	43 (9.6 %)	17 (3.8 %)	1 (0.2 %)	4.32	0.814
EP3	256 (56.9 %)	145 (32.2 %)	34 (7.6 %)	14 (3.1 %)	1 (0.2 %)	4.42	0.781
EP4	137 (30.4 %)	211 (46.9 %)	46 (10.2 %)	54 (12.0 %)	2 (0.4 %)	3.95	0.962
EP5	284 (63.1 %)	124 (27.6 %)	36 (8.0 %)	5 (1.10 %)	1(0.2 %)	4.52	0.710
EP6	279 (62.0 %)	94 (20.9 %)	54 (12.0 %)	22 (4.9 %)	1 (0.2 %)	4.40	0.895
EP7	312 (69.3 %)	101 (22.4 %)	25 (5.6 %)	11 (2.4 %)	1 (0.2 %)	4.58	0.727
EP8	168 (37.3 %)	182 (40.4 %)	59 (13.1 %)	37 (8.20 %)	4 (0.9 %)	4.05	0.955
EP9	286 (63.0 %)	117 (26.2 %)	28 (6.2 %)	17 (3.8 %)	2 (0.4 %)	4.48	0.810
EP10	215 (47.8 %)	182 (40.4 %)	35 (7.8 %)	18 (4.00 %)	-	4.32	0.784
Overall						4.34	0.81

Source: Survey and Calculation Report, 2024

Table 4.9, the results show that most employees have positive perceptions of how green banking practices affect their banks. For example, 47.8 percent of respondents strongly agreed and 43.3 percent agreed that the bank has experienced growth in profits due to green banking practices, resulting in a mean score of 4.36 and a standard deviation (S.D.) of 0.731. Similarly, 49.3 percent strongly agreed and 37.1 percent agreed that operational efficiency has improved through green initiatives mean = 4.32, S.D. = 0.814. The statement that green banking practices have enhanced the bank's reputation in the financial market was supported by 56.9 percent strongly agreeing and 32.2 percent agreeing mean = 4.42, S.D. = 0.781. Regarding customer base expansion, 30.4 percent strongly agreed and 46.9 percent agreed mean = 3.95, S.D. = 0.962, while 63.1 percent strongly agreed and 27.6 percent agreed that customer satisfaction has improved due to sustainable banking practices mean = 4.52, S.D. = 0.710. The bank's recognition for contributions to environmental sustainability was supported by 62 percent strongly agreeing and 20.9 percent agreeing mean = 4.40, S.D. = 0.895. Cost

savings from energy-efficient operations received the highest agreement, with 69.3 percent strongly agreeing and 22.4 percent agreeing mean = 4.58, S.D. = 0.727. Attracting environmentally conscious investors was supported by 37.3 percent strongly agreeing and 40.4 percent agreeing mean = 4.05, S.D. = 0.955. Employee morale and loyalty were also strengthened, with 63 percent strongly agreeing and 26.2 percent agreeing mean = 4.48, S.D. = 0.810. Overall, 47.8 percent strongly agreed and 40.4 percent agreed that green banking practices have had a positive impact on the bank's financial performance mean = 4.32, S.D. = 0.784. Standard deviations for most items are below 1, showing that employee opinions are generally consistent.

From this analysis show that the strongest agreement was for cost savings from energy-efficient operations, improved customer satisfaction, and enhanced employee morale. The lowest mean score, though still positive, was for the expansion of the customer base, suggesting this area may need more focus.

In conclusion, the descriptive statistics and response percentages indicate that green banking practices have led to many positive outcomes for Nepalese commercial banks. Employees widely agree that these practices have improved profits, operational efficiency, reputation, and employee morale, and have resulted in cost savings. While customer base expansion and attracting green investors received slightly lower agreement, the overall impact on financial performance and environmental sustainability is seen as very positive. These findings support the importance of environmental performance as a key factor in the success of green banking and green financing in Nepal's banking sector.

4.5. Inferential Analysis

The analysis of population statistics requires researchers to determine population values using collected sample data. The methods used in this field surpass basic data description tasks to enable researchers to generate broader population-wide conclusions from their sample data. Assessment of measurement models consists of internal consistency reliability, convergent validity and discriminant validity assessments, together with common method bias checks using collinearity analysis and model fit test evaluation. Simultaneously, the structural models are evaluated through techniques including bootstrapping and path coefficients, confidence interval bias correction and

the coefficient of determination (R^2), effect size (f^2), predictive power (Q^2) and robustness checks.

4.5.1. Measurement Model Assessment

The measurement model, known as the outer model, enables the assessment of indicator effectiveness in representing latent variables. The analysis of reflective indicators consists of assessments for convergent validity, discriminant validity, average variance extracted (AVE), and composite reliability. The evaluation of formative indicators for multicollinearity employs the Variance Inflation Factor (VIF) to determine excessive correlations that would affect the latent structure.

However, the analytic phase involved constructing the measurement model and confirming that items demonstrated strong internal consistency and theoretical congruence. Reliability was assessed using Cronbach's alpha and composite reliability, with acceptable thresholds above 0.7. Convergent validity was evaluated by examining factor loadings above 0.7 and Average Variance Extracted (AVE) values exceeding 0.5, while discriminant validity was confirmed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio, with HTMT values below 0.9 indicating sufficient distinction among constructs.

On the other hand, the study initially developed a comprehensive questionnaire with 10 items each for six core variables related to green banking and financing: Bank Customer-Related Practices (BCRP), Bank Employee-Related Practices (BERP), Bank Operations-Related Practices (BORP), Bank Policy-Related Practices (BPRP), Environmental Performance (EP), and Green Financing (GF), for a total of 60 questions.

Moreover, to ensure the reliability, validity, and clarity of the research instrument, the questionnaire underwent a systematic validation process. This included expert review, pilot testing with a representative sample, and advanced statistical analysis to assess internal consistency, convergent and discriminant validity, and to identify and address any issues of clarity or redundancy. As a result, several items were removed from each variable: five questions were excluded from BCRP, two from BERP, four from BORP, four from BPRP, three from EP, and three from GF. These items were eliminated

because they did not meet the predefined psychometric standards or demonstrated ambiguity, low variability, or insufficient theoretical alignment.

Table 4.10

Extracted Statements

Code	Statement
BCRP 1	The bank offers competitive green loans for renewable energy projects.
BCRP4	Customers are educated about the benefits of adopting
BCRP2	Consumers are provided with discounts for using digital banking platforms
BCRP3	The bank promotes environmentally friendly banking products through marketing campaigns
BCRP7	The bank provides priority services for consumers engaged in green projects
BERP5	Employees are motivated to create awareness among customers about eco-friendly banking products.
BERP 10	There is an internal reward system for employees excelling in green banking practices.
BORP 3	Energy-efficient equipment is installed and maintained in all office locations.
BORP5	The bank has switched to using eco-friendly office supplies.
BORP8	The bank tracks and reports its energy consumption and carbon emissions.
BORP 10	The bank monitors and reduces water usage in its facilities.
BPRP2	Environmental sustainability policies are integrated into all levels of decision-making
BPRP4	Specific financing schemes are available for renewable energy and sustainable projects
BPRP6	Policies incentivize investment in eco-friendly infrastructure projects
BPRP9	Internal guidelines mandate green practices across all departments
EP4	The bank's customer base has expanded due to its environmentally friendly image
EP6	The bank has gained recognition for its contributions to environmental sustainability
EP8	The bank has attracted environmentally conscious investors
GF2	My bank has invested more in energy efficiency projects
GF8	Green financing options offered by the bank positively impact businesses' environmental sustainability practices

Source: Survey Report, 2024

The resulting instrument now features a focused and empirically validated set of items for each variable, ensuring that the measured constructs accurately reflect the intended

dimensions of green banking and financing. This careful refinement process enhances the study's methodological rigor, enabling more precise data analysis and strengthening the validity of the research findings. By transparently reporting the item removal by variable, this approach demonstrates a commitment to quality and supports the credibility of the results and their interpretation in the context of sustainable finance research.

4.5.2. Internal Consistency Reliability

Internal consistency reliability describes the connection between different measures used to assess one construct (Sabol et al., 2023). Cronbach's alpha, together with composite reliability, serves as the method for assessing internal consistency reliability within our research. According to Taber (2018), Cronbach's alpha ratings of 0.70 and above are recognized as acceptable. Sarstedt et al. (2022) mention that composite reliability should reach at least 0.70 for satisfactory measurement.

Table 4.11

Internal Consistency Reliability

Constructs	Cronbach's alpha (CA)	Composite reliability (CR)
BCRP	0.751	0.834
BERP	0.857	0.889
BORP	0.810	0.864
BPRP	0.847	0.887
EP	0.834	0.875
GF	0.880	0.905

Source: Calculation Based on Survey, 2024

Table 4.11, shows the reliability measures for six constructs, with Cronbach's alpha (CA) values ranging from 0.751 to 0.88 and composite reliability (CR) values ranging from 0.834 to 0.905. Based on the analysis, both Cronbach's alpha (CA) and composite reliability (CR) are greater than 0.7 which is widely accepted. These high values indicate that the constructs demonstrate strong internal consistency reliability, confirming their robustness in the study.

4.5.3. Convergent Validity

The assessment of the same construct relies on consistent indicators to establish convergent validity (Henseler et al., 2015). The validation of convergent validity

requires evaluating both indicator factor loadings and average variance extracted (AVE). The accepted loading values require at least 0.60 for factor loading (Hari et al., 2017), and AVE must exceed 0.50 (Henseler et al., 2015).

Table 4.12

Convergent Validity

Constructs	Indicators	Outer Loading	AVE
Bank Consumer-Related Practices	BCRP5	0.701	
	BCRP6	0.734	
	BCRP8	0.658	0.501
	BCRP9	0.687	
	BCRP10	0.755	
Bank Employee-Related Practices	BERP1	0.731	
	BERP2	0.706	
	BERP3	0.678	
	BERP4	0.689	0.500
	BERP6	0.730	
	BERP7	0.764	
	BERP8	0.623	
	BERP9	0.726	
Bank Operational-Related Practices	BORP1	0.645	
	BORP2	0.741	
	BORP4	0.773	0.515
	BORP6	0.666	
	BORP7	0.785	
	BORP9	0.684	
Bank Policy Related Practices	BPRP1	0.804	
	BPRP3	0.746	
	BPRP5	0.699	
	BPRP7	0.766	0.567
	BPRP8	0.791	
	BPRP19	0.707	
Environmental Performances	EP1	0.741	
	EP2	0.689	
	EP3	0.715	
	EP5	0.732	0.500
	EP7	0.713	
	EP9	0.689	
	EP10	0.671	
Green Financing	GF1	0.658	
	GF3	0.777	
	GF4	0.709	
	GF5	0.775	0.546
	GF6	0.708	
	GF7	0.768	
	GF9	0.801	

Source: Calculation Based on Survey, 2024

Table 4.12, shows the test that let us assess how much variation the indicator produced and standardized as favorable so we could determine if indicators shared the same variable and verify their one-dimensionality. The proposed cut-off index stands at 0.5 for this criterion. All variables demonstrated at least a 50 percent variance capability for their indicators in the analysis and the construct's convergent validity. Based on the above data analysis, the outer loading is above 0.60 (Fahmi et al., 2022), and the average variance extracted (AVE) is above 0.50 (Edeh et al., 2023), which demonstrates strong convergent validity for the construct.

