DOI: https://doi.org/10.62985/j.huit_ojs.vol26.no3E.465

A STUDY ON THE DEVELOPMENT OF GREEN BANKING AT COMMERCIAL BANKS IN HO CHI MINH CITY

Nguyen Van Tuan

Ho Chi Minh City University of Industry and Trade, Viet Nam

Email: *tuannv@huit.edu.vn*

Received: 2 March 2026; Revised: 15 April 2026; Accepted: 1 May 2026

ABSTRACT

This study examines the factors influencing the development of green banking practices in commercial banks in Ho Chi Minh City. Using a quantitative approach, data were collected from bank employees and analyzed through Exploratory Factor Analysis (EFA) and multiple regression analysis. The analysis demonstrates that six factors significantly affect green banking development, including Prospective benefits, Environmental concern, Stakeholder pressure, Green financial product, Banking policy, and Digital banking technology, while Bank reputation is found to be statistically insignificant. Among these, perceived benefits exert the strongest influence. This research adds to the current body of literature by presenting empirical findings in the context of Vietnam, where green banking adoption remains at an early stage. The findings offer practical implications for policy authorities and banking institutions to enhance the effectiveness of green banking strategies and promote sustainable financial development.

Keywords: Green banking, sustainable banking, commercial Banks, green banking adoption.

1. INTRODUCTION

Environmental sustainability has become a global priority as countries increasingly emphasize environmental protection and long-term sustainable development. Many nations are implementing green transformation strategies in which economic growth is encouraged only when it minimizes harmful impacts on the environment. Within this transition, the financial and banking sector plays a critical role because it serves as a major source of capital for investment projects across different industries. In the context of international economic integration, the Vietnamese Government has introduced various policies and strategic initiatives aimed at balancing economic expansion with environmental preservation. As part of these efforts, on August 7, 2018, the State Bank of Vietnam (SBV) approved the Green Banking Development Scheme for Vietnam, which sets out major goals and solutions for the SBV's management activities as well as the business operations of credit institutions.

The scheme primarily aims to improve the awareness and responsibility of the banking system toward environmental conservation and climate change mitigation, while encouraging the gradual transformation of banking activities toward greener practices in support of sustainable and green economic growth. Green banking has therefore become an increasingly relevant direction for commercial banks as environmental and sustainability pressures intensify [1].

Despite increasing attention to sustainable development, the level of initiative shown by banks, particularly Vietnamese commercial banks, in adopting green banking practices remains relatively limited. Existing evidence from Vietnamese commercial banks indicates

that green financing initiatives face both facilitating conditions and implementation challenges. Consequently, identifying the factors that influence green banking development remains an important research issue [1].

2. THEORY AND LITERATURE REVIEW

2.1. Theoretical review

Green banking has emerged in response to the growing societal concern for environmental sustainability, leading organizations across various sectors to adopt "greening" practices. As key contributors to socio-economic development, commercial banks have increasingly incorporated environmentally responsible activities into their operations, aiming to reduce carbon emissions and support environmental protection.

Green banking can be understood as banking activities that incorporate environmental considerations into internal operations and financing decisions. These activities may include environmentally responsible operations, digitalization, environmental risk assessment, and the provision of financing for green projects [3].

In this study, green banking is defined as a set of banking activities that contribute to sustainable development by reducing the environmental impact of banking operations and supporting environmentally responsible financing. This definition is consistent with the literature linking green banking practices with environmental performance, policy, daily operations, and green investment [3].

2.2. Literature review

In recent years, sustainability initiatives and green finance have received increasing attention in the banking sector. The concept of sustainable development provides an important foundation for understanding the role of finance in supporting long-term environmental and economic objectives [2].

Previous research indicates that environmental and sustainability considerations are increasingly incorporated into banking practices. Recent evidence from Vietnam also shows that green banking and green financing are being shaped by institutional, organizational, and market-related conditions [3].

Previous studies identify several determinants of green banking adoption, including environmental interest, stakeholder pressure, policy guidelines, economic factors, and demand for green lending [5]. Green branding research further suggests that environmental positioning can influence brand perceptions and attitudes [6]. Green bank marketing research also emphasizes the role of green product development and green internal processes in shaping green banking strategies [7].

Within the Vietnamese context, existing research has increasingly focused on green banking development:

Within the Vietnamese context, existing research has examined how commercial banks contribute to green business initiatives and has identified both facilitators and challenges affecting the development of green finance [1].

