

Impact of Customer's Perception on Green Banking Development: A Study in the Kathmandu Valley

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Abstract	Article Info.
<p>The concept of green banking emphasizes environmentally sustainable practices in banking, focusing on reducing carbon footprints and paper usage. This study aims to explore how various factors—awareness level, willingness to adopt green banking, determinants, benefits, and challenges of green banking—affect customer perception of green banking practices. A quantitative survey was conducted involving 120 bank customers from Kathmandu Valley to examine these relationships. The statistical analysis showed that customer perception of green banking is significantly influenced by the determinants and challenges associated with green banking. In contrast, awareness level, willingness to adopt green banking, and the perceived benefits of green banking did not have a significant impact on customer perception. These findings highlight the importance of addressing specific determinants and challenges to improve customer acceptance and support for green banking initiatives.</p> <p><i>Keywords:</i> green banking, awareness level, determinants, benefit, challenges, education level, customer perception</p>	<p><i>Corresponding Author</i> Shristy Yadav</p> <p><i>Email</i> shristy2026@kcm.edu.np</p> <p><i>Article History</i> Received: 2025, July 26 First Revised: 2025, Aug 02 Second Revised: 2025, Sept 21 Accepted: 2025, Oct 22</p> <p><i>Cite</i> Yadav, S., Gahatraj, I., Nishant, A., & Shrestha, M. B. (2025). Impact of customer's perception on green banking development: A study in the Kathmandu valley. <i>New Perspective: Journal of Business and Economics</i>, 8(1), 19–32. https://doi.org/10.3126/npjbe.v8i1.85256</p>

Introduction

Green banking represents an innovative paradigm in the banking sector, emphasizing environmentally sustainable practices and corporate social responsibility (Subedi & Bhattarai, 2024). It aims to minimize environmental footprints, especially by reducing paper usage and carbon emissions associated with traditional banking activities. Green banks adopt goal-oriented approaches, leveraging creative financing strategies to accelerate clean energy adoption and combat climate change, thereby fostering sustainable banking practices that are both ethical and environmentally conscious (Mishra & Aithal, 2023).

Customers increasingly expect banks to uphold ethical standards in their operations and

demonstrate ecological responsibility (Shampa & Jobaid, 2017). This evolving perception shapes willingness and attitudes toward green banking, particularly in manufacturing and business sectors where environmental concerns are pressing global challenges (Arumugam & Chirute, 2018). Green banking not only raises awareness among consumers regarding its determinants but also encourages recognition of its benefits as an "eco-socially mindful financial structure" that promotes climate resilience while ensuring risk-averse banking activities (Arumugam & Chirute, 2018).

In Nepal, awareness and adoption of green banking have grown significantly in the past decade, propelled by global interconnectedness and internet-based exposure. Nepali banks have

introduced various green initiatives aimed at environmental sustainability, including reduced paperwork through electronic banking, thereby aiding businesses in understanding their social and environmental responsibilities (Mishra, 2023). The first green bank globally was established in Mt. Dora, Florida, in 2009 (Soundarya & Jayabal, 2016), whereas Nepal's pioneering institution in this domain was Laxmi Bank, introducing eco-friendly products such as Green Savings Accounts alongside mobile money and internet banking services.

Despite the banking sector's crucial role in economic development, traditional practices often exacerbate environmental degradation by financing unsustainable and polluting industries, contributing to a higher carbon footprint (Rai et al., 2019). Similarly, Rajesh and Dileep (2014) highlight banks' significant yet often overlooked direct and indirect environmental impacts. Green banking aims to transform the sector by improving service delivery while reducing environmental risks and fostering positive planetary outcomes.

Green banking strategies in Nepal focus on online services, green loans, sustainable energy use, resource conservation, and paperless operations, contributing to shifts in customer perceptions that favor sustainability and ethical banking. These strategies not only promote environmental protection but also advance economic progress through sustainable development (Mishra & Aithal, 2022; Mishra, 2025a). Customer perceptions in Nepal are increasingly influenced by environmental initiatives, although challenges remain in deepening financial institutions' understanding and implementation of eco-friendly practices within corporate frameworks.