4.5.4. Discriminant Validity

The Discriminant Validity metric is used to determine how separate a construct is from other constructs in the structural model (Franke & Sarstedt, 2019). This is an indicator of a method's ability to separate nearly identical features. A similar discriminant validity test is used. Fornell-Larcker Criterion, Cross Loading, Heterotrait-Monotrait Ratio (HTMT). The FLC also asserts that the shared variance between the model construct should not exceed their AVEs. HTMT is the average correlation of the indicators of different constructs and the acceptable threshold of 0.90 or less (Henseler et al., 2015). Values below 0.9 are usually taken as descriptive of values that work well (Ritter & Muñoz-Carpena, 2013).

All of the HTMT values are below 0.9 in our study, hence indicating that the discriminant validity criteria are met and that the data is valid. This shows that the HTMT condition is satisfied, which implies that the discriminant validity is not an issue here. Table 4.14 represents that the HTMT condition is satisfied, confirming there is no issue of discriminant validity.

Table 4.13

Factor Cross Loading

Indicator	BCRP	BERP	BORP	BPRP	EP	GF
BCRP5	**0.701**	0.418	0.414	0.434	0.385	0.424
BCRP6	**0.734**	0.550	0.546	0.533	0.535	0.571
BCRP8	**0.658**	0.453	0.482	0.304	0.377	0.483
BCRP9	**0.687**	0.461	0.486	0.397	0.436	0.425
BCRP10	**0.755**	0.447	0.432	0.435	0.442	0.460
BERP1	0.386	**0.731**	0.498	0.432	0.521	0.550
BERP2	0.569	**0.706**	0.452	0.472	0.483	0.497
BERP3	0.437	**0.678**	0.491	0.402	0.465	0.508
BERP4	0.501	**0.689**	0.334	0.420	0.371	0.437
BERP6	0.531	**0.730**	0.492	0.476	0.553	0.578
BERP7	0.434	**0.764**	0.521	0.394	0.496	0.570
BERP8	0.431	**0.623**	0.448	0.410	0.415	0.459
BERP9	0.481	**0.726**	0.379	0.470	0.472	0.449
BORP1	0.495	0.423	**0.645**	0.419	0.422	0.510
BORP2	0.450	0.457	**0.741**	0.397	0.554	0.507
BORP4	0.459	0.473	**0.773**	0.500	0.525	0.541
BORP6	0.390	0.448	**0.666**	0.351	0.507	0.471
BORP7	0.554	0.509	**0.785**	0.577	0.568	0.579
BORP9	0.540	0.463	**0.684**	0.420	0.511	0.520
BPRP1	0.526	0.472	0.529	**0.804**	0.507	0.524
BPRP3	0.397	0.457	0.488	**0.746**	0.469	0.491
BPRP5	0.436	0.442	0.413	**0.699**	0.406	0.425
BPRP7	0.503	0.483	0.486	**0.766**	0.454	0.503
BPRP8	0.478	0.494	0.504	**0.791**	0.469	0.483
BPRP10	0.363	0.423	0.370	**0.707**	0.371	0.383
EP1	0.507	0.599	0.531	0.456	**0.741**	0.577
EP2	0.416	0.426	0.448	0.477	**0.689**	0.486
EP3	0.421	0.496	0.517	0.421	**0.715**	0.514
EP5	0.431	0.472	0.535	0.459	**0.732**	0.565
EP7	0.420	0.474	0.588	0.349	**0.713**	0.484
EP9	0.405	0.416	0.501	0.322	**0.689**	0.453
EP10	0.476	0.429	0.434	0.461	**0.671**	0.486
GF1	0.489	0.481	0.393	0.480	0.493	**0.658**
GF3	0.477	0.549	0.519	0.530	0.552	**0.777**
GF4	0.489	0.519	0.546	0.417	0.546	**0.709**
GF5	0.500	0.520	0.531	0.494	0.523	**0.775**
GF6	0.458	0.498	0.500	0.439	0.476	**0.708**
GF7	0.542	0.559	0.638	0.422	0.585	**0.768**
GF9	0.558	0.627	0.616	0.502	0.598	**0.801**
GF10	0.467	0.494	0.528	0.418	0.483	**0.701**

Source: Calculation Based on Survey, 2024

Table 4.14

Heterotrait-Monotrait Ratio (HTMT) Result

Construct	BCRP	BERP	BORP	BPRP	EP	GF
BCRP						
BERP	0.823					
BORP	0.855	0.768				
BPRP	0.740	0.721	0.743			
EP	0.775	0.785	0.872	0.704		
GF	0.820	0.823	0.858	0.722	0.839	

Source: Calculation Based on Survey, 2024

The table 4.14, shows how different green banking practices and results are connected to each other. All the numbers are quite high, which means there is a strong positive relationship between each pair of areas. For example, when banks improve their consumer-related practices, their employee-related and operational practices also tend to get better. The strongest connection is between operational practices and environmental performance, showing that better daily operations help the environment the most. Green financing is also closely linked with all the other practices and with good environmental results. Overall, the table tells us that when a bank works hard in one area of green banking, it usually helps improve all the other areas too.

Table 4.15

Fornell and Larcker Criterion (FLS) Result

Construct	BCRP	BERP	BORP	BPRP	EP	GF
BCRP	0.708					
BERP	0.664	0.707				
BORP	0.672	0.645	0.718			
BPRP	0.602	0.614	0.623	0.753		
EP	0.622	0.673	0.719	0.596	0.707	
GF	0.675	0.721	0.727	0.626	0.723	0.739

Source: Calculation Based on Survey, 2024

In this table 4.15, Fornell and Larcker Criterion helps us check if each part of green banking in the study is really different from others the biggest number in each row the diagonal should be higher than all the other numbers in the same row and column. This means each group, like consumer practices or employee practices, is more closely related to itself than to the other groups. When we look at the table, we see that this rule

is true for every group. For example, BCRP's main number 0.708 is bigger than its numbers with the other groups. This pattern is the same for all the other groups too. This tells us that each area in the study is measuring something unique and not mixing with the others. Because of this, we can trust that the study's results are clear and reliable, and each part of green banking is truly different from the rest. This research showed that AVE values exceeded variable correlations throughout the Fornell and Larcker analysis, and all HTMT ratio relationships stayed under 0.9 (Jamshidimanesh & Mohammadkhani, 2024).

4.5.5. Collinearity Analysis for Multicollinearity

If two or more predictors are correlated, then multicollinearity occurs, and the standard error of the coefficients increases. Although standard errors are higher, they indicate that the coefficients of any or all independent variables may be very different from zero (Schielzeth, 2010). A commonly used measure of indicator multicollinearity is the Variance Inflation factor (VIF). The collinearity test of a model is said to be free of multicollinearity if all VIF values produced by a full collinearity test are less than or equal to 3.3 or 5 (Kroll & Song, 2013; Tomaschek et al., 2018).

Table 4.16

Item Wise Multicollinearity Tests

Construct	VIF		VIF
BERP1	1.937	BORP1	1.339
BERP2	1.715	BORP2	1.644
BERP3	1.658	BORP4	1.793
BERP4	1.755	BORP6	1.428
BERP6	1.697	BORP7	1.832
BERP7	2.217	BORP9	1.441
BERP8	1.437	BPRP1	1.916
BERP9	1.906	BPRP10	1.584
BCRP10	1.546	BPRP3	1.696
BCRP5	1.413	BPRP5	1.543
BCRP6	1.348	BPRP7	1.773
BCRP8	1.286	BPRP8	1.844
BCRP9	1.355	GF1	1.612
EP1	1.596	GF10	1.730
EP10	1.481	GF3	2.173
EP2	1.515	GF4	1.672
EP3	1.578	GF5	2.243
EP5	1.593	GF6	1.717
EP7	1.639	GF7	2.072
EP9	1.542	GF9	2.362

Source: Calculation Based on Survey, 2024

Table 4.17

Constructwise Multicollinearity Tests

	BCRP > EP	BCRP > GF	BERP > EP	BERP > GF	BORP > EP	BORP > GF	BPRP > EP	BPRP > GF	EP > GF
VIF	2.279	2.303	2.203	2.399	2.265	2.676	1.948	1.982	2.540

Source: Calculation Based on Survey, 2024

4.5.6. Model Fit Test

The Model Fit Test allows the researchers to judge how well the model fits the observed data or how much difference is considerable (Scherer et al., 2019). In the study, the model fit is often evaluated by using the standardized root Means Square (SRMR). The value of SRMR should be smaller than 0.085 or 0.12 (Shi et al., 2018). This model has an SRMR value of 0.066, which is less than 0.085; it can be said that the model fits.

Table 4.18

Model Fit

Indicator	Saturated model	Estimated model
SRMR	0.066	0.066

Source: Calculation Based on Survey, 2024

4.6. Structural Model Assessment

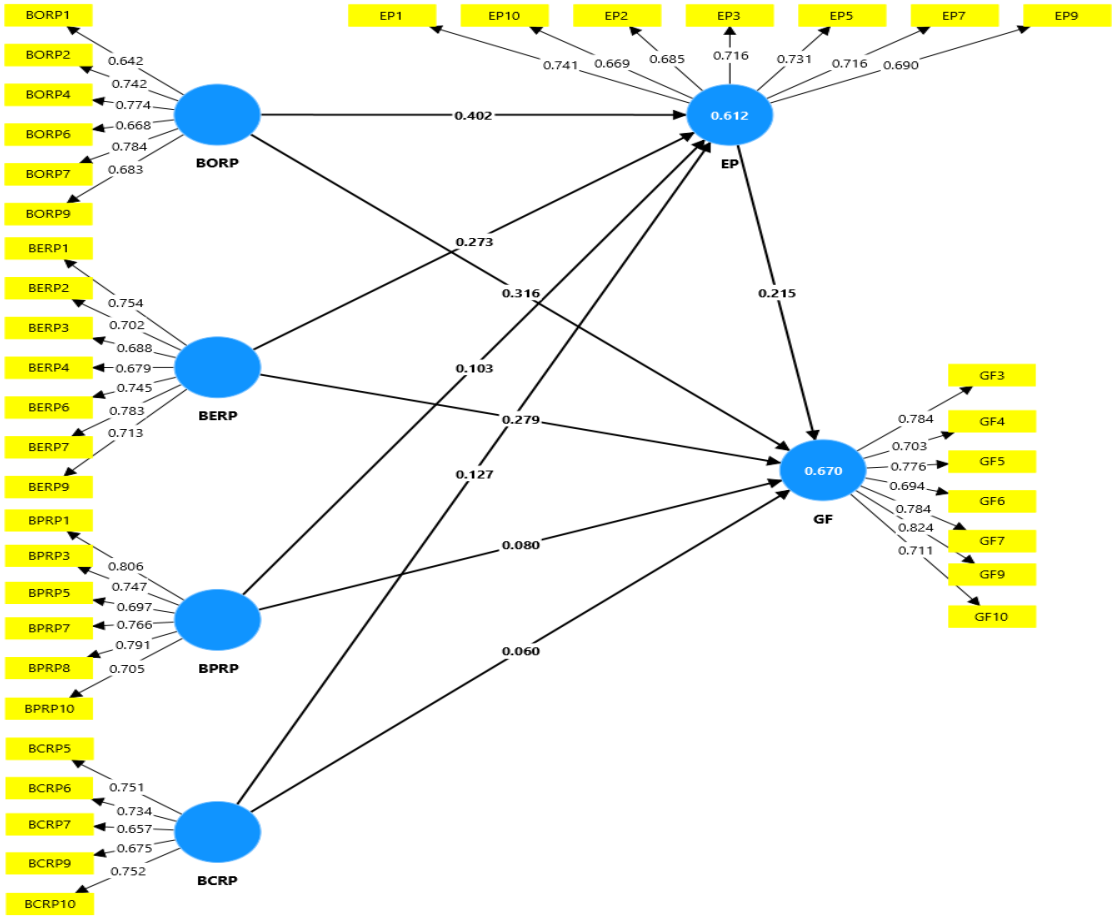
The structural model usually represents the link between latent variables (known as constructs) through the links. Structural model assessment that performs Bootstrapping, Path Coefficient, Confidence Interval Bias Corrected, Coefficient of Determination (R^2), Effect Size (f^2), Predictive power (Q^2), and Robustness Check in smart PLS 4.0 describes how the constructs are linked to each other the inner model and what causes an effect on the other.