Overall, previous studies emphasize the role of commercial banks in promoting sustainable finance while also recognizing institutional and implementation challenges. However, empirical evidence on the determinants of green banking development among commercial banks in Ho Chi Minh City remains limited. This gap provides the foundation for the present study [1], [3].

2.3. Theoretical Background

TPB Theory: The Theory of Planned Behavior (TPB) was developed from the Theory of Reasoned Action (TRA). TPB explains behavioral intention through three core determinants: attitude toward the behavior, subjective norm, and perceived behavioral control [7], [8].

TAM model: The Technology Acceptance Model (TAM) was introduced by Davis as a framework for explaining acceptance and use of information technology. The model identifies perceived usefulness and perceived ease of use as key determinants of technology acceptance [9].

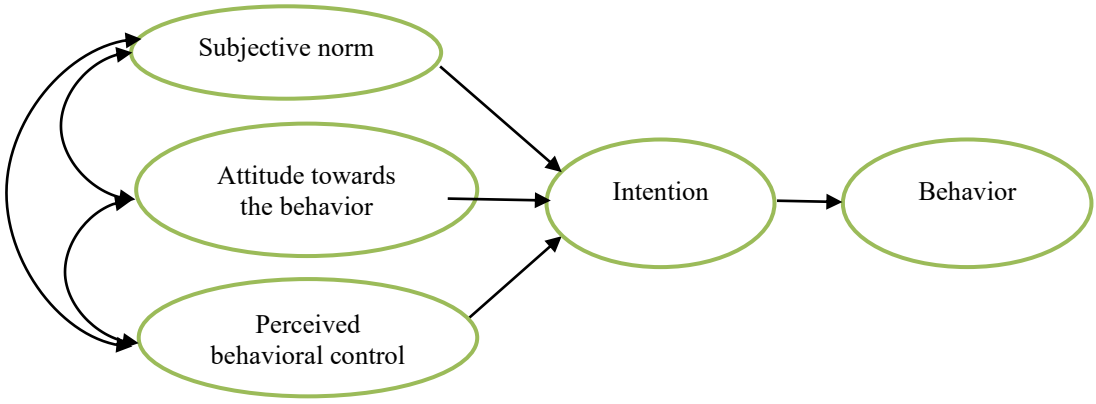

Figure 1. Theory of Planned Behavior (TPB) [8]

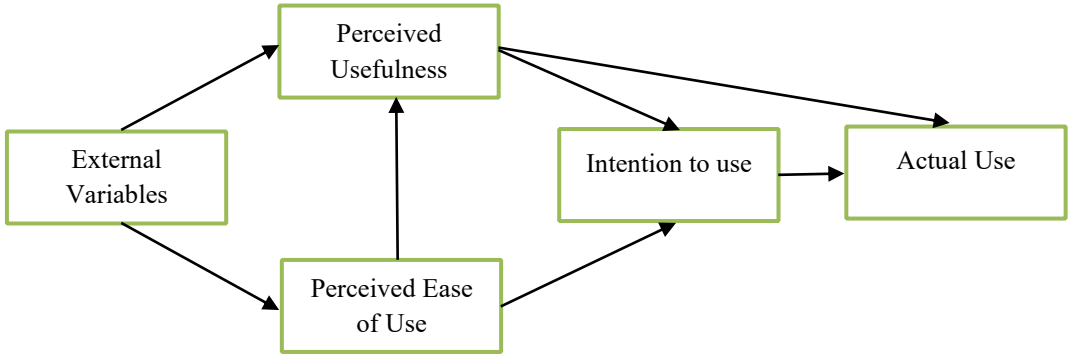

Figure 2. Technology Acceptance Model (TAM) [9]

The study adopts the TPB and TAM theories as the theoretical foundation for the following research contents:

The research is grounded in both the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) as its theoretical foundation. The integration of these two models is considered appropriate, as TAM is widely used to explain user acceptance of technology adoption, while TPB provides a comprehensive framework for understanding behavioral intentions.

This combined approach is justified by the nature of green banking, in which the development of e-banking services represents a key component and is closely associated with technological innovation. Consequently, customers' willingness to adopt green banking practices can be viewed as analogous to their acceptance of new technologies. Therefore, the application of TAM and TPB together allows for a more robust explanation of factors influencing green banking adoption.

