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Determinants Affecting the Green Bank Development in Vietnam

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ABSTRACT

To contribute to the implementation of the national action plan on green growth. Green banks will be an essential resource in implementing the green growth strategy until 2025 because the banking system can contribute to limiting environmental and social risks by not lending to customers with projects that pollute or have adverse impacts on the environment and people's lives. On the other hand, strict control from the bank appraisal stage also encourages businesses to move towards cleaner and safer production and business activities. Therefore, the paper's primary objective is to explore determinants affecting green bank development in Vietnam. The authors surveyed the data by developing a formal survey for the research topic with 950 surveyed officers and employees related to 15 commercial banks and used structural equation modeling (SEM) and SPSS 20.0, Amos software. The paper finds eight factors affecting the green bank development in Vietnam with a significance level of 0.01, and all eight hypotheses are accepted. The article's value determines the banking technology's most substantial impact on green bank development. Finally, the authors had important recommendations for improved banking technology and the goal of green and sustainable growth. Building and developing a green bank in Vietnam is an urgent requirement. Green banking is an essential strategy in the sustainable development orientation of the banking system.

INTRODUCTION

Many countries worldwide have chosen to develop a green economy for long-term sustainable development. Green growth and banking development strategies play an essential role in the Vietnamese economy. Besides, the banking industry plays a vital role in greening investment capital flows; directing financial resources into green fields; restricting capital flows to projects that affect the environment; contributing to promoting borrowers to convert projects and loan purposes into environmentally friendly projects. Green banking policies are essential to realizing the goal of saving energy and reducing harmful emissions, driving the economy towards green growth. Following the global trend of sustainable development, the banking

industry has been participating due to its critical role in economic life (Aboelmaged and Gebba, 2013; Janakiraman and Karthikeyan, 2016). Therefore, the interest in sustainable banking has gradually grown and become a strategic goal that banks aim for greed development.

The banking sector has taken steps to stimulate sustainable development. However, more needs to be done. International organizations must continue to raise awareness of banks and thereby encourage the development of new “green and clean” products. The World Bank must pay attention to the relationship between the environmental impacts of investments and financing decisions on bank performance. At this stage, It is widely understood that sustainable banking means conducting banking activities and activities with conscious consideration of the environmental and social impacts of such activities (Bailey, 2015; Masukujjaman et al., 2015). Therefore, green banking refers to the banking business activities conducted in the areas where the bank finances, the products and services that the bank provides, and the day-to-day operations of the banks. The bank aims to help reduce external and internal carbon emissions. To be able to support external and internal carbon emissions reductions, what should banks do? Management policy and business strategy? This study's objective is to develop initiatives to raise the awareness of employees in the bank. Therefore, the paper's primary value is to study factors affecting green bank development in Vietnam and propose policy recommendations for green bank development in Vietnam.

1. LITERATURE EMPIRICAL REVIEW

1.1 Green Bank Development (PTNHX)

Many countries worldwide have chosen to develop a green economy for long-term sustainable development. The green bank development strategy plays an essential role in the green growth strategy. This article will study the experiences of some countries in developing green banks, as well as the current situation of green banking development in Vietnam, thereby giving some policy suggestions for Vietnam. According to Bennett and Iqbal (2013), green banking can be understood in two aspects: (i) Banks carry out direct activities to minimize environmental impacts, such as saving energy, water, and waste treatment. (ii) The bank indirectly impacts the environment by increasing support for environmentally friendly projects such as factories using gas from waste, factories providing renewable and solar energy, and bio-manufacturing plants (Jha and Bhome, 2013; Masukujjaman et al., 2017; Meena, 2013). Green Bank has the following main characteristics: (i) Deployment of electronic and automation services; (ii) Prioritize lending or investing in projects with an assessment of risks related to the environment; (iii) Pay attention to social goals, sustainable development goals, and green development; (iv) Monitor and guide clients' projects to reduce environmental pollution; (v) Changing the capacity of bank staff and customers to evaluate environmentally friendly activities.