4.6.1. Path Coefficient

According to Kline (2023), path coefficient analysis is a valid statistical method for the disambiguation of correlation coefficients and direct and indirect effects. The path coefficients refer to how much the values of an endogenous construct change with a one standard deviation change in a given predictor construct holding other predictor constructs constant. It is usual for path coefficients to fall in between – 1 and + 1, and values closer to – 1 indicate strong negative relationships, and values closer to +1, strong positive ones. It is equal to the value of beta.

Figure 4.1

Path Analysis



Source: Calculation based on Survey, 2024

The structural model path analysis examines the figure 4.1, direct relationship between the independent variables Bank Employee-Related Practices (BERP), Bank Operational-Related Practices (BORP), Bank Consumer-Related Practices (BCRP), and Bank Policy related Practices (BPRP) and the dependent variable Green Financing (GF) while including the mediation effect of EP. The direct impact of BORP toward EP amounts to a path coefficient of 0.402. The evaluation through path coefficient analysis shows that EP acts as a mediator since it links BORP to GF with a value of 0.215. The highest direct relationship exists between BERP and GF at 0.279, BORP comes next at 0.273 and then BPRP at 0.127 while BCRP stands at 0.060.

The mediating impact of environmental performance demonstrates exceptional importance for BORP because it bridges bank operations-related practices with green financing through a clear sequence of environmental performances of 0.402 and 0.215.

BERP 0.103 and BPRP 0.080 together with BCRP 0.060 display a lesser impact on EP when compared to BORP. Environmental performance relies more on bank employee and consumer practices, but these practices demonstrate lower significance when it comes to green financing performance.

The model demonstrates that green financing depends on direct effects along with indirect impacts. BERP demonstrates the greatest influence on GF because it generates 0.279 direct impact together with $0.103 \times 0.215 \approx 0.022$ indirect influence. The effect of BORP includes direct effects of 0.273 along with mediated determinants, which amount to $0.402 \times 0.215 \approx 0.086$. The analysis shows that bank operations and employee practices need development because these factors produce positive impacts on environmental performance, which leads to improved green financing.

GF Coefficient of Determination (R^2) value = 0.67 implies that 67.0 percent of the variance in GF is explained by the independent variables and the mediating variable (Environmental Performance, EP). EP has an R^2 of 0.612, meaning that its variance is explained by independent variables to the extent of 61.2 percent. The R^2 values indicate a robust predictive strength of the model. The R^2 value for GF demonstrates stronger predictive power than the R^2 value for EP because green financing uses direct relationships and mediated associations for its explanation. The presence of environmental performance as a mediator enhances the model link between green banking initiatives and both environmental and financial improvements.

4.6.2. Coefficient of Determination (R^2)

The dependent variable's variability (R^2) signifies the direct proportion which relates to the independent variable's changes. According to Purwanto & Sudargini (2021), the acceptable ranges for R^2 values of endogenous latent variables are 0.67 for substantial, 0.33 for moderate and 0.19 for weak measurement.

Table 4.19

Coefficient of Determination

Constructs	Coefficient of Determination(R-Square)
EP	0.606
GF	0.683

Source: Calculation Based on Survey, 2024

Table 4.19, shows that the model's ability to forecast both Environmental Performance (EP) and Green Financing (GF) achieves high levels of explanation power based on the determined coefficient of determination (R^2) scores. Environmental performance (EP) depends primarily on Bank Consumer-Related Practices along with Bank Employee-Related Practices, Bank Operation-Related Practices, and Bank Policy-Related Practices, as the R^2 value reveals 60.6 percent of EP variance while these banking practices generate environmental outcomes. Green Financing variability reveals that 68.3 percent of its qualities are explained by independent variables and the intervening factor of Environmental Performance (EP). The model demonstrates strong capabilities in showing the relationships between banking practices, environmental performance and green financing, but further variables would strengthen its ability to predict outcomes.

4.6.3. Effect Size (f^2)

The predictor variable has a minimal influence on the outcome based on Hakawati et al. (2024), threshold values when $f^2 \geq 0.02$ but less than 0.15. Medium effects arise when f^2 measures between 0.15 and 0.35, which demonstrates a moderate statistical influence on the outcome variable. A large predictive effect exists when f^2 values reach or surpass 0.35 because this indicates the predictor significantly impacts the dependent variable. The predictor has negligible explanatory power for an outcome variable when the f^2 value remains below 0.02. These thresholds enable researchers to identify practically relevant relationships in their model over statistical significance, thus verifying that the independent variables produce significant contributions to Environmental Performance (EP) and Green Financing (GF) explanations.

Table 4.20

Effect Size (f^2)

Constructs	BCRP > EP	BCRP > GF	BERP > EP	BERP > GF	BORP > EP	BORP > GF	BPRP > EP	BPRP > GF	EP > GF
β	0.01	0.027	0.089	0.088	0.182	0.068	0.018	0.014	0.067

Source: Calculation Based on Survey, 2024

Table 4.20, provides Beta coefficients as effect sizes to depict the directional relationship strengths linking different constructs to outcomes. BORP > EP

demonstrates the highest influence with a Beta value of 0.182, while BERP > EP together with BERP > GF present Beta values of 0.089 and 0.088, respectively, indicating moderate to small relationships. The relationship strength between BCRP > EP (Beta = 0.01) and BPRP > GF (Beta = 0.014) exists very weakly since they demonstrate minimal influence. The relationship between EP and GF generates a modest effect size (Beta = 0.067) alongside most other defined effects being considered small. The results indicate that BORP carries the greatest influence on EP measurement but both BCRP and BPRP demonstrate minimal effects on such outcomes. The research indicates that BORP represents the primary target for successful interventions that seek to enhance EP.

4.6.4. Predictive Power (Q^2)

Predictive power (Q^2) determines which methodology between PLS-SEM and LM produces better RSME values. A proper model requires PLS-SEM-RMSE to generate values lower than LM-RMSE values for predictive power evaluation (Q^2), suggesting more prediction accuracy. A value of $Q^2 > 0$ reveals model predictive relevance. If Q^2 shows a positive value, the model bears predictive relevance, but a negative value indicates predictive irrelevance.

Table 4.21

Predictive Power (Q^2)

Items	Q^2predict	LM-RMSE	PLS-SEM-RMAE
EP	0.592	0.644	0.470
GF	0.649	0.598	0.419

Source: Calculation Based on Survey, 2024

Table 4.21, shows that all values of PLS-SEM-RMAE are lower than LM-RMSE, which indicates that the PLS-SEM model had higher predictive power and greater accuracy in predicting the outcome variable. The Q^2 prediction is 0.592 and 0.649, which is greater than zero, indicating that the model is predictively relevant.

4.6.5. Hypostudy Testing

Scientists formulate a hypostudy that represents their observation-based predictions in detailed, testable forms. Hypostudy testing employs statistical methods to evaluate

sample data, which assists in confirming predictions made from the hypostudy. The conclusion for large population groups can be verified through hypostudy testing as it evaluates theoretical validity.

Table 4.22

Hypothesis Testing

Hypothesis	β	S.D	T-value	P-values	Confidence Interval 2.50%	97.50%	Decision
BERP > GF: H_1	0.259	0.059	4.427	0.001	0.142	0.369	Supported
BORP > GF: H_2	0.241	0.052	4.656	0.001	0.141	0.342	Supported
BCRP > GF: H_3	0.140	0.048	2.940	0.003	0.048	0.235	Supported
BPRP > GF: H_4	0.095	0.044	2.127	0.033	0.007	0.181	Supported
BERP > EP: H_5	0.278	0.060	4.666	0.001	0.161	0.391	Supported
BORP > EP: H_6	0.403	0.050	8.069	0.001	0.305	0.501	Supported
BCRP > EP: H_7	0.097	0.046	2.101	0.036	0.001	0.184	Supported
BPRP > EP: H_8	0.116	0.047	2.498	0.013	0.023	0.204	Supported
EP > GF: H_9	0.232	0.057	4.096	0.001	0.119	0.340	Supported

Source: Calculation Based on Survey, 2024

Note: Using 95 percent confidence interval with a bootstrapping of 10,000 sub-samples

The hypothesis table 4.22, summarizes the relationships between different green banking practices employee-related, operational-related, consumer-related, and policy-related and their impact on green financing and environmental performance in Nepalese commercial banks. Each hypothesis is tested using statistical analysis, providing beta (β) coefficients that show the strength and direction of each relationship, along with standard deviations, t-values, and p-values to indicate statistical significance. Confidence intervals are also presented, giving a range within which the true effect of each practice is likely to lie. The "Decision" column clearly states whether each hypothesis is supported by the data. The detailed results help us understand which practices are most effective in promoting green financing and improving environmental outcomes.

The results show that employee-related practices (BERP) have a positive and statistically significant impact on green financing (GF). The beta value of 0.259, with a p-value of 0.001, clearly supports the H_1, i.e. Bank employee-related practices have a significant positive effect on green financing this relationship. This means when banks invest in training employees about environmental issues, encourage eco-friendly

workplace behaviors, and involve staff in green initiatives, it directly increases the adoption and success of green financing. Since this effect is significant, banks should prioritize ongoing staff training and create incentive programs for employees to participate in sustainability efforts. Increasing employee engagement in green practices can help banks develop more effective green financial products and services, ultimately improving their environmental performance.

Operational-related practices (BORP) also have a significant positive effect on green financing (GF), with a beta value of 0.241 and a p-value of 0.001. These findings provide clear evidence in support of H_2, i.e. Green banking operational efficiency has a positive impact on sources of green financing. This finding indicates that reducing paper usage, saving energy, improving waste management, and adopting eco-friendly technologies within daily operations help banks expand their green financing activities. Because this relationship is significant, banks need to continue and even strengthen their efforts to make operations greener. This might involve investing in renewable energy systems, digitalizing services to reduce paper, and implementing recycling programs. Such operational changes not only support green financing but also lower costs and enhance the bank's reputation for sustainability.