3. MATERIALS AND METHODS

3.1. Research data

The study uses data from surveys of officials and employees of commercial banks in Ho Chi Minh City in the period of March 2024.

Samples: Hair et al. recommend considering the number of observations relative to the number of observed variables when conducting multivariate analysis [10]. The initial measurement framework comprises 40 observed variables, with five items specified for each of the eight constructs. Following reliability assessment, 33 observed variables were retained for subsequent analysis. Using the commonly applied five-observations-per-variable guideline, the initial minimum sample size can be calculated as $n = 40 \times 5 = 200$. Accordingly, the study selected 250 respondents, exceeding this minimum requirement and providing an adequate basis for EFA and regression analysis.

Sampling technique: Research data were obtained through a Google Forms survey distributed to commercial banks in Ho Chi Minh City.

3.2. Research methodology

This study adopts a quantitative research approach, with data collected through a survey of employees working at commercial banks in Ho Chi Minh City during March 2024. The analysis process is conducted through several stages.

First, the collected data are screened and pre-processed to ensure accuracy and completeness before formal analysis. Next, the reliability of the measurement scales is assessed using Cronbach's Alpha. Subsequently, Exploratory Factor Analysis (EFA) is applied to identify the underlying factor structure and assess the suitability of the measurement items. Finally, regression analysis is employed to evaluate the extent to which each factor impacts green banking development in commercial banks in Ho Chi Minh City. All statistical analyses are performed using IBM SPSS Statistics 26.0.

4. RESULTS/DISCUSSION

4.1 Results

4.1.1 Research model

To address the research objectives, a conceptual model is developed to examine the relationship between green banking development and seven independent variables (Figure 3).

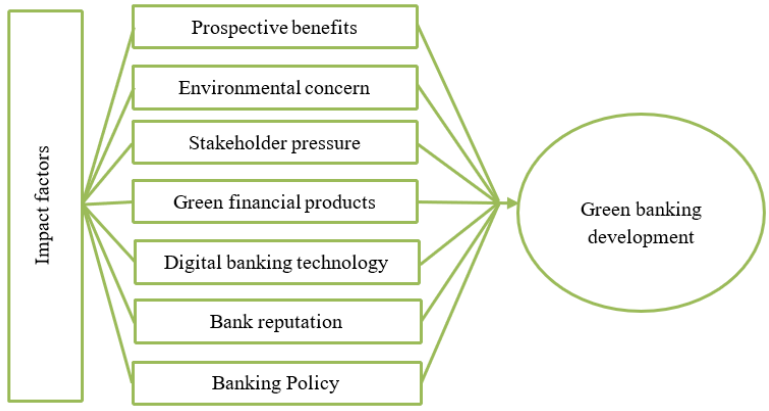

Figure 3. Proposed research model

Source: Authors' own elaboration

4.1.2. Results

The measurement framework comprises seven independent constructs—Prospective benefits, Environmental concern, Stakeholder pressure, Green financial products, Digital banking technology, Bank reputation, and Banking policy—and one dependent construct, Green banking development. The construct selection is grounded in prior green banking, green marketing, digital banking, and sustainable finance literature [5], [6], [12], [13], as well as the policy context for green banking [11], [14].

Table 1. Table describing variables in the model

Construct	Initial item codes	Measurement focus	Research basis
Prospective benefits	PB1-PB5	Environmental and operational benefits expected from green banking	[5]
Environmental concern	EC1-EC5	Environmental priorities, pollution, climate change, and energy efficiency	[11]
Stakeholder pressure	SP1-SP5	Pressure from environmental organizations, international stakeholders, customers, government, and media	[5]
Green financial products	GFP1-GFP5	Financial products and services supporting environmentally friendly activities	[12]
Digital banking technology	DBT1-DBT5	Digital infrastructure, security, information handling, and paperless banking processes	[13]
Bank reputation	BR1-BR5	Brand image, trust, customer-friendly reputation, and related reputation dimensions	[6]
Banking policy	BP1-BP5	Preferential policies, strategic orientation, and support for environmentally friendly sectors	[3], [14]
Green banking development	GBD1-GBD5	Priority, product/service development, and risk-reduction orientation of green banking	[5]
Note	40 initial items	Five items are specified for each construct at the initial measurement stage; Table 2 reports the items retained after reliability testing.	