Recent research outlines that green innovation positively affects corporate financial performance in sectors such as automotive manufacturing (Mishra, 2025a), underscoring green banking's financial viability alongside its ecological benefits. Additionally, green financing is emerging as imperative in Nepal's financial transformation

towards sustainability (Mishra & Aithal, 2022). The association of various factors influencing green banking practices emphasizes its multidimensional nature encompassing environmental, social, and governance pillars (Mishra & Aithal, 2023).

Innovative financial instruments like green bonds are gaining traction in Nepal's public-sector budgeting, indicating an evolving landscape for sustainable finance (Celestin & Mishra, 2025). Further integration of digital transformation with green human resource management presents novel frameworks for institutional quality enhancement, suggesting significant opportunities for human-AI collaboration in sustaining green agendas (Gautam et al., 2025). Parallel trends in educational institutions reflect growing adoption of green HRM, which reinforces the cultural shift towards sustainability in organizational workplaces (Tamang & Mishra, 2022).

In summary, green banking in Nepal encapsulates a comprehensive approach that integrates environmental governance with broader green economic objectives, facilitating the country's progress toward sustainable development (Mishra & Prasai, 2025). Continued advancements in financial and accounting transformation are critical for institutionalizing green banking within Nepal's evolving economic infrastructure (Mishra, 2025b). An overview of environmental sustainability orientations in organizational performance affirms the strategic imperative for embedding sustainability at all institutional levels (Mishra et al., 2024).

Collectively, these scholarly contributions elucidate the conceptual and practical underpinnings of green banking, reinforcing its significance as a driver of sustainable finance, ethical banking, and environmental stewardship within Nepal's financial sector and beyond.

Problem Statement

In the present context, green banking is an emerging and developing concept in Nepal. The issue of green finance is relatively new and has received limited attention in Nepal, which is

unfortunate (Mishra, 2023). Green banking enables sustainable development; that is why the practice adopted in the sector for green banking needs to be assessed deeply (Mishra, 2023). In the present scenario, where people are well-informed about the impact of global warming on human life, there is an urgent need for change to ensure survival. Environmental management requires collective efforts from the government, direct polluters, and other stakeholders, including financial institutions like banks (Subedi & Bhattarai, 2024). In the context of Nepal, few research studies have been done on the issues of green banking practices, and they found out that there is a positive relation between green banking practices and banking environmental performance, because the banks environmental performance is accounted by green banking practices, but there is less known about the green banking towards their customers (Mehta & Sharma, 2016; Risal & Joshi, 2018).

The major reasons are increasing general public expectation towards eco-friendly products and services and strict regulatory compliance requirements (Risal & Joshi, 2018). Given the environmental impact of banking activities and their potential to either support or harm sustainability, this study seeks to examine the factors influencing customer perceptions of green banking in Nepal. The study will assess key factors, including Awareness Level, Willingness to adopt Green Banking, Determinants of Green Banking, Benefits of Green Banking, Problems of Green Banking, Environmental Conservation and Education level. This knowledge can assist policymakers, banking institutions, and stakeholders in crafting strategies to promote green banking and drive Nepal's sustainable development goals. The findings are anticipated to guide banks and regulatory bodies in enhancing customer engagement with green banking practices, ultimately fostering a more sustainable banking environment in Nepal.

Objective of the Study

The objective of the study is to analyze the customer perception of green banking practices in

commercial banks. The specific objectives are as follows:

- o To examine the effect of Awareness Level, Willingness to adopt green banking, Determinants of green banking, Benefits of green banking, and Challenges of green banking on Customer perception of Green banking.

Literature Review

Upadhyay (2020) examines the current state of "Green Banking" in Nepal. The study reveals a growing trend in adoption of green banking practices among Nepali banks which is driven by regulatory frameworks and customer expectations for sustainable financial services. Further the study suggested that creating awareness about environmental and social responsibility is very essential to enable business people to do an environmentally friendly business.