1.2 Quality of human resources (NNL)

People are the central factor for the bank's business activities to be more and more expanded. It is necessary to have a team of bank staff with enthusiasm, a high sense of responsibility, and professional knowledge (Anna, 2018; Aizawa & Yang, 2010). Therefore, human resource solutions play a crucial role in the development of green banking, helping the bank to limit environmental and social risks in business operations (An & Pivo, 2020; Al-Ahmad et al., 2012). Vietnam is also gradually following this trend but still faces many difficulties and needs solutions to promote this capital flow further. Therefore, the first hypothesis that the authors propose for this study is:

Hypothesis H1: Human resource quality positively impacts green banking development in Vietnam.

1.3 Marketing strategy (MK)

A bank, like an enterprise, must have capital, revenue, and purchase and sale... However, the bank's activities are mainly monetary business and other services. In the era of technology 4.0, implementing marketing solutions for banks is even more focused. Bank marketing is a system and process of banks

trying to implement solutions to satisfy customers' needs and proactively wants to meet the needs and desires of the bank.

Hypothesis H2: Marketing strategy positively impacts green banking development in Vietnam.

1.4 Financial capacity (TC)

The context of deep integration into the world economy poses many difficulties and challenges for the banking system, especially commercial banks (Alwahaishi and Snasel, 2013; Bhardwaj and Malhotra, 2013). Because according to international practice, commercial banks' capital adequacy ratio (CAR) must be 9% or more. If this ratio is not guaranteed, commercial banks will be unable to expand operations, even in danger of bankruptcy. Although capital is a fundamental factor in evaluating a bank's financial aspects, we need to consider a series of other factors such as liquidity, asset risk structure, volatility of deposit types, and quality of bank management.

Hypothesis H3: Financial capacity positively impacts green banking development in Vietnam.

1.5 Banking technology (CN)

The fourth industrial revolution (Industry 4.0), with technological achievements of artificial intelligence, blockchain, big data, Internet of things, has had significant impacts, significantly changing several aspects of the economy, including the banking sector (Jin and Mengqi, 2011; Kianpour et al., 2014). Commercial banks build data banks on green banking risks and use a modern risk analysis and handling tools. This factor significantly affects the quality and effectiveness of bank governance, including risk management in general. Investment in developing the bank's information technology system is also significant, especially when there is a sufficient basis for assessing and quantifying the risks of green banking in the future. The author proposes the following hypothesis:

Hypothesis H4: Banking technology positively impacts green banking development in Vietnam.

1.6 Risk management (RR)

To implement effective operational risk management, banks must implement effective loss data collection practices, improve behavior and culture towards bank-wide risk management, and improve the quality of risk management amount of data loss (Miah et al., 2020; Kristin and Morten, 2016; Kandavel, 2013). Risk management at banks by 2025 will be very different from the present. These differences may come from state management agencies changing regulations and policies in banking operations, from customers having higher expectations for product sales and interaction channels, or because risk types vary in a more complex direction. Therefore, the bank must always be ready to change itself to promptly meet the requirements and expectations of customers, partners, state management agencies, and other stakeholders in the long term to contribute to the future to improve the quality of green banking. The authors hypothesized this factor is:

Hypothesis H5: Risk management positively impacts green banking development in Vietnam.

1.7 Legal framework (PL)

Green banking is an inevitable trend in the global financial industry, an effective solution for preventing and limiting the increasingly adverse impacts of climate change. For Vietnam, green banks play a critical role in promoting sustainable development and realizing the Government's green growth strategy (Jan et al., 2019; Afshan and Sharif, 2016). From the theoretical bases of this factor, The completion and development of the legal framework for the development of green banking are critical in improving the efficiency of monetary policy management and market regulation along with the development of the green economy. The authors propose the 6th hypothesis as follows:

Hypothesis H6: Legal framework positively impacts green banking development in Vietnam.

1.8 Supporting policies (HT)

Green bank is one of the green financial tools to sponsor green and environment-friendly programs, projects, and initiatives, to encourage consumers and businesses to optimize and regenerate energy sources. Concern about environmental issues. In particular, green banks often finance initiatives and projects that are expected to have a clear and positive impact on the environment, so they often have preferential interest rates and longer payment terms than other projects. with regular loans (Aleem and Bowra, 2020; Jayadatta and Nitin, 2017). It can be said that green projects are considered priority areas for loans. From the theoretical bases of this factor, the authors propose the seventh hypothesis as follows:

Hypothesis H7: Supporting policies positively impact green banking development in Vietnam.