Scale testing

The internal consistency of the scales was evaluated using Cronbach's Alpha. Variables presenting corrected item-total correlation coefficients of less than 0.3 were excluded to ensure measurement reliability. A threshold of 0.6 was adopted as the minimum acceptable level for Cronbach's Alpha. As reported in Table 2, all constructs satisfy this criterion, confirming the reliability of the measurement scales.

Table 2. Cronbach's Alpha test results for official scales

Independent variables and dependent variables	Number of observed variables	Cronbach's Alpha coefficient	Cronbach's Alpha coefficient if the largest variable is removed	Smallest total variable correlation coefficient
Prospective benefits	4	0.850	0.888	0.527
Environmental concern	5	0.832	0.818	0.569
Stakeholder pressure	5	0.867	0.866	0.583
Green financial products	4	0.730	0.710	0.460
Digital banking technology	4	0.724	0.724	0.426
Bank reputation	4	0.774	0.755	0.520
Banking policy	4	0.751	0.730	0.496
Green banking development	3	0.775	0.764	0.554

4.1.3. EFA Discovery Factor Analysis Results

Exploratory Factor Analysis (EFA) is a statistical technique used to identify underlying factor structures among observed variables and to reduce a larger set of correlated measures into a smaller number of latent factors [10].

Following the reliability assessment, the EFA was conducted on the retained measurement items. Table 2 reports 33 retained observed variables across the eight constructs. For the independent-variable EFA, the available SPSS output reports factor loadings for the items shown in Table 3; the dependent construct, Green Banking Development, is analyzed separately in Table 4.

Exploratory Factor Analysis (EFA) of the scales associated with independent variables:

Table 3. Exploratory factor extraction analysis

Item	Factor						
	1	2	3	4	5	6	7
SP2	0.826						
SP5	0.825						
SP1	0.804						
SP4	0.802						
SP3	0.710						
EC1		0.866					
EC5		0.784					
EC2		0.721					
EC3		0.696					
EC4		0.620					
PB2			0.866				
PB1			0.819				
PB3			0.809				
PB4			0.621				
BP4				0.745			
BP3				0.725			
BP5				0.712			
BP1				0.688			
BR1					0.826		
BR5					0.750		
BR4					0.717		
BR2					0.539		
GFP4						0.776	
GFP5						0.761	

GFP3						0.718	
GFP2						0.665	
DBT4							0.817
DBT3							0.738
DBT2							0.732
Progressive extraction variance (%)	12.505	23.409	33.639	42.832	51.334	59.240	66.555
Eigenvalue coefficient	5.305	4.066	2.920	2.305	1.786	1.540	1.379
KMO: 0.767							
Sig.: 0.000							

Source: SPSS26 analysis results

The findings from the Exploratory Factor Analysis (EFA) demonstrate that the dataset is appropriate for factor extraction. Specifically, the Kaiser–Meyer–Olkin (KMO) value is reported at 0.767, which surpasses the recommended minimum threshold of 0.5, thereby indicating adequate sampling suitability. Moreover, Bartlett's Test of Sphericity yields statistical significance (Sig. = 0.000 < 0.05), confirming that the observed variables possess sufficient intercorrelations to justify the application of factor analysis.

The cumulative variance explained reaches 66.555%, implying that the extracted factors represent a considerable proportion of the total variation within the dataset. In addition, the seventh extracted factor records an eigenvalue of 1.379, which is greater than 1, thereby validating the retention of seven factors in the proposed model. Furthermore, all observed items achieve factor loadings above the threshold of 0.5, indicating strong relationships between the measurement items and their respective constructs.

Factor analysis explores scales of dependent variables

Table 4. EFA factor analysis results for credit accessibility factor scale

ITEM	Load factor	Accreditation	Value
GBD1	0.865	KMO	0.684
GBD2	0.824	Sig.	0.000
GBD3	0.776	Eigenvalues	2.086
		Extraction variance	69.535

Source: SPSS 26.0 analysis results

The analytical results indicate that the Kaiser–Meyer–Olkin (KMO) measure reaches 0.684, exceeding the recommended threshold of 0.5, thereby confirming the appropriateness and reliability of the factor analysis. In addition, Bartlett's Test of Sphericity produces a significance value of 0.000 (< 0.05), demonstrating that the correlations among variables are statistically significant and suitable for factor extraction.