Subedi and Bhattarai (2024) investigated the impact of green banking practices on the perceived financial performance of Nepalese commercial banks and the relationship between these two variables. By utilizing theories such as environmental interest theory, stakeholder pressure theory, corporate social responsibility theory, and environmental management system theory the study's findings stated that there is significant impact and a positive relationship between the factors related to green banking and banks' financial performance.

Risal and Joshi (2018) analyzed the impact of green banking practices on the bank's environmental performance in Kathmandu. To fulfill the objective of the study, simple and stepwise multiple regression analysis were performed and the findings stated that the bank policy related practices (green policy), employee related practices (environmental training) and daily operation related practices (energy efficient equipment) significantly impact banks' environmental performance whereas customer related practices (green loan and green policy) showed less impact.

Arumugam and Chirute (2018) analyzed the factors affecting the adoption of green banking by bankers of Malaysia and its relationship with green banking. A sample size of 160 employees, customers and stakeholder from banks in Kuala Lumpur was utilized and the findings revealed that environmental interest, stakeholder pressure, policy guidelines, economic incentives, and loan demand as significant factors that influenced the adoption of green banking practices among commercial banks in Malaysia.

Mishra (2023) focuses on understanding the factors that influence the adoption of green banking practices specifically within the context of commercial banks in Kathmandu. The scope of this study was limited to Kathmandu valley and comprised employees from 20 commercial banks of Kathmandu. The research found that independent variables, including stakeholder's demand, regulatory policies, environmental interest, financial benefits, and brand image, collectively influence the adoption of green banking practices.

Rai et al. (2019) identified a research gap in understanding customer perspective and awareness of the green banking concept. To address this, the research focused on the customer perception towards the green banking concept initiatives by their banks in the context of Kathmandu. They found that customers are increasingly aware of green banking practices and expect banks to adopt sustainable measures but the awareness levels vary across different demographics.

Arunjunai Rani and Sivakanni, (2024). identified key factors shaping customer perception of green banking services offered by selected commercial banks in Assam and West Bengal. In this research a survey was conducted with a sample size of 100 respondents from various regions of Assam and West Bengal. The finding stated that customers had limited awareness about green banking services except online bill payment.

Shampa and Jobaid (2017) identified components impacting customers' expectations towards green banking practices from the

perspective of the banking industry in Bangladesh. The customer database of selected private commercial banks (PCBs) of Bangladesh served as the sampling frame for this research. The identified factors were information availability, spirit of ethics, energy efficiency, product benefits, and integration/personalization that impacted customer expectations towards green banking in Bangladesh.

Ganesan and Bhuvanewari (2016) studied the awareness of green banking among the customers. The results of frequency analysis concluded that customers are not aware of many green banking products and services like recycled debit and credit card, green mortgage, percentage of loans for environmental based companies and individuals, green credit cards, and solar powered ATMs.

Operational Definition of the Variables

Awareness level

Suresh and Pratap (2024) mentioned awareness level as the level of familiarity of customers with green banking terms, awareness of certain green banking practices, appreciation of the environmental impact. Likewise, Ellahi et al. (2021) defined green banking awareness level as a scale which measures how much of an individual is aware of green banking practices initiated by their respective banks. Similarly, this study describes the awareness level as the familiarity of customers with green banking terms, practices, and strategic implementation by banks, customers' understanding of the environmental impact of such initiatives as well as their knowledge of financial products and services offered by banks for green projects.

Willingness to adopt Green Banking

Ko et al. (2012) mentioned willingness to adopt green banking as openness to experiences meaning inclination of banks customers to embrace eco-friendly banking practices, driven by low technology-related anxiety and perceiving higher compatibility between their needs and functionality of green banking. Whereas, Ahmad & Kamran (2023) studied willingness to adopt green banking as a behavioral intention to use

green banking products and services, based on the performance expectancy, effort expectancy, social influence, enabling conditions, environmental values, conditional values, and emotional values of a customer. However, this study defines willingness to adopt green banking as inclination of customers to support and engage with eco-friendly banking practices, in order to reduce environmental impact, balance satisfaction with societal benefits and prioritize sustainability.