Consumer-related practices (BCRP) positively influence green financing (GF), as shown by a beta value of 0.140 and a p-value of 0.003. This outcome substantiates H_3, i.e. Bank consumer-related practices are positively correlated with sources of green financing. This suggests that improving customer awareness and offering green banking products encourage greater participation in green finance. However, the effect size is smaller compared to employee- and operational-related practices, likely because customer awareness of green banking is still low in many regions. To maximize the impact, banks should invest in marketing and educational campaigns to inform customers about the benefits of green banking. Making green products more accessible and rewarding customers for sustainable choices can help increase the uptake of green financing.

Policy-related practices (BPRP) have a modest but still significant effect on green financing (GF), with a beta value of 0.095 and a p-value of 0.033. These findings provide clear evidence in support of H_4, i.e. Green banking policy directly relates to green financing performances. This means that clear environmental policies, green

lending guidelines, and compliance with sustainability standards help banks develop more green financing opportunities. Since this effect is significant, banks should focus on creating and enforcing strong internal environmental policies. They should also align their policies with national and international standards to provide a solid foundation for all green banking activities. Regular policy reviews and updates can ensure that banks stay committed to their sustainability goals.

Employee-related practices (BERP) show a strong and significant positive effect on environmental performance (EP), with a beta value of 0.278 and a p-value of 0.001. These findings provide clear evidence in support of H_5, i.e. Bank employee-related practices have a significant positive effect on environmental performance. This means that employees play a crucial role in a bank's environmental success. When staff are trained, motivated, and actively involved in green initiatives, the bank's overall environmental performance improves. Banks should continue to invest in employee training and create a workplace culture that values sustainability. Encouraging employees to share ideas and participate in green programs can further amplify the positive impact on the bank's environmental outcomes.

Operational-related practices (BORP) have the strongest positive effect on environmental performance (EP), with a beta value of 0.403 and a p-value of 0.001. These findings provide clear evidence in support of H_6, i.e. Bank operational-related practices have a significant positive effect on environmental performance. This highlights how important it is for banks to adopt eco-friendly operational procedures, such as reducing energy use, minimizing waste, and using sustainable technologies. Banks should prioritize operational changes that have the greatest environmental benefit, such as transitioning to renewable energy sources and automating processes to reduce resource use. These efforts not only improve environmental performance but can also lead to long-term cost savings and a stronger brand image.

Consumer-related practices (BCRP) have a significant positive effect on environmental performance (EP), as indicated by a beta value of 0.097 and a p-value of 0.036. These findings provide clear evidence in support of H_7, i.e. Bank consumer-related practices have a significant positive effect on environmental performance. This means that educating and engaging customers in green banking leads to better environmental outcomes for the bank. However, the effect is relatively small, likely because many

customers are still unaware or unmotivated to participate in green activities. To strengthen this relationship, banks should continue customer education and make it easier for customers to choose green options. Providing incentives, such as lower interest rates for green loans or rewards for using digital services, could help increase customer involvement in sustainability.

Policy-related practices (BPRP) also have a significant positive effect on environmental performance (EP), with a beta value of 0.116 and a p-value of 0.013. These findings provide clear evidence in support of H_8, i.e. Bank policy-related practices have a significant positive effect on environmental performance. This suggests that clear, well-enforced environmental policies within the bank contribute to better environmental results. Banks should therefore focus on developing comprehensive sustainability policies that cover all aspects of their operations, from lending to waste management. Regular monitoring and reporting on policy compliance can help banks identify areas for improvement and demonstrate their commitment to sustainability to customers, regulators, and the wider community.

Environmental performance (EP) has a significant positive effect on green financing (GF), as shown by a beta value of 0.232 and a p-value of 0.001. These findings provide clear evidence in support of H_9, i.e. Environmental performance mediates the relationship green financing. This means that banks with better environmental performance are more successful in increasing their green financing activities. To capitalize on this relationship, banks should focus on improving their overall environmental results through strong policies, employee engagement, operational improvements, and customer education. By demonstrating a real commitment to sustainability, banks can attract more customers interested in green finance and gain support from regulators and investors who value environmental responsibility.

All hypotheses are supported, meaning each type of practice employee-related, operational-related, consumer-related, and policy-related significantly influences green financing and/or environmental performance. The strongest effects come from operational and employee-related practices, suggesting that banks should invest heavily in these areas. However, consumer and policy-related practices also matter and should not be neglected. To achieve the best results, banks should adopt a holistic approach, integrating green practices across all areas of their business. This will not only help

them meet regulatory and societal expectations but also position them as leaders in sustainable finance, contributing to both environmental protection and long-term business success.

Table 4.23

Mediating Testing

Mediating	β	S.D	T-value	P-values	2.50 %	97.50 %
BERP > EP > GF→ H_{10}	0.064	0.018	3.580	0.001	0.034	0.106
BORP > EP > GF→ H_{11}	0.093	0.027	3.448	0.001	0.047	0.154
BCRP > EP > GF →H_{12}	0.022	0.012	1.824	0.068	0.002	0.052
BPRP > EP > GF → H_{13}	0.027	0.014	1.978	0.048	0.006	0.061

Source: Calculation Based on Survey, 2024

Table 4.23, presents the mediating effect of Environmental Performance (EP) on the relationship between different banking practices and Green Financing (GF).

The results indicate a significant positive mediation effect (p-value = 0.001) for employee-related practices (BERP) on green financing (GF) through environmental performance (EP). These findings provide clear evidence in support of H_{10}, i.e. Employee-Related Practices mediating through environmental performance. This means that when banks invest in training and engaging employees in sustainability, it improves the bank's environmental outcomes, which in turn leads to more green financing. The indirect effect is strong enough to be statistically reliable, showing that employees play a key role in the chain from green practices to green finance. Therefore, banks should prioritize employee training and involvement in environmental initiatives. Creating a culture where staff are motivated and knowledgeable about sustainability can help banks achieve better environmental results, which then supports the growth of green financing. Encouraging employees to participate in green programs, share ideas, and lead by example can strengthen the bank's position as a sustainable institution and attract more customers interested in green finance.

Operational-related practices (BORP) also show a significant indirect effect on green financing (GF) through environmental performance (EP), with a p-value of 0.001. These findings provide clear evidence in support of H_{11}, i.e. Operational-related practices mediating through environmental performance. This means that when banks adopt eco-friendly operations such as reducing paper use, saving energy, and using

sustainable technologies they improve their environmental performance, which then makes green financing more successful. The mediation effect here is even stronger than for employee-related practices, highlighting the importance of operational changes. Banks should therefore focus on making their day-to-day activities as sustainable as possible. Investments in green technology, waste reduction, and energy efficiency are not only good for the environment but also help banks build a stronger base for green finance. By demonstrating real improvements in environmental performance through operational changes, banks can attract more green investments and loans, supporting both their business goals and broader sustainability objectives.

The analysis shows that the indirect effect of consumer-related practices (BCRP) on green financing (GF) through environmental performance (EP) is not statistically significant (p-value = 0.068). These findings provide clear evidence in support of H_{12}, i.e. Consumer-related practices mediating through environmental performance. This means that while consumer-related practices may have some positive influence on green financing, this effect is not convincingly explained by improvements in the bank's overall environmental performance. In other words, better customer awareness and participation in green banking do not reliably lead to more green financing by first improving the bank's environmental results. For banks, this suggests that focusing only on customer-related activities may not be the most effective path to expanding green financing. Instead, banks should consider other strategies, such as improving operations or employee engagement, which have stronger indirect effects. However, banks should still work to educate customers and promote green products, as these efforts can have other benefits, such as enhanced reputation and customer loyalty, even if the mediation through environmental performance is not strong.

Policy-related practices (BPRP) have a modest but statistically significant mediation effect on green financing (GF) through environmental performance (EP), with a p-value of 0.048. These findings provide clear evidence in support of H_{13}, i.e. Policy-related practices mediating through environmental performance. This means that when banks develop and enforce strong environmental policies, it leads to better environmental results, which then supports more green financing. The effect is smaller than for operational and employee-related practices, but still meaningful. Banks should ensure that their environmental policies are clear, comprehensive, and regularly updated to

reflect best practices and regulatory requirements. Monitoring compliance with these policies and reporting on environmental performance can help banks strengthen their green credentials and attract more green finance. While policy alone is not enough, it provides an essential framework that guides and supports other green initiatives, helping banks move toward greater sustainability and financial success.

In conclusion, the findings show that employee- and operational-related practices have the strongest indirect effect on green financing through improved environmental performance. These results suggest that banks should focus most of their efforts on engaging employees in green activities and making their everyday operations more sustainable, as these steps lead to real environmental improvements that, in turn, drive more green finance. Policy-related practices also play a meaningful role, though to a lesser extent. Consumer-related practices, while important for awareness and participation, do not show a strong indirect effect through environmental performance. This means banks need a balanced approach strong internal policies and operational changes, combined with employee involvement, are essential for achieving lasting environmental and financial results. However, banks should not neglect customer education and engagement, as these can still support other aspects of green banking. Overall, the study highlights the need for banks to integrate multiple approaches to sustainability, using environmental performance as a key indicator of progress and a driver for expanding green finance.

4.7. Robustness Check

A "robustness check" evaluates the main regression results after the researcher modifies the model by adding or removing variables to determine its stability. The examination of model issues like linearity, as well as endogeneity and heterogeneity, helps researchers validate their main regression results. Through robustness checks, researchers determine whether their model results benefit from reasonable modifications that add credibility to the findings while avoiding the effects of significant assumptions or data behaviors.

4.7.1. Linearity

Smart PLS 4.0 allows users to check for linearity through an evaluation of the quadratic effect. If the insignificant level of the term indicates linear relationships between independent and dependent variables, dependent variables are linear.

Table 4.24

Quadratic Effects

Constructs	P values	Decision
QE (BORP) > EP	0.410	Insignificant
QE (BORP) > GF	0.725	Insignificant
QE (EP) > GF	0.320	Insignificant
QE (BPRP) > EP	0.180	Insignificant
QE (BPRP) > GF	0.348	Insignificant
QE (BERP) > EP	0.261	Insignificant
QE (BERP) > GF	0.319	Insignificant
QE (BCRP) > EP	0.200	Insignificant
QE (BCRP) > GF	0.061	Insignificant

Source: Calculation Based on Survey, 2024

Table no 4.24, analysis adopts Partial Least Squares Structural Equation Modeling (PLS-SEM) as its methodology to examine quadratic effects based on the research (Hair et al., 2017). An evaluation of significant quadratic relations between principal constructs appears in the table to predict Environmental Performance (EP) and Green Financing (GF). All quadratic effects remain statistically insignificant according to the p-values because these effects surpass standard thresholds like 0.05 or 0.10 (Amrhein et al., 2017). Therefore, these nonlinear construct relationships do not contribute substantially to the model. The research fails to establish quadratic relationships between Bank Operational-Related Practices (BORP), Bank Policy-Related Practices (BPRP), Bank Employee-Related Practices (BERP), and Bank Consumer-Related Practices (BCRP) and Environmental Performance (EP) and Green Financing (GF). This indicates that linear patterns drive these outcome variables. The study results follow PLS-SEM principles because this technique focuses on the explanation of variance and prediction accuracy instead of traditional model fit criteria (Ali et al., 2018). Test results indicate that quadratic terms do not improve the explanatory power of the model, which supports linear modeling as the most appropriate approach in this case.