The total variance explained accounts for 69.535%, suggesting that the extracted factor structure is capable of explaining 69.535% of the variation in the original survey dataset, which reflects a relatively high explanatory power. Furthermore, the eigenvalue of the first factor is reported at 2.086, which is greater than 1, indicating that the factor extraction converges at the first factor and confirming that one factor is retained from the observed data.

Moreover, all observed variables exhibit factor loadings above 0.7, implying strong relationships between the measurement items and the factor they represent. Therefore, the findings of the factor analysis for the green bank development capability scale demonstrate a high level of reliability and construct validity.

4.1.4. Pearson's test correlation between variables

Table 5. Pearson's test results correlation between

		SP	EC	PB	BP	BR	GFP	DBT
GBD	Correlation coefficient	0.398**	0.494**	0.548**	0.136*	0.158*	0.226**	0.326**
	Sig.	0.000	0.000	0.000	0.032	0.012	0.000	0.000

Source: Data processing results on SPSS 26.0 software

The results presented in Table 5 indicate that the correlation coefficients between the independent variables and the dependent variable are relatively strong, ranging from 0.136 to 0.548. In addition, all significance values (Sig.) are below the 0.05 threshold, confirming the existence of statistically significant relationships between the dependent and independent variables. These findings suggest that the inclusion of the independent variables in the proposed model is appropriate, as each variable demonstrates a certain degree of influence on the dependent variable. Accordingly, the development of green banking is shown to be significantly affected by the aforementioned factors. Therefore, the subsequent analysis will concentrate on examining the impacts of these determinants.

4.1.5. Results of regression analysis

Table 6. Results of multivariate regression analysis

Model	Unnormalized regression coefficient		Normalized regression coefficient	T	Sig.
	B	*Std. Error*	*Beta*		
Constant	0.072	0.251		0.287	0.796
SP	0.171	0.032	0.264	5.344	0.000
EC	0.205	0.035	0.285	5.857	0.000
PB	0.236	0.037	0.329	6.378	0.000
BP	0.155	0.044	0.181	3.523	0.001
BR	0.019	0.041	0.024	0.463	0.643
DFP	0.132	0.031	0.184	4.258	0.000
DBT	0.096	0.035	0.125	2.743	0.006
R^2 correction = 0.531; F-Test: 0.000					

Source: Data processing results on SPSS 26.0 software

According to the regression analysis presented in Table 6, the F-test produced a significance level below 0.01, thereby confirming the overall suitability and goodness of fit of the proposed research model. The adjusted R^2 value reached 0.531, indicating that the model explains 53.1% of the variation in the dependent variable and thus possesses relatively strong explanatory capability regarding the investigated phenomenon.

With respect to hypothesis testing, the “Bank reputation” (BR) variable was not statistically supported, as its significance value (Sig. = 0.643) exceeded the accepted threshold of 0.05. In contrast, all remaining independent variables were found to be statistically

significant at the 1% level (Sig. < 0.01). These findings suggest that the identified factors exert direct and meaningful influences on credit decision-making and accessibility from an empirical standpoint.

Accordingly, the regression equation derived from the research findings can be expressed as follows:

$$GBD = 0.329\ PB + 0.285\ EC + 0.264\ SP + 0.184\ DFP + 0.181\ BP + 0.125\ DBT$$

4.2. Discussion

Cronbach's Alpha reliability testing was conducted using data processed through SPSS software. The analysis results reveal that all measurement scales achieved Cronbach's Alpha coefficients greater than 0.6, while the corrected item–total correlation coefficients of all observed variables exceeded the threshold of 0.3. These findings indicate that the seven proposed scales satisfy the required standards of reliability and internal consistency. After evaluating reliability through Cronbach's Alpha, the study conducted Exploratory Factor Analysis (EFA).

The EFA was performed using the Principal Component extraction method combined with Varimax rotation. The analytical outcomes demonstrate that the Kaiser–Meyer–Olkin (KMO) coefficient reached 0.767, exceeding the minimum acceptable level of 0.5, while Bartlett's Test of Sphericity was statistically significant with a Sig. value below 5%. Therefore, the dataset was considered appropriate for factor analysis.

The linear regression analysis further indicates that all independent variables possess significance values below 5%, confirming their statistical significance in the model. The adjusted R^2 coefficient was reported at 0.531, implying that the regression model explains 53.1% of the variation in the dependent variable. Specifically, the variable "Green Banking Development" is explained by seven observed factors, including: (1) Prospective benefits, (2) Environmental concern, (3) Stakeholder pressure, (4) Green financial products, (5) Digital banking technology, (6) Bank reputation, and (7) Banking policy, while the remaining variation is attributable to factors outside the proposed model.