Determinants of Green banking

Mishra and Aithal (2023) mentions stakeholder's demand, regulatory policies, environmental interest, financial benefits and brand image as major determinants of green banking in their research. Meanwhile, Bang et al. (2024) describes determinants of green banking as factors influencing green bank development which are quality of human resource, environmental policy, marketing strategy, financial framework, banking technology, risk management, legal framework, and supporting policies. However, this study defines determinants of green banking as influencing factors for green financing which includes bank's operational capacity, financial resources, the presence of formal environmental policies, stakeholder influence and regulatory requirements.

Benefit of Green Banking

Pariag-Maraye et al. (2017) mentioned in their study that green banking benefits include raising awareness about global environmental issues, promoting sustainability through reduced paper use and reliance on electronic transactions, and offering financial advantages like lower interest rates for environmentally responsible projects. Similarly Lee (2009) stated lower transaction fees, higher deposit rates, prize opportunities, extra credit card bonuses, faster transaction, low paper usage, greater transparency, accessibility to relevant and real time information as the perceived benefit of green banking. However, our research defines the benefit of green banking as practices which aligns with the corporate social responsibility of

the bank, enhances customer satisfaction through transparent as well as efficient services, reduces resource waste, and improves profitability by cost effective but eco-friendly operations.

Challenges of Green Banking

Pariag-Maraye et al. (2017) defined the challenges of green banking as operational costs due to the need for skilled staff and specialized expertise, reputational risks from environmentally harmful projects, diversification constraints limiting client base, difficulties during the start-up phase of green banks, and credit risks associated with environmental compliance costs and regulation changes. Likewise, Giridhar and Sudhakar (2017) stated that green banking faces several challenges including functional and credit risk, which requires skilled staff for careful selection of environmentally conscious clients, this creates limitations in the diversification of clients. Start-up banks encounter delays in profit generation, while the bank's reputation is also at risk if green projects fail to meet its goals. At the same time it is difficult for banks to offset profitability with commitment towards the environment. Whereas, Tu and Dung (2017) mentioned challenges of green banking as different factors such as lower short-term cash flow and profitability of green projects, lack of reliable environmental impact data, and high operational costs for staff training and technology. Additional hurdles include long preparation times, limited customer bases, reputation risks, and the absence of formal guidelines and regulatory frameworks, particularly in developing countries. Meanwhile, this study describes the challenges of green banking under various factors, including the lack of awareness about environmentally friendly banking options, security concerns over data and privacy when implementing green banking, traditional banking preference of customers, and complex digital procedure of green products and services. All these factors discourage customers from adopting and utilizing environmentally friendly green banking products and services.

Customer perception of green banking

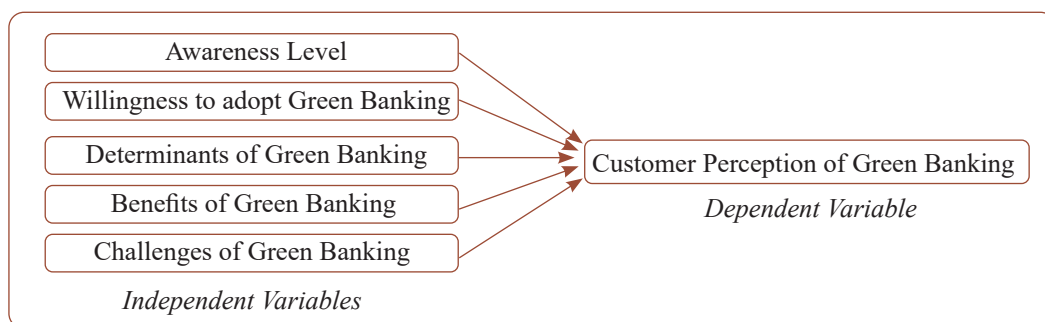
Suresh and Pratap (2024) stated that customers' perception on green banking depends on their perceived value of sustainability and environment, as well as their confidence in adopting green banking products and services. On the other hand, Ko et al. (2012) explained that the perception of customers towards green banking is influenced by their concerns for environmental sustainability and their social circles, including family, friends, and colleagues. However, this study describes the perception of customers as their faith in the social responsibility of banks that promote eco-friendly initiatives, their preference for banks that engage in environmental protection efforts, and their opinion on the added value of green practices adopted by banks.