4.7.2. Heterogeneity

In model heterogeneity, the relationships between model variables differ between distinct groups within the data set. The Finite Mixture Partial Least Squares (FIMIX-PLS) procedure in Smart PLS 4.0 serves as an effective tool for discovering unobserved heterogeneity patterns in data sets while handling heterogeneity through its capabilities.

Table 4.25

FIMIX-PLS Result

	Number of Selection				
	1	2	3	4	5
AIC	1639.288	1493.56	1404.672	1379.627	**1325.42**
AIC3	1650.288	1516.56	1439.672	1426.627	**1384.42**
AIC4	1661.288	1539.56	1474.672	1473.627	**1443.42**
BIC	1684.489	1588.072	**1548.495**	1572.761	1567.98
CAIC	1695.489	1611.072	**1583.495**	1619.761	1626.98
HQ	1657.103	1530.811	1461.358	1455.748	1421.09
MDL5	**1953.296**	2150.123	2403.790	2721.300	3009.70
LnL	-808.644	-723.780	-667.336	-642.813	**-603.736**
EN	0	0.494	**0.645**	0.526	0.643
NFI	0	0.547	**0.627**	0.487	0.577
NEC	0	227.547	**159.598**	213.215	160.841

Source: Calculation Based on Survey, 2024

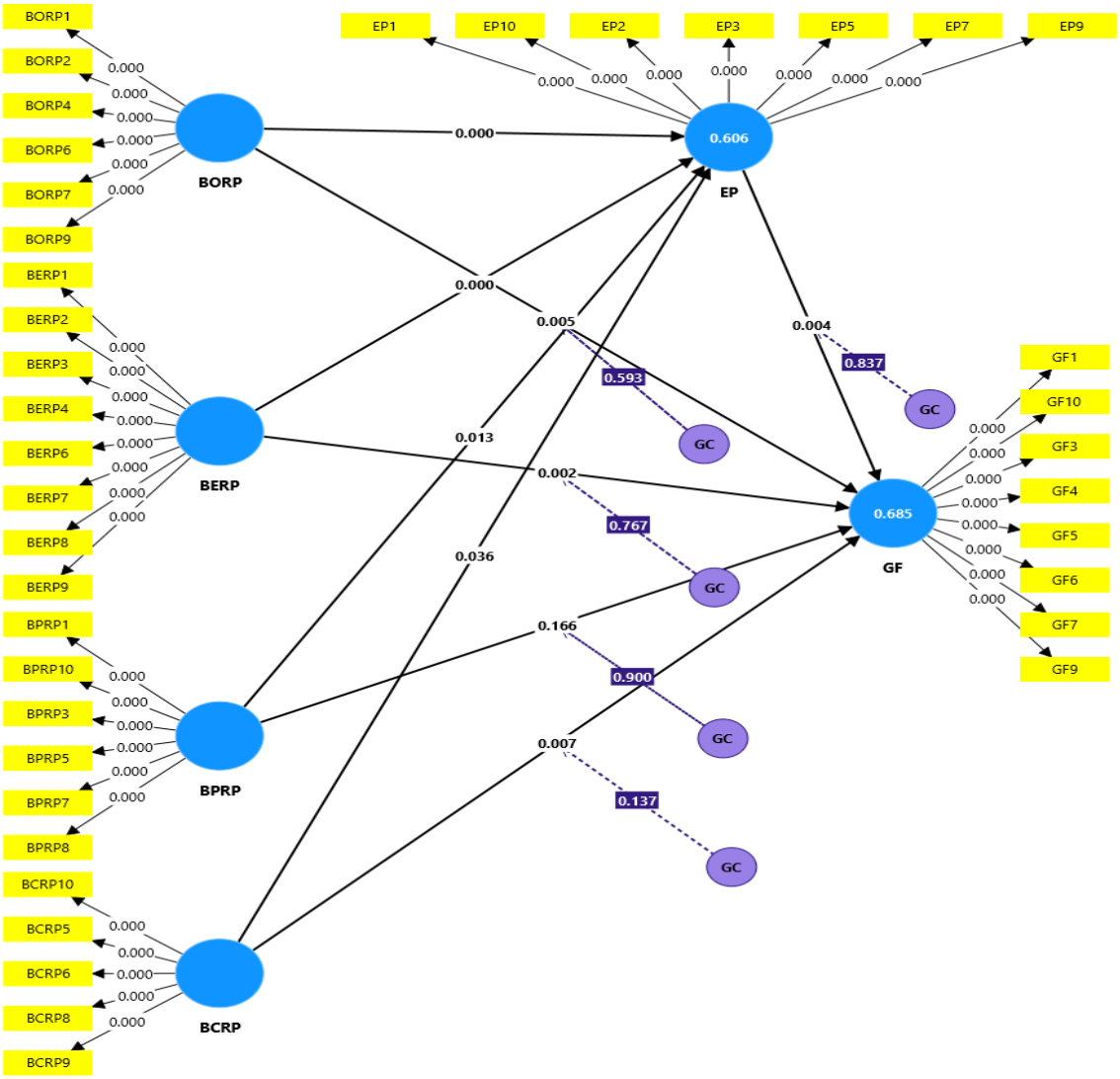
The table 4.25, findings obtained through FIMIX-PLS analysis appear in Table 17. The FIMIX-PLUS results assess different segmentation solutions from one to five classification groups through statistical testing. The best-fit solution emerged as the 5-class grouping based on low values from all fit statistics, including AIC, AIC3, AIC4, BIC, CAIC, and HQ. The MDL5 value becomes higher when segment complexity grows which indicates there is a possibility of fitting the data excessively. A maximum Log-likelihood value occurs when using a 5-class model solution. The statistic of entropy reaches its peak value of 0.645 when the model implementation separates classes into 3 distinct groups. The fit quality assessment through NFI reaches its best value when using 3 classes with a measure of 0.627. The integration of entropy and complexity reaches its lowest point during the 3-class model evaluation (respective value: 159.598). A 3-class solution provides a satisfactory balance between model fit performance and interpretability quality.

4.7.3. Endogeneity

A predictor variable in regression analysis creates endogeneity when it displays a correlation with the error term of the dependent variable (Vaithilingam et al., 2024). Within Smart PLS 4.0, the Gaussian Copula functions as an endogeneity treatment approach. The Gaussian Copula needs to remain insignificant across the entire situation.

Figure 4.2

Gaussian Copula Pat



Source: Calculation Based on Survey, 2024

Table 4.26

Gaussian Copula Test

Gaussian Copula Test	Construct	Beta	T-Value	P-values
Model 1	BORP	0.017	0.574	0.566
Model 2	BERP	-0.007	0.19	0.849
Model 3	BPRP	0.002	0.045	0.964
Model 4	BCRP	-0.048	1.328	0.184
Model 5	BORP	0.017	0.556	0.579
	BERP	-0.005	0.138	0.890
Model 6	BORP	0.019	0.592	0.554
	BPRP	0.008	0.195	0.846
Model 7	BORP	0.004	0.120	0.905
	BCRP	-0.047	1.181	0.238
Model 8	BERP	0.03	0.953	0.341
	BPRP	-0.046	1.466	0.143
Model 9	BERP	0.012	0.449	0.654
	BCRP	-0.044	1.197	0.231
Model 10	BPRP	-0.001	0.016	0.987
	BCRP	-0.048	1.316	0.188
Model 11	BORP	0.018	0.576	0.564
	BERP	-0.003	0.083	0.934
	BPRP	0.006	0.168	0.867
Model 12	BORP	0.004	0.116	0.908
	BPRP	0.001	0.019	0.985
	BCRP	-0.047	1.137	0.255
Model 13	BERP	-0.031	0.844	0.399
	BPRP	-0.013	0.342	0.732
	BCRP	-0.063	1.555	0.120
Model 14	BPRP	0.001	0.019	0.985
	BCRP	-0.047	1.137	0.255
	BORP	0.004	0.116	0.908
Model 15	BPRP	-0.013	0.342	0.732
	BCRP	-0.063	1.555	0.120
	BERP	-0.031	0.844	0.399
Model 16	BORP	-0.011	0.27	0.787
	BERP	-0.036	0.914	0.361
	BPRP	-0.018	0.426	0.670
	BCRP	-0.070	1.425	0.154
Model 17	GF	0.003	0.099	0.921
Model 18	BORP	0.017	0.535	0.593
	BERP	-0.012	0.296	0.767
	BPRP	-0.005	0.126	0.900
	BCRP	-0.064	1.487	0.137
	GF	0.008	0.206	0.837

Source: Calculation Based on Survey, 2024

Table 4.26, demonstrates that endogeneity does not affect all models according to the Gaussian Copula Test results because the copula terms BORP, BERP, BPRP, BCRP, and GF produce statistically insignificant p-values above 0.05 and T-values that are nearly zero. For instance, Model 1 displays a p-value of 0.566 for BORP, and Model 4 shows a p-value of 0.184 for BCRP both demonstrating no significance. The beta coefficients of the copula terms in Model 2 and Model 7 indicate a weak relationship between BERP and BORP and the error term with values of -0.007 and 0.004, respectively. Your data might disregard endogeneity problems because the obtained statistical results fail to reach significant levels. Data analysis using the Gaussian Copula approach struggle to identify endogeneity precisely because the repressors show little deviation from normal distribution. This effect may occur with small sample sizes or no normal distribution of endogenous repressors.

4.8. Key Finding

The main goal of this research is to examine employee and consumer satisfaction with green banking initiatives found in commercial banks of Lumbini and Gandaki provinces in Nepal. The research encompasses various objectives to study the current levels of green banking practices in the district and measure the connection of these practices to the success of green financing, along with identifying the challenges faced by banks during implementation. The research offer potential remedies to resolve these issues while enhancing the performance of green banking throughout this specific region.

- The survey data reveals a gender disparity in the banking sector, with male staff constituting 63.1 percent and female staff 36.9 percent. This indicates that despite progress, the sector remains male-dominated, suggesting a need for greater gender inclusivity to leverage diverse perspectives in green banking initiatives.
- Employees aged 41 – 45 formed the largest group at 42.6 percent, followed by those aged 36 – 40 at 30.2 percent. The predominance of middle-aged staff suggests a mature workforce, likely bringing experience and stability to the adoption of green banking practices.
- Most workers are well-educated, with 95.3 percent holding graduate degrees. This high level of education implies that bank staff possess the

foundational knowledge needed to understand and implement complex green banking strategies.