In addition, the regression results indicate demonstrating the absence of multicollinearity because all VIF values remain below the cutoff value of 10. The estimated regression equation is presented as follows:

$$GBD = 0.329\ PB + 0.285\ EC + 0.264\ SP + 0.184\ DFP + 0.181\ BP + 0.125\ DBT$$

Based on the standardized regression coefficients, the factor "Prospective benefits" records the highest beta coefficient ($\beta = 0.329$) and demonstrates a positive relationship with "Green Banking Development." This finding suggests that prospective benefits exert the strongest influence on green banking development, contributing approximately 32.9% to the dependent variable.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The findings of the research model reveal six determinants influencing the development of green banking among commercial banks in Ho Chi Minh City, ranked from the strongest to the weakest impact as follows: (1) Prospective benefits, (2) Environmental concern, (3) Stakeholder pressure, (4) Green financial products, (5) Banking policy, and (6) Digital banking technology. In contrast, the variable "Bank reputation" was excluded from the model due to its significance value exceeding the acceptable threshold (Sig. = 0.643 > 0.05).

These findings are consistent with prior studies identifying environmental, stakeholder, economic, policy, and operational factors as important determinants of green banking adoption and development [5], [11].

The study successfully identifies both the determinants and the extent of their influence on green banking development within commercial banks in Ho Chi Minh City. Nevertheless, one limitation of the research is that it only evaluates green banking development from the perspective of banking institutions as service providers. Therefore, future studies should further investigate green banking from the viewpoint of customers as service users in order to obtain a more comprehensive understanding of the concept.

In recent years, Vietnam has become one of the countries most seriously affected by environmental degradation and pollution. Through indirect environmental protection activities such as restricting environmentally harmful investments, promoting financing for eco-friendly projects, and limiting credit provision to polluting industries, green banking can be considered an essential mechanism in combating environmental pollution at both domestic and regional levels, while also contributing to the broader objective of sustainable development.

The research findings indicate that commercial banks are increasingly approaching and implementing green banking practices for a variety of reasons. Many banks have gradually incorporated "green" standards into their operational and business strategies. Financial institutions have recognized that green banking practices not only maintain profitability but also contribute to reducing operational costs and minimizing potential risks. Furthermore, environmentally responsible banking activities enhance the bank's image and strengthen brand value in the perceptions of customers.

Based on the empirical findings, several managerial and policy recommendations are proposed to further promote the development of green banking in Ho Chi Minh City in the coming years, as presented below:

5.2. Recommendations

For the Government: The empirical findings indicate that policy and legal frameworks exert a substantial influence on the development of green banking in Ho Chi Minh City, thereby highlighting the critical role of governmental support in promoting sustainable banking practices. Accordingly, the Government should introduce appropriate incentive mechanisms related to taxes, fees, and financial charges in order to encourage commercial banks to expand the provision of green financial products and services. Simultaneously, supportive policies should also be designed to motivate enterprises to invest in environmentally sustainable projects and business activities.

In addition, governmental agencies should strengthen public awareness regarding the significance and long-term benefits of green banking. Enhancing customers' understanding of environmentally responsible banking practices would contribute to directing consumers toward financial institutions that adopt higher "green" standards and sustainable operational strategies.

For the State Bank of Vietnam: The study demonstrates that economic benefits and policy conditions are among the factors associated with green banking development. Therefore, the State Bank of Vietnam should continue to strengthen the strategic orientation and implementation guidance for green banking and sustainable finance. The Green Banking Development Scheme approved in 2018 provides an important policy foundation for this direction [14].

Furthermore, as the central regulatory authority of the banking system, the SBV should promulgate more detailed regulations, policies, and implementation guidelines to support commercial banks in fulfilling their environmental and social responsibilities. Such measures

are especially important in facilitating the effective implementation of green banking activities and promoting environmentally sustainable financial practices throughout the banking sector.

For Commercial Banks: Commercial banks should regard green banking not merely as a short-term operational adjustment but as a long-term strategic orientation integrated into all business activities. However, the implementation of green financial products and services requires banking personnel to possess adequate competencies in assessing, evaluating, and monitoring the environmental impacts associated with investment projects and lending activities.