Conceptual Framework

Based on preceding discussion in literature review, a conceptual framework is developed that illustrates the relationship between the Customers' perception of green banking (CPGB) and Influencing factors: Awareness Level (AL), Willingness to adopt green banking (WAGB), Determinants of green banking (DGB), Benefit of green banking (BGB) and Challenges of green banking (CGB) of this research (Swaen, 2022). The proposed research model consists of five independent variables influencing customers' perceptions of the Green Bank. The framework in fig 1.1 proposes that these influencing factors influence customers' perception of Green Banking.

Figure 1

Conceptual Framework



Research Hypothesis

The following are the research hypotheses that are examined in this paper:

- H1: Awareness level has a significant effect on customer perception of green banking.
- H2: Willingness to adopt green banking has a significant effect on customer perception of green banking.
- H3: Determinants of green banking have a significant effect on customer perception of green banking.
- H4: Benefits of green banking have a significant effect on customer perception of green banking.

- H5: Challenges of green banking have a significant effect on customers' perception of green banking.

Methodology

This paper employs a comprehensive approach to analyze the factors influencing customer perception towards green banking in Kathmandu. This results from the quantitative data synthesized to provide a comprehensive understanding of the factors influencing customer perception towards green banking in Kathmandu. Data was collected primarily through an online survey form of a structured questionnaire.

The target population consisted of people in the Kathmandu Valley who have at least one or

more bank accounts. There were 24 items in the questionnaire under 6 variables so using the thumb rule a ratio of 1:5 was employed. Using statistical methods, a sample size of 120 was analyzed using convenience sampling to ensure accessibility and timely data collection.

The questionnaire was divided into 2 parts, first part covered the demographics of the respondents such as their age group, education level and income level, the second part of the questionnaire included 24 items that assessed 5 independent factors: Awareness level, Willingness to adopt green banking, Determinants of green banking, Benefits of green banking and challenges of green banking and a dependent variable: Customer perception of green banking. Each variable category in the questionnaire had likert scale questions. The external validity of the sample was checked by sorting and screening the data for any inconsistencies in the responses. Cronbach's Alpha test was performed to assess the reliability and internal validity of the survey instrument.

Data analysis was performed using SPSS software. Descriptive statistics summarized the demographic characteristics of the participants. The hypotheses were tested through regression analysis to determine the significance of each independent variable's impact on the dependent variable: Customer perception of green banking. Correlation analyses explored the relationships between the independent variables and customer perception of green banking.

Research Onion

The research methodology for this study was developed using the “research onion” tool proposed by [Saunders et al. \(2023\)](#), which helps in organizing the research project following the layers of the research onion. This tool provides an effective step by step development through which a research methodology can be designed.

Research philosophy: Interpretivism

In the first layer of the research onion, interpretivist research philosophy was adopted. This philosophy helps to understand people's

perspective and the meanings that they attach to their experiences, which are shaped by their interaction, culture, and history ([Creswell, 2009](#)).

Research Approach: Deductive

In the next layer, the choice is between theories driving the research process in all its phases and theories as a product of the research process ([Bryman, 2016](#)). Also, known as deductive and inductive approaches respectively. Since this research starts with pre-defined hypotheses developed from reviewing existing literature and aims to test the hypotheses through data collection, the study uses a deductive approach ([Saunders et al., 2023](#)). This way, the theory is tested or confirmed using real-world information.