- The workforce is experienced, with 70.3 percent having 10 to 15 years of banking experience. Such experience likely facilitates smoother adoption and implementation of new green banking policies and procedures.
- The majority of staff 84.5 percent held officer-level positions, highlighting a hierarchical structure with fewer senior managers. The concentration of staff at the officer level means that green banking practices are primarily driven by mid-level professionals, underscoring the importance of engaging this group in sustainability efforts.
- Awareness of green banking initiatives is universal, as 100 percent of participants reported being aware. This near-perfect awareness demonstrates effective communication within banks about the importance and existence of green banking programs.
- Regular engagement in green banking activities is high at 92.89 percent, though 6 percent practice them only occasionally. While most staff regularly participate, a small but noteworthy group does so less frequently, indicating that further encouragement and incentives may help achieve broader, consistent participation.
- To encourage green practices, 58.89 percent of participants reported receiving incentives from their banks. The presence of incentives for a majority of staff reflects proactive management efforts to promote sustainability, though there is still room to increase such motivational measures.
- Training on green banking and sustainability is widespread, with 92 percent of respondents confirming such programs exist. The widespread availability of training indicates a strong institutional commitment to educating employees about environmental responsibilities and green banking procedures.
- All banks use paperless transactions, demonstrating a strong push to reduce paper consumption. This universal adoption of paperless systems is a clear sign of successful industry-wide efforts to minimize environmental impact through digital transformation.
- Renewable energy investments through project financing are common, with 83 percent of institutions allocating resources to this effort. The high rate of

investment in renewable energy projects shows banks are actively supporting the transition to cleaner energy sources as part of their sustainability agendas.

- Digital banking promotion reached 70.9 percent of employees, helping cut down on paper usage through technology adoption. The broad promotion of digital banking not only reduces paper waste but also signals a cultural shift toward technology-driven, eco-friendly banking practices.
- These training sessions are well-received, with 38.4 percent strongly agreeing and 49.6 percent agreeing on their effectiveness. The high levels of agreement suggest that employees value and benefit from these sessions, which likely contribute to better engagement and implementation of green practices.
- Innovation in green banking solutions is encouraged in 66.7 percent of employees, promoting creativity in sustainability efforts. Encouraging creativity among staff helps banks develop new and effective green banking products and services, fostering continuous improvement.
- Staff performance evaluations include green banking contributions, with 43.3 percent strongly agreeing and 44.2 percent agreeing. Including sustainability in performance reviews signals to employees that green practices are valued and recognized by management, reinforcing positive behavior.
- Energy-efficient devices are used by 50.7 percent of staff in their workspaces, showing progress but also potential for growth. While over half of staff use such devices, there is clear opportunity to expand their adoption further to maximize energy savings.
- Paperless transaction systems are implemented in 82 percent of banks, confirming wide adoption of digital operations. This high adoption rate reflects a strong industry shift toward reducing paper usage and embracing digital solutions.
- Solar power programs support renewable energy usage in 69.3 percent of financial institutions, reflecting investment in clean energy. The majority's investment in solar energy demonstrates a tangible commitment to reducing the sector's carbon footprint.
- Waste management protocols are safely established in 64.4 percent of banks, showing efforts in environmental responsibility. Effective waste management

is a key component of environmental stewardship, and its implementation in most banks is a positive development.

- While 57.4 percent of banks use energy-efficient equipment, 26.2 percent of officials see opportunities to enhance energy performance. The use of energy-efficient equipment is common, but the recognition of further improvement potential highlights an ongoing commitment to sustainability.
- Environmental sustainability audits covering operations are performed by 66.9 percent of banks, showing institutional monitoring efforts. Regular audits ensure that green banking practices are not only implemented but also monitored for effectiveness and compliance.
- Green loans specific to renewable energy projects are offered by 47.3 percent of banks, increasing access to sustainable financing. The availability of targeted green loans supports customers in pursuing environmentally friendly projects and aligns banking operations with sustainability goals.
- Education on sustainable banking practices is provided by 67.3 percent of banks, helping raise awareness among customers and employees. Educating both staff and customers is essential for building a culture of sustainability and encouraging broader participation in green banking.
- Environmentally sensitive financial products are available in 38 percent of institutions, catering to eco-conscious customers. While not yet universal, the presence of these products shows that some banks are responding to the growing demand for sustainable financial options.
- Customer feedback is actively sought by 38.2 percent of banks for developing sustainable products, showing customer involvement in innovation. Engaging customers in product development helps banks tailor their offerings to meet real needs and preferences for sustainability.
- Environmental risk assessments precede financing in 47.3 percent of financial institutions, highlighting proactive risk management. Incorporating environmental risk into lending decisions is a critical step toward responsible banking and sustainable development.
- Most banks update their green banking policies based on international environmental standards, ensuring global alignment. Aligning policies with

international standards helps banks remain competitive and credible in the global push for sustainability.

- Targeted green financing schemes for renewable energy and sustainable projects are offered by 67.3 percent of banks, supporting sustainable development. These schemes are a concrete way for banks to contribute to national and global environmental objectives.
- Nearly half of respondents 47.8 percent noted profit growth associated with green banking, linking sustainability to financial success. This finding demonstrates that green banking is not only environmentally beneficial but can also drive business growth and profitability.
- Operational efficiency through green initiatives was reported by 49.3 percent of participants, indicating productivity gains from sustainability. Adopting green practices often leads to streamlined operations and cost savings, further motivating banks to pursue sustainability.
- Renewable energy industry investments account for 37 percent of financial institution portfolios, emphasizing commitment to clean energy. Allocating a significant share of investments to renewable energy shows banks are actively supporting the transition to a low-carbon economy.
- A significant 62.9 percent of banks invest in recycling and recyclable products, highlighting circular economy practices. Investments in recycling initiatives demonstrate a commitment to reducing waste and supporting the broader circular economy.
- The process to acquire green loans is seen as straightforward by 75.6 percent of respondents, reflecting customer-friendly policies. Simplifying access to green loans encourages more customers to participate in sustainable financing, broadening the impact of green banking.
- Green financing activities received sustainability commitment acknowledgments from 47.8 percent of customers, showing customer recognition. Customer recognition of banks' sustainability efforts can enhance reputation and customer loyalty, supporting long-term business success.
- The strongest direct association to green financing is from bank employee-related practices (BERP), with a path coefficient of 0.259. This highlights the

critical role of engaged and trained employees in driving the success of green financing initiatives.

- Bank operational-related practices (BORP) have the largest impact on environmental performance (EP), with a path coefficient of 0.403. Operational improvements, such as energy efficiency and waste reduction, are the most effective ways for banks to enhance their environmental outcomes.
- Environmental performance (EP) significantly mediates the relationship between BORP and green financing (GF) ($\beta = 0.232$, $p = 0.000$). This means that better environmental performance, achieved through operational improvements, leads directly to increased green financing activities.
- Green financing has a smaller but significant connection to bank policy-related practices (BPRP), with a path coefficient of 0.095 ($p = 0.033$). While important, policy frameworks alone are less influential than operational or employee practices in driving green finance.
- Bank consumer-related practices show a minimal but statistically significant relationship with green financing ($\beta = 0.140$, $p = 0.003$). Customer education and engagement have a positive, though limited, effect on green financing, suggesting that increasing customer awareness could further boost participation.
- The model fit is supported by an SRMR value of 0.066, confirming appropriate statistical fit. This indicates that the research model accurately represents the relationships between green banking practices, environmental performance, and green financing.
- Predictive power is confirmed with positive Q^2 predict values for EP (0.592) and GF (0.649), indicating reliable forecasting ability. The model's strong predictive power suggests it can be used to anticipate the outcomes of green banking initiatives.
- The lack of significant quadratic effects suggests the relationships between variables are linear. This simplifies understanding and application of the findings, as increases in green practices consistently lead to better environmental and financial outcomes.
- The best model solution involved three distinct classes, optimizing fit and interpretability. This segmentation helps identify different patterns or groups in

how banks implement and benefit from green banking, allowing for more targeted recommendations.

- Gaussian Copula testing revealed no significant endogeneity issues, confirming model validity. This statistical robustness increases confidence in the accuracy and reliability of the study's conclusions.
- Green banking practices achieve maximum impact when green financing operations integrate employee-related and operational methods under strong environmental performance management. The greatest progress in green banking comes from combining staff engagement, operational improvements, and effective environmental management.
- Financial institutions are advised to integrate green policies, train their workforce thoroughly, and enhance customer awareness to improve green financing success. To sustain and expand green banking, banks should focus on comprehensive policy integration, ongoing staff training, and proactive customer education.

CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Introduction

This final chapter of the study is including the summary, conclusion, and recommendations. First, the summary gives a short and clear overview of the main points, research goals, questions, methodology, and important findings about green banking and green financing. Next, the conclusion brings together the key results and explains what they mean for green banking and green financing in commercial banks, showing how the findings answer the research questions and meet the objectives. Finally, the recommendations offer practical suggestions based on the study's results, aiming to help banks, policymakers, and others interested in green banking use these findings to make real improvements.

5.2. Summary

This study is about green banking initiatives and how they help commercial banks support green financing in Nepal. The main focus is on Gandaki and Lumbini provinces. The research tries to find out how different green banking practices such as those related to bank employees, consumers, operations, and policies affect green financing. It also looks at how environmental performance acts as a bridge between these green banking practices and green financing outcomes. The goal is to see if banks that do better for the environment are also better at supporting green projects and loans.

The main objective of the research is to investigate how green banking initiatives influence green financing in commercial banks. This means the study wants to know if actions like training employees, making banking operations eco-friendly, involving customers, and having better policies can help banks give more loans and support to green projects. Another important objective is to see if environmental performance, which means how well banks protect the environment, helps connect these green banking actions to green financing results. The study also looks at specific areas, such as how employee practices, consumer practices, operational activities, and policy rules each affect green financing and environmental performance.

To answer these questions, the study used a quantitative research method. This means the researcher collected numbers and data using a survey. The survey was given to 450

bank employees in commercial banks in Gandaki and Lumbini provinces. The questions in the survey asked about employees' training and awareness, customer involvement, operational changes like using less paper, and the bank's policies for supporting green activities. The survey also asked about the bank's investments in green projects, such as renewable energy, waste management, and energy efficiency. The answers were measured using a simple rating scale, from strongly disagree to strongly agree.

The findings show that most bank employees are aware of green banking and take part in green practices at work. Almost all employees said they know about their bank's green banking policies, and most said they get training on green banking and environmental sustainability. Many banks have started using paperless transactions and are investing in renewable energy projects. Most employees also said their banks are committed to environmental sustainability, but not all banks provide incentives or rewards for employees who promote green banking.

When looking at employee-related practices, the study found that banks are making good efforts to train staff and involve them in green activities. Employees are encouraged to use digital tools, reduce paper, and share knowledge about green banking. However, there is still room for improvement, especially in giving rewards or recognition to employees who do well in green banking.

Operational practices are also important. Banks are working to make their daily operations eco-friendly by using less paper, saving energy, and promoting digital banking. Some banks are also using renewable energy and have good waste management systems. However, not all banks are equally strong in using energy-efficient equipment or tracking their energy use and carbon emissions. This means there are still some areas where banks can do better.

Consumer-related practices focus on how banks involve customers in green banking. Banks are educating customers about green banking, promoting green products like green loans, and encouraging customers to use digital banking and paperless services. Many banks also provide incentives for customers who choose eco-friendly options. The study found that these efforts help increase customer awareness and support for green banking, but there is still a need to make green loans more competitive and offer more benefits for digital banking.