Consequently, commercial banks need to prioritize the enhancement of human resource capabilities through specialized training and professional development programs related to environmental risk assessment and sustainable finance. Strengthening staff expertise will provide an essential foundation for the successful implementation of internal green transformation initiatives, environmentally responsible financing activities, and long-term sustainable development strategies.

In addition, banks should devote greater attention to establishing comprehensive environmental risk management frameworks, including the management of risks associated with natural resources such as land and water. The integration of environmental considerations into risk management practices will contribute to improving the sustainability and resilience of banking operations.

Moreover, the role of microfinance institutions should be further promoted in order to support the expansion of green banking practices. These institutions can contribute significantly to increasing financial accessibility for environmentally friendly projects and sustainable business initiatives at the community level.

Finally, enhancing awareness of environmental protection and its relationship with sustainable development is essential for creating a safer and healthier living environment. Financial institutions and related stakeholders should gradually shift investment philosophies toward prioritizing environmentally friendly goods, services, and projects. Such a transition would not only encourage businesses and consumers to adopt greener practices but also generate broader market pressure that fosters the implementation of sustainable and environmentally responsible projects in the future.

REFERENCES

[1] A. H. Nguyen, M. H. T. Do, T. G. Hoang, and L. Q. T. Nguyen, “Green financing for sustainable development: Insights from multiple cases of Vietnamese commercial banks,” *Business Strategy and the Environment*, vol. 32, no. 1, pp. 321–335, 2023, doi: https://doi.org/10.1002/bse.3132

[2] World Commission on Environment and Development, *Our Common Future*. New York, NY, USA: United Nations, 1987.

[3] A. Rehman, I. Ullah, F. E. A. Afridi, Z. Ullah, M. Zeeshan, A. Hussain, and H. U. Rahman, “Adoption of green banking practices and environmental performance in Pakistan: A demonstration of structural equation modelling,” *Environment, Development and Sustainability*, vol. 23, no. 9, pp. 13200–13220, 2021, doi: https://doi.org/10.1007/s10668-020-01206-x

[4] P. K. Duy and T. T. Le, “Green banking, ethical commitment and sustainable development in emerging markets,” *Sustainable Development*, pp. 1–21, 2026, doi: https://doi.org/10.1002/sd.71318.

[5] D. Arumugam and T. Chirute, "Factors determining the adoption of green banking amongst commercial banks in Malaysia," *Electronic Journal of Business and Management*, vol. 3, no. 1, pp. 50–62, 2018, doi: https://doi.org/10.65136/ejbm.v3i1.176.

[6] P. Hartmann, V. Apaolaza-Ibáñez, and F. J. Forcada Sainz, "Green branding effects on attitude: Functional versus emotional positioning strategies," *Marketing Intelligence & Planning*, vol. 23, no. 1, pp. 9–29, 2005, doi: https://doi.org/10.1108/02634500510577447

[7] M. Fishbein and I. Ajzen, *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA, USA: Addison-Wesley, 1975.

[8] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179–211, 1991, doi: https://doi.org/10.1016/0749-5978(91)90020-T

[9] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Quarterly*, vol. 13, no. 3, pp. 319–340, 1989, doi: https://doi.org/10.2307/249008

[10] J. F. Hair, R. E. Anderson, R. L. Tatham, and W. C. Black, *Multivariate Data Analysis*, 5th ed. Upper Saddle River, NJ, USA: Prentice Hall, 1998.

[11] State Bank of Pakistan, "Green Banking Guidelines (GBG)," IH&SMEFD Circular No. 08 of 2017, Oct. 9, 2017. [Online]. Available: official SBP source.

[12] C. Lymperopoulos, I. E. Chaniotakis, and M. Soureli, "A model of green bank marketing," *Journal of Financial Services Marketing*, vol. 17, no. 2, pp. 177–186, 2012, doi: https://doi.org/10.1057/fsm.2012.10

[13] N. P. Le, N. T. H. Ninh, and N. M. Hung, "Factors influencing customers' perception of digital banking service quality in Vietnam," *International Journal of Professional Business Review*, vol. 8, no. 7, e02861, 2023, doi: https://doi.org/10.26668/businessreview/2023.v8i7.2861

[14] State Bank of Vietnam, "Decision No. 1604/QD-NHNN approving the scheme for green banking development in Vietnam," Aug. 7, 2018.