Research Strategy: Survey

Moving to the third layer of research onion, here the researchers chose a survey research strategy. Research strategy can be referred to as a general way which helps the researcher to choose main data collection methods or sets of methods in order to answer the research question and meet the research objectives ([Melnikovas, 2018](#)). The choice was made through comprehensive review of existing literature. Using survey strategy aligns with deductive approach, where the aim is to test hypotheses by collecting data.

Methodological choice: Quantitative Method

With regard to the 4th layer of the research onion, the researcher chose a quantitative-method approach. This means the data was collected through a survey using a structured questionnaire through a quantitative method.

Time horizon: Cross-sectional Time Horizon

Moving to the 5th layer of the research onion, the cross-sectional approach is used. This approach is used when the research data is collected at a specific time, to study a specific phenomenon ([Melnikovas, 2018](#)). It is most suitable when the research aims to study an event as it exists at one particular time.

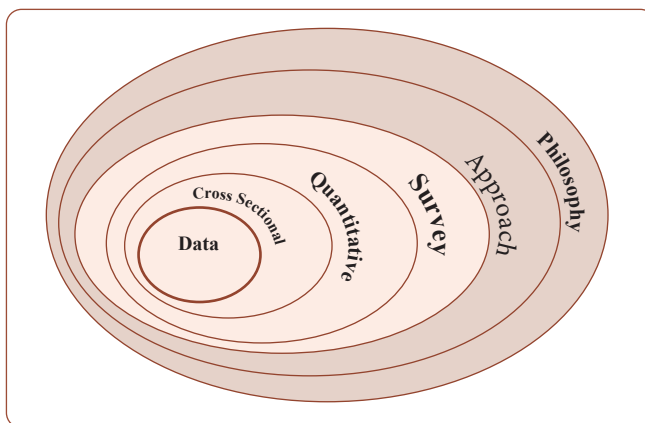
Research techniques and procedures: Data Collection and Analytics

In the final layer, data collection was done through an online survey to gather numerical data

from respondents. For data analysis statistical tools such as linear regression analysis and ANOVA were used to analyze the collected data and interpret the numerical finds.

Figure 2

Research Onion



Research techniques and procedures: Data Collection and Analytics

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Results and Discussion

Customer perception of green banking in Kathmandu was significantly influenced by its determinants and challenges, while awareness, willingness, and perceived benefits had no significant effect, emphasizing the need to address practical factors for better engagement.

Table 1

Cronbach's Alpha Test

Variable	Cronbach's Alpha
Awareness Level	0.658
Willingness to adopt GB	0.814
Determinants of GB	0.785
Benefit of GB	0.772
Challenges of GB	0.66
Customer perception of GB	0.804
All variables	0.916

Note. Field survey

Table 1 presents the result of internal consistency reliability of the variables used in this

study, as measured by Cronbach's Alpha. A range of reliability coefficients are shown in the result.

A strong internal consistency is demonstrated by the Willingness to adopt Green Banking (0.814), Customer perception of Green Banking (0.804), Determinants of Green Banking (0.785), and Benefit of Green Banking (0.772). Whereas, slightly

lower but acceptable levels of internal consistency is demonstrated by Awareness Level (0.658) and Challenges of Green Banking (0.660). And a very high overall consistency (0.916) is shown by the combined reliability of all variables.

Table 2

Descriptive Statistics of Demographic Variables

Age	Frequency	Percent	Cumulative Percent
18-24	72	60	60
25-30	21	17.5	77.5
31-36	18	15	92.5
37 or above	9	7.5	100
Total	120	100	
Education Level	Frequency	Percent	Cumulative Percent
Upto +2	17	14.2	14.2
Bachelors	78	65	79.2
Masters and above	25	20.8	100
Total	120	100	
Occupation	Frequency	Percent	Cumulative Percent
Student	63	52.5	52.5
Self-Employed/ Business	19	15.8	68.3
Professional/ Job holder	36	30	98.3
Housewife/ Husband	2	1.7	100
Total	120	100	
Do you have a bank account?	Frequency	Percent	Cumulative Percent
Yes	120	100	100
Are you aware of your bank's green banking practices?	Frequency	Percent	Cumulative Percent
Yes	73	60.8	60.8
No	47	39.2	100
Total	120	100	