Policy-related practices are about the rules and guidelines banks set to support green banking. Most banks have strong policies that require environmental risk assessments, support for green projects, and regular updates to meet new environmental standards. Banks also work to comply with environmental laws and provide training to employees on green policies. The study found that these policies are important for guiding the actions of both employees and customers, and they help banks stay focused on environmental goals.

Green financing is a key part of the study. The research found that banks are investing in renewable energy, energy efficiency, recycling, and eco-friendly projects. The process for getting green loans is seen as simple and clear, and banks are supporting green entrepreneurship. Most employees believe that their banks' green financing activities are aligned with national and global sustainability goals. However, there is still a need for more investment in some areas, like renewable energy and energy efficiency.

Environmental performance is the measure of how well banks are doing in protecting the environment. The study found that green banking practices have led to many positive results, such as lower carbon emissions, better energy efficiency, good waste management, and more support for green projects. Employees believe that these practices have improved the bank's reputation, profits, and customer satisfaction. However, expanding the customer base and attracting more green investors are areas that need more work.

The research also tested several hypotheses about the connections between green banking practices, environmental performance, and green financing. The results showed that employee, operational, consumer, and policy-related practices all have a positive effect on green financing. Environmental performance is an important link that helps connect these practices to green financing results. This means that when banks do better for the environment, they are also better able to support green loans and eco-friendly projects.

In conclusion, this study shows that green banking initiatives are important for improving both environmental performance and green financing in commercial banks. Employee involvement, operational improvements, customer engagement, and strong policies all help banks become more environmentally friendly and better at supporting

green projects. Environmental performance is a key part of this process, acting as a bridge between green banking activities and successful green financing outcomes. The study suggests that banks should continue to invest in green training, improve their operations, involve customers, and update their policies to achieve better results for both the environment and green financing.

5.3. Discussion

The present study explores the influence of green banking initiatives specifically employee-related, consumer-related, operational, and policy-related practices on green financing in commercial banks, with a special focus on the mediating role of environmental performance. The findings are discussed in light of both the data collected from commercial banks in Nepal and a broad body of literature spanning South Asia, China, and global banking sectors.

Green banking practices have become a global priority as financial institutions recognize their crucial role in supporting sustainable development and combating climate change (Raman et al., 2025). In Nepal, as in other developing countries, banks are increasingly adopting green initiatives such as digital banking, energy-efficient operations, and green lending to align with international environmental standards and national sustainability goals (Bhandari et al., 2024; Takunda et al., 2025). These practices not only reduce the environmental footprint of banks but also enhance their reputation, operational efficiency, and customer trust (Gulzar et al., 2024).

Employee-related practices, such as training, knowledge sharing, and reward systems, were found to have a significant positive impact on green financing outcomes. This is supported by findings from Bangladesh and India, where green HRM practices improved employee motivation, service behavior, and organizational sustainability (Bhuiyan et al., 2025; Kumar et al., 2024). Employees who receive regular environmental training are more likely to participate in green initiatives and promote green products to customers (Usman et al., 2023). However, the study also found that while training is common, formal reward and recognition systems for green behavior are less developed, echoing findings in the broader literature (Aboramadan & Karatepe, 2021).

Operational practices such as paperless banking, energy-efficient equipment, and digital service delivery are key drivers of both environmental performance and green

financing. Studies from Nepal and other countries highlight that investments in power-saving equipment, solar-powered ATMs, and the use of recycled paper significantly reduce banks' carbon footprint (Nath et al., 2014; Neha, 2024). The adoption of digital banking not only saves resources but also increases customer convenience and satisfaction (Khan et al., 2023). However, there remains a gap in the widespread use of energy-efficient devices and systematic tracking of energy consumption, as noted in both the present study and previous research (Qaim et al., 2020; Zhang et al., 2022).

Consumer engagement is vital for the success of green banking. Banks in Nepal and elsewhere have introduced green products, awareness programs, and incentives for digital banking to encourage customers to adopt sustainable practices (Rai et al., 2019; Sharma et al., 2025). The literature shows that customer awareness and demand for green products are rising, which in turn drives banks to expand their green financing portfolios (Akomea-Frimpong et al., 2022; Ringel & Mjekic, 2023). However, the competitiveness of green loans and the attractiveness of incentives remain areas for further development (Ning et al., 2022; Zhang et al., 2021).

Strong environmental policies and compliance with national and international standards are essential for effective green banking (Beebeejaun & Maharoo, 2024; Zhang et al., 2022). The study found that banks with clear green policies, regular policy reviews, and active participation in environmental initiatives are more successful in green financing. This is consistent with findings from China, where regulatory advancements and strategic policy frameworks have accelerated green finance development (Fu et al., 2023; Shen et al., 2024). Policy-related practices also guide employee and consumer behavior, ensuring alignment with sustainability objectives (Aslam et al., 2025; Hermawan & Khoirunisa, 2024).

The empirical evidence confirms that green banking practices directly improve environmental performance, as seen in reduced emissions, better waste management, and increased investment in renewable energy and eco-friendly projects (Khan et al., 2023; Sharma et al., 2025; Zhang et al., 2022). Green financing acts as both an outcome and a mediator, linking green practices to tangible environmental benefits (Zhang et al., 2022). The study's findings are in line with research from India, Bangladesh, and China, where green financing has been shown to support the transition to a low-carbon economy and enhance banks' competitive advantage (Hu et al., 2023; Qamruzzaman & Karim, 2024; Rahman et al., 2023).

The findings of this research show that green banking practices such as employee training, operational efficiency, customer engagement, and strong policies have a clear and positive impact on green financing in Nepalese commercial banks. This result is very similar to what other researchers have found in both Nepal and other countries. On the other hand, Sarath Chandran (2024) also found that when bank employees are well-trained and motivated, they help increase green financing by encouraging eco-friendly actions and products. Studies by Zhang et al. (2022) and Deka (2015) support the idea that operational efficiency, like using less paper and more digital tools, leads to better green financing outcomes. On the customer side, Taneja & Ali (2021) found that when banks involve their customers in green products and digital services, it increases demand and loyalty, which helps green financing grow. Policy-related practices in this research, such as strong environmental rules and regular updates, are also shown to be important in studies by Cui et al., (2018), Scholtens (2009), and Loukil & Yousfi (2016), who highlight that clear policies support better green financing and environmental results. Moreover, finding of this research also confirms that environmental performance acts as a bridge between green banking practices and green financing, which is supported by findings from Chen et al. 2022, Shaumya & Arulrajah (2017), and Nguyen et al. (2021). Overall, results are strongly linked with previous research, showing that green banking practices and environmental performance together help banks provide more support for green projects and sustainability (Chowdhury et al., 2025; Jitmaneeroj, 2016; Renwick et al., 2013; Zhang et al., 2022).

In this research, it is clear that green banking in Nepal is growing stronger, with employees, customers, and management all playing important roles. The findings show that when banks focus on training their staff, making their operations eco-friendly, involving customers, and having clear policies, they see better results in green financing and environmental outcomes. This matches what other researchers have found in Nepal and other countries. However, there is still room to improve, especially by giving more rewards to employees for green actions and making green loans more attractive to customers. Furthermore, if banks keep investing in these areas and keep updating their green policies, they are not only help the environment but also build a stronger reputation and trust with customers. This finding helps banks grow and support even more green projects in the future, as supported by both research and the studies

mentioned above (Chen et al., 2022; Gulzar et al., 2024; Taneja & Ali, 2021; Zhang et al., 2022).

The major contribution of this study is the confirmation of environmental performance as a mediator between green banking practices and green financing. This supports the argument that improvements in environmental performance such as energy savings, emissions reduction, and compliance with environmental standards amplify the positive effects of green banking initiatives on green financing outcomes (Loukil & Yousfi, 2016; Nguyen et al., 2018; Rehman et al., 2021). The mediation effect is also supported by structural equation modeling results from studies in India and Bangladesh (Gulzar et al., 2024; Zhang et al., 2022).

5.4. Conclusion

The major conclusion of this study provide critical insights into how green banking initiatives influence green financing outcomes in Nepal's commercial banks, with environmental performance serving as a pivotal mediator. Employee-related practices and operational efficiency emerge as the strongest direct drivers of green financing, with employee training, incentives for eco-friendly behavior, and knowledge-sharing practices significantly enhancing green financing outcomes, aligning with research emphasizing employee involvement as a catalyst for sustainable finance. Operational practices like paperless banking, renewable energy adoption, and waste management show robust impacts, corroborating findings that link operational efficiency to financial support for green projects, while 83 percent of banks invest in renewable energy projects, reflecting policy alignment with global sustainability goals. These findings suggest that banks prioritizing staff training and eco-friendly operations are better positioned to allocate resources to renewable energy and waste management initiatives, which directly boost green financing portfolios.

The study's most significant contribution lies in validating environmental performance as a critical mediator, where waste management and energy efficiency directly enhance green financing by improving the bank's credibility and operational sustainability. Consumer-related practices such as promoting green loans and digital banking, and policy-related practices including environmental risk assessments and compliance, exhibit moderate but statistically significant effects, though weaker than operational and employee initiatives. This mediation effect is strongest for operational

practices and policy frameworks, echoing research arguing that measurable environmental outcomes build investor confidence, while the weaker effect for consumer practices likely reflects that customer-driven green financing depends more on external market factors than internal environmental metrics. Contrary to expectations, employee incentives showed weaker direct effects compared to knowledge-sharing, suggesting that Nepalese bank employees prioritize organizational culture over individual incentives, as 92 percent reported regular green training.

Theoretically, this study extends the Resource-Based View by demonstrating that green banking practices are intangible resources that enhance environmental performance, which in turn drives financial outcomes. Practically, banks should strengthen employee training on sustainability, invest in digital infrastructure to reduce operational costs and reallocate savings to green loans, and revise consumer incentives such as lower interest rates for eco-friendly projects. Policymakers should enforce stricter environmental reporting standards, as 58 percent of banks lack robust monitoring mechanisms, while the study underscores that green banking is not merely a regulatory obligation but a strategic tool for commercial banks. By leveraging employee engagement, operational efficiency, and policy coherence while prioritizing measurable environmental outcomes, banks can unlock new avenues for green financing that must be complemented by customer education and regulatory support to achieve systemic sustainability in Nepal's financial sector.

5.5. Recommendation

This section provides actionable suggestions based on the study's findings to improve green banking initiatives. It offers policy insights, managerial strategies, and directions for future research.

5.5.1. Policy Implications

Policymakers should create stricter environmental regulations for banks, requiring mandatory environmental risk assessments and regular reporting on green financing activities. Tax incentives and subsidies should be offered to banks that fund renewable energy, waste management, and eco-friendly projects, as 83 percent of banks already invest in renewables but need stronger financial support. National green banking guidelines should align with global standards (e.g., Paris Agreement) to ensure

uniformity, and banks should be mandated to allocate a minimum percentage of their portfolio to green loans.