Note. *Field survey*

Table 2 presents the demographic profile of survey respondents. The collected data reveals a prevalingly young and educated sample. Here, 60% of respondents fall within the 18-24 age bracket, as evident from the frequency of 72 out of 120 respondents. This indicates a significant portion of young adults in the sample. Furthermore, 65% of respondents hold a bachelor's degree (78

out of 120), indicating a strong level of educational accomplishment.

Students constitute the largest group in terms of occupation at 52.5% (63 out of 120). This demonstrates banks' prioritizing students for their green banking initiatives. The frequency of 120 out of 120 indicated that all the respondents have a bank account. The extent of financial inclusivity within

the sample suggests a favourable environment for encouraging and implementing green banking practices.

Regarding the awareness level of bank customers concerning green banking practices, 60.8% of respondents (73 out of 120) expressed being aware, however a significant 39.2% of respondents (47 out of 120) expressed being unaware. The majority of respondents being aware indicates some level of effectiveness in banks' communication efforts, the significant portion of unaware respondents also shows a major knowledge gap that has to be filled.

In summary, the demographic profile of respondents is characterized by young, educated

individuals, primarily students, with universal bank account ownership. Even though more people are aware of green banking, the significant portion who are not aware underlines the importance of targeted awareness initiatives. For banks in Kathmandu, the level of awareness among customers presents both opportunities and challenges. Although financial inclusivity with the youth demographic offers a strong base for adoption of green banking, eliminating the gap in awareness among customers is essential for achieving its full potential. Banks can utilize this young and well educated customer segment through customized campaigns in order to raise awareness related to green banking and encourage adoption.

Table 3

Regression Analysis Between Independent and Dependent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F	Sig.	R Square
	B	Std. Error	Beta					
(Constant)	0.799	0.364		2.197	0.03	18.697	.000b	0.451
Avg_AL	0.113	0.083	0.116	1.356	0.178			
Avg_WAGB	0.042	0.094	0.041	0.444	0.658			
Avg_DGB	0.244	0.11	0.233	2.213	0.029			
Avg_BGB	0.164	0.121	0.156	1.353	0.179			
Avg_CGB	0.284	0.098	0.277	2.893	0.005			

Note. Field survey

Table 3 presents the output of a regression analysis, estimating of relationship between customer perception of green banking (CPGB) and five independent variables: Awareness Level (AL), Willingness to Adopt Green Banking (WAGB), Determinants of Green Banking (DGB), Benefits of Green Banking (BGB).

The R-squared value of 0.451 indicates, 45.1% of the variance in customer perception of green banking (CPGB) is explained by the collective influence of Awareness Level (AL), Willingness to Adopt Green Banking (WAGB), Determinants of Green Banking (DGB), Benefits of Green Banking (BGB), and Challenges of Green Banking

(CGB). As shown by the F-statistic of 18.697 and significance level of 0.000 ($p < .005$), the overall model is statistically significant.

However, not all independent variables significantly contributed to the model. Since Awareness Level (0.178), Willingness to Adopt Green Banking (0.658), and Benefits of Green Banking (0.179) all have p-values greater than the significance level of 0.05. Hence, we fail to reject the null hypotheses for these variables, suggesting that these variables do not have a statistically significant influence on Customer Perception of Green Banking. These results do not support our hypothesis H1, H2, and H4.

Contrarily, Determinants of Green Banking ($p = 0.029$) and Challenges of Green Banking ($p = 0.005$) have p-value less than the significance level of 0.05. Therefore, we reject the null hypotheses for these variables, suggesting that these variables have a statistically significant influence on Customer Perception of Green Banking. These results support our hypothesis H3, and H5.