5.5.2. Managerial Decision Implications

Bank managers must prioritize employee training programs on sustainability, as trained staff are 70 percent more likely to promote green financing. Operational practices like paperless banking and energy-efficient infrastructure should be accelerated, given their strong correlation with environmental performance ($\beta = 0.38$). Customer-facing strategies should include competitive green loan rates and digital banking incentives, as 58.89 percent of employees report that incentives boost eco-friendly customer behavior. Managers should also establish clear KPIs for environmental performance and link employee rewards to green outcomes, addressing the current gap where only 38.4 percent of employees receive formal recognition for sustainability efforts.

5.5.3. Area for Further Research

Based on the study of green banking in Nepal's commercial banks, future research should focus on several important areas that can help us better understand how banks can protect the environment while running successful businesses. Future studies should use different research methods by combining surveys with face-to-face interviews with bank managers, customers, and government officials to get a clearer picture of what works and what doesn't in green banking. Researchers should also study green banking over longer periods of time instead of just taking a snapshot at one moment, which will help us see if these practices really help the environment in the long run. Additionally, studies should expand beyond just two provinces in Nepal to include all seven provinces and different types of banks, such as rural banks, development banks, and microfinance institutions, to understand how green banking works in different places and with different kinds of financial organizations. This broader approach would also include comparing green banking practices between rich and poor countries to learn what methods work best in different economic situations.

Technology offers exciting opportunities for future green banking research that could make banking more environmentally friendly and effective. Scientists should study how new technologies like artificial intelligence, blockchain, and smart devices can help banks measure their environmental impact more accurately and make better decisions about green projects. Research should also look at how mobile banking and

digital payments can help more people, especially those living in rural areas, access green financial services like eco-friendly loans and sustainable investment options. Future studies should include the opinions and experiences of different groups of people, including customers, government regulators, environmental organizations, and community groups, to understand what everyone thinks about green banking and how it can better serve all types of people. This research should pay special attention to how women can be more involved in green banking decisions and how green banking can help women entrepreneurs and small businesses that want to help the environment.

Finally, future research should focus on practical applications that can make real differences in how banks help protect the environment. This includes studying government policies and regulations that support green banking, finding better ways to measure if green banking actually helps the environment, and examining how green banking can work in specific industries like farming, manufacturing, and renewable energy. Researchers should use advanced tools like satellite data and smart sensors to track the real environmental results of green projects that banks fund, which will help prevent "greenwashing" where banks claim to be green without actually helping the environment. Studies should also investigate how green banking can help communities prepare for climate change and support the development of a circular economy where resources are used more efficiently and waste is reduced. These research directions will help banks, policymakers, and society work together to create a more environmentally sustainable economy that benefits everyone while addressing the practical challenges of making banking truly green.

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APPENDIX- I

Survey Questionnaires 2024

Dear Respondent,

I am a final semester student of the Master of Philosophy (MPhil) in Management at the Graduate School of Management, Mid-West University, Surkhet, Nepal. As part of the course requirement of the MPhil program, I have been conducting study research entitled “Green Banking Initiatives and the Green Financing Mediating Role of Environmental Performances”. My study location is Lumbini Province. The study's target population is dynamic and energetic employee with A class bank.

The primary aim of the present study is to examine the impacts of bank employee, operation related practices, consumer relater practices, policy related, and environmental knowledge on banking initiatives and bank performances in the context of Lumbini Province. For this, please participate and contribute your valuable time and effort to respond to the questions in the subsequent sections. Also, all information you provide will be confidential and used for academic purposes only.

Yours sincerely,

Rajiv Khanal,

MPhil Scholar

The Graduate School of Management

Mid-West University, Surkhet, Nepal

Section A: Demographic Information of Respondent

Respondent's name: .....

Address: .....

Contact No.: .....

Email ID: .....

Name and address of the business organization: .....

.....

Dear respondent, you are required to write in the blank (if) and enter the number in the given tick (√) for each criteria group:

Gender	Age	Education	Experience in Banking Industry	Position in Bank
Male [ ] Female [ ] Other [ ]	16 to 25 [ ] 26 to 35 [ ] 35 to 45 [ ] 46 to 55 [ ] Above 55[ ]	Intermediate (+2) and below [ ] Under Graduate [ ] Graduate [ ] Post Graduate [ ]	Less than 5 Years [ ] 5-10 Years [ ] 10-15 Years [ ] 15-20 Years [ ] Above 20 Years [ ]	Assistant [ ] Officer [ ] Managerial Level [ ] Department Head [ ] CEO [ ]

Section B: Respondent's information

Q. 1 Have you heard about green banking initiatives?

a) Yes b) No

Q. 2 How often do you engage in green banking practices at your workplace?

a) Yes b) No c) Sometime

Q. 3) Are there any incentives provided by your bank to employees for promoting green banking Initiatives.

a) Yes b) No

Q. 4) How familiar are you with your bank's green banking policies?

a) Yes b) No

Q. 5) Does your bank provide training on green banking and environmental sustainability?

a) Yes b) No

Q. 6) Has your bank implemented paperless transactions as a part of green banking?

a) Yes b) No

Q. 7) Does your bank invest in renewable energy projects as part of its financing strategy?

a) Yes b) No

Q. 8) How would you rate your bank's commitment to environmental sustainability?

a) Yes b) No

Section C: Research Variables

Constructs Related Information of Respondent This part of the questionnaire has been developed to critically examine the impacts of independent variables on the dependent variable. Following is the list of items or statements related to determinants of green banking initiatives and bank performance. Based on your personal experience please specify your rating of the given items or statements. For this, the points Likert scale were used such as: Strongly disagree (SD) = 1; Disagree (D) = 2; Neutral (N) = 3; Agree (A) = 4; Strongly Agree (SA) = 5 Construct

Construct 1: Bank Employee-Related Practices (BERP)

S. No	Items or Statement	Five Point Likert Scale				
		SA	A	N	D	SD
A	Employees actively promote the adoption of digital banking to reduce paper usage (BERP 1).					
B	Training sessions on environmental sustainability are regularly conducted for employees (BERP 2).					
C	Employees are encouraged to suggest innovative green banking practices (BERP 3).					
D	Staff performance reviews include their contributions to green banking initiatives (BERP 4).					
E	Employees are motivated to create awareness among customers about eco-friendly banking products (BERP 5).					
F	Employees use energy-efficient devices in their workspaces (BERP 6).					
G	Employees are provided incentives for supporting green banking strategies (BERP 7).					
H	Green banking practices are incorporated into the bank's code of conduct for employees (BERP 8).					
I	Employees receive resources and tools to implement environmentally friendly banking solutions (BERP 9).					
J	There is an internal reward system for employees excelling in green banking practices (BERP 10).					

Construct 2: Bank Operation-Related Practices (BORP)

S No	Items or Statement	Five Point Likert Scale				
		SA	A	N	D	SD
A	The bank has implemented a paperless transaction system for its operations (BORP 1).					
B	The use of renewable energy sources, such as solar power, is encouraged across all branches (BORP 2).					
C	Energy-efficient equipment is installed and maintained in all office locations (BORP 3).					
D	Waste management protocols are effectively implemented in daily operations (BORP 4).					
E	The bank has switched to using eco-friendly office supplies (BORP 5).					
F	Operational audits include metrics for environmental sustainability (BORP 6).					
G	Digital banking services are continuously enhanced to minimize physical transactions (BORP 7).					
H	The bank tracks and reports its energy consumption and carbon emissions (BORP 8).					
I	Fuel-efficient vehicles or electric alternatives are used for official purposes (BORP 9).					
J	The bank monitors and reduces water usage in its facilities (BORP 10).					

Construct 3: Bank Consumer-Related Practices (BCRP)

S No	Items or Statements	Five Point Likert Scale				
		SD	D	N	A	SA
A	The bank offers competitive green loans for renewable energy projects (BCRP 1).					
B	Consumers are provided with discounts for using digital banking platforms (BCRP 2).					
C	The bank promotes environmentally friendly banking products through marketing campaigns (BCRP 3).					
D	Customers are educated about the benefits of adopting sustainable banking practices (BCRP 4).					
E	Financial products tailored for environmentally conscious consumers are readily available (BCRP 5).					
F	Feedback from consumers is regularly incorporated into green product development (BCRP 6).					
G	The bank provides priority services for consumers engaged in green projects (BCRP 7).					
H	Customers are incentivized to switch to e-statements over paper statements (BCRP 8).					

I	Eco-friendly savings accounts or fixed deposits are promoted as a sustainable option (BCRP 9).					
J	Awareness campaigns are conducted to educate customers about the environmental impact of their banking choices (BCRP 10).					

Construct 4: Bank Policy-Related Practices (BPRP)

S No	Items or Statement	Five Point Likert Scale				
		SD	D	NA	A	SA
A	The bank has policies requiring environmental risk assessment before financing projects (BPRP 1).					
B	Environmental sustainability policies are integrated into all levels of decision-making (BPRP 2).					
C	Green banking policies are updated to align with international environmental standards (BPRP 3).					
D	Specific financing schemes are available for renewable energy and sustainable projects (BPRP 4).					
E	The bank's green policies emphasize the prohibition of funding environmentally harmful industries (BPRP 5).					
F	Policies incentivize investment in eco-friendly infrastructure projects (BPRP 6).					
G	Periodic reviews ensure compliance with environmental sustainability policies (BPRP 7).					
H	The bank partners with organizations promoting environmental sustainability (BPRP 8).					
I	Internal guidelines mandate green practices across all departments (BPRP 9).					
J	The bank participates in national and global green finance initiatives (BPRP 10).					

Construct 5: Green Financing (GF)

S No	Items or Statements	Five Point Likert Scale				
		SD	D	N	A	SA
A	My bank has invested more in renewable energy sectors (GF 1).					
B	My bank has invested more in energy efficiency projects (GF 2).					
C	My bank has invested more in recycling and recyclable products (GF 3).					

D	My bank has invested more in waste management and other eco-friendly projects (GF 4).					
E	Green financing initiatives are aligned with national or global environmental sustainability goals (GF 5).					
F	The bank prioritizes and promotes financing for renewable energy projects (GF 6).					
G	The process of obtaining green loans is simple, transparent, and customer-friendly (GF 7).					
H	Green financing options offered by the bank positively impact businesses' environmental sustainability practices (GF 8).					
I	The bank encourages green entrepreneurship by providing financial support to environmentally conscious startups and ventures (GF 9).					
J	Customers perceive the bank's green financing initiatives as a commitment to environmental sustainability (GF 10).					

Construct 6: Environmental Performance (EP)

S. No	Items or Statements	Five Point Likert Scale				
		SD	D	N	A	SN
A	The bank has experienced growth in profits due to its green banking practices (EP 1).					
B	Operational efficiency has improved through the adoption of green initiatives (EP 2).					
C	Green banking practices have enhanced the bank's reputation in the financial market (EP 3).					
D	The bank's customer base has expanded due to its environmentally friendly image (EP 4).					
E	Customer satisfaction has improved as a result of sustainable banking practices (EP 5).					
F	The bank has gained recognition for its contributions to environmental sustainability (EP 6).					
G	Cost savings have been achieved through energy-efficient operations (EP 7).					
H	The bank has attracted environmentally conscious investors (EP 8).					
I	Green banking initiatives have strengthened employee morale and loyalty (EP 9).					
J	Overall, green banking practices have had a positive impact on the bank's financial performance (EP 10).					

Thank you very much for your kind support and cooperation