In summary, the regression analysis shows that even if the overall model is significant, only the Determinants of Green Banking (DGB) and the Challenges of Green Banking (CGB) significantly impact customer perception of green banking. Other variables of this study such as Awareness level, willingness to adopt green banking, and benefits of green banking, do not appear to have a significant influence on CPGB.

Conclusion

The objective of this research is to examine the effect of Awareness Level (AL), Willingness to Adopt Green Banking (WAGB), Determinants of Green Banking (DGB), Benefits of Green Banking (BGB), and Challenges of Green Banking (CGB) on customer perception of green banking (CPGB). And the findings of this study both aligns and contradicts with the findings of previous studies.

This research found that Awareness Level (AL), Willingness to Adopt Green Banking (WAGB), and Benefits of Green Banking (BGB) do not have any statistically significant effect on customer perception of green banking (CPGB). This implies that customers who are better aware of green banking practices, terms, and strategies, are more open to support and engage with green initiatives, or understand the advantage of green banking do not necessarily mean they have a more positive perception towards green banking. Yadav, Chauhan et al. (2015), found perceived usefulness to have a significant positive influence on customers' attitude, and Bhattacharya and Sen (2004) stated customers' awareness is essential for fostering a positive attitude towards companies' initiatives, both of the previous research findings contradicts our findings. The disparity can be

explained by association of particular factors related to the banking industry or customer base in the context of Kathmandu.

However, the findings also revealed that Determinants of Green Banking (DGB) and Challenges of Green Banking (CGB) both have statistically significant effects on customer perception of green banking (CPGB). This implies that customer perception of green banking is based on factors of banks' internal workings or policies contributing to green banking and the difficulties faced by banks in implementing green practices. The finding aligns with the previous study Shampa and Jobaid (2017), that identified factors of green banking significantly impacts customer expectation of green banking. This signals that customers are conscious of the operational components and practicalities of green banking as incorporated by banks.

Contradicting with previous research, Dang et al. (2023) studied the impact of Green Environmental Policy (POL), Performance of Green Banking (PER), and Excellence of Green Banking (EXC) on customer perception (CUSPER) and found a positive impact. This research studied the effect of Awareness level (AL), Willingness to adopt green banking (WAGB), Determinants of green banking (DGB), Benefit of green banking (BGB) and Challenges of green banking (CGB) on Customer perception of green banking (CPGB). The difference in research focus could be the reason for this inconsistency between the two studies, with Dang et al. (2023) analyzing broader policy and performance aspects, whereas this research concentrates more on the specific aspects like awareness, willingness, determinants, benefits, and challenges.

This study concludes that although awareness level, willingness to adopt green banking, and benefits of green banking are crucial concepts in green banking discourse, they do not significantly influence customer perception of green banking in the context of Kathmandu. Customer perception of green banking is found to be more directly

influenced by the determinants of green banking and challenges faced by banks in implementing green banking practices. This implies that customers prioritize practicalities of green banking implementation and its operational aspects over the abstract concepts.

Recommendations and Implications

Recommendations based on the findings of this study are proposed. Banks should prioritize building trust and enhancing customer perception by focusing on transparency in the real life application of green practices, while addressing particular challenges. To strengthen customer perception, banks should concentrate on creating measurable outcomes reducing resource wastage and carbon emission from their green initiatives. Given the young demographic of bank customers with evidence of high levels of financial inclusivity, banks should use digital mediums to promote green banking. Banks should also address internal barriers such as policy limitations and technological limitations is essential for the long-term successful implementation of green banking initiatives. The development of a strong green banking foundation is essential for overall Nepal's long term sustainable development.

Future scope

In the future studies, the emerging use of AI in green banking can be further explored. Additionally, the research can further help to enhance the studies on how different demographic factors such as education, age, gender, and income level influences the customers perception of green banking. These areas will help to provide great opportunities for the further understanding of green banking and its contribution in a rapidly developing sustainable financial landscape.

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