1.9 Environmental policy (MT)

The context of paying attention to green economic development. Environmental protection has been paid great attention to by our Party and State and is a cross-cutting point in the process of leading the country. The system of policies and laws on the environment is still overlapping and inadequate; environmental management tools have not been effective and efficient (Bahl, 2012; Antonio et al., 2017). New management approaches and tools have not been institutionalized in a timely manner and cannot keep up with the rapid developments of environmental issues and the country's socio-economic development and international integration requirements. From the theoretical bases of this factor, the authors propose the 8th hypothesis as follows:

Hypothesis H8: Environmental policy positively impacts green banking development in Vietnam.

To contribute to the implementation of the national action plan on green growth. Green banks will be an essential resource for implementing the green growth strategy in 2025 because the banking system can contribute to limiting environmental and social risks by not lending capital to customers with projects that pollute or have adverse impacts on the environment and people's lives. On the other hand, strict control right from the bank appraisal stage also encourages businesses to move towards cleaner and safer production and business activities. Therefore, the authors research and propose the following factors affecting the development of green banking in Vietnam.

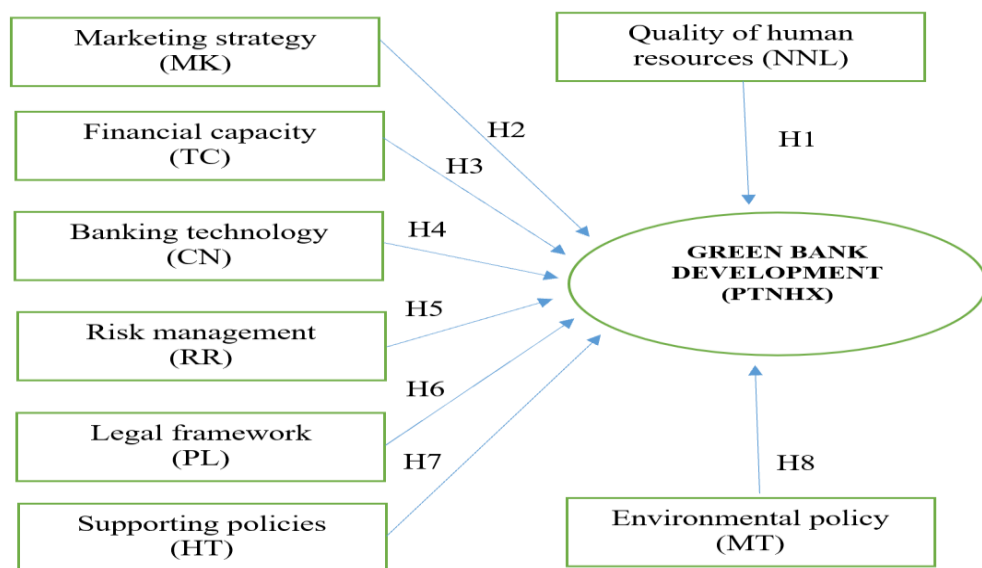


Figure 1. A research model for critical factors affecting green banking development in Vietnam

Source: The authors proposed

2. METHODOLOGY AND DATA

The study applies mixed methods, including qualitative and quantitative in preliminary research and quantitative in a formal investigation, with the data source used as primary data source obtained through the questionnaire survey. The sequential research method through the two main approaches is as follows.

Qualitative research methods: With a qualitative research method, the target groups of 30 managers of the 15 largest commercial banks in Vietnam were invited to participate in a face-to-face discussion to explore the elements of the green banking development scale. In addition, the authors study the theoretical basis to develop a research model and design a scale to calibrate the model and ranking following the research context.

Specifically, the authors consulted with 30 managers in the banking sector related to banking and banking activities, including deputy heads of branches, deputy heads of transaction offices, and heads of banking departments. Based on the opinion of 30 managers knowledgeable about management in the banking sector related to banking and banking activities, the authors determined precisely what information to collect from the managers' comments and from that form the survey.

Quantitative research methods: The detailed steps in qualitative research are as follows: (1) Collect and synthesize theories related to the research topic. (2) Design a preliminary question through the opinions of 30 managers in the banking sector related to banking and banking activities. (3) Conduct trial interviews with officers, bankers, and managers and adjust the questions. (4) Conduct test interviews and run samples of the survey questionnaires from officials and employees from commercial banks to verify the scale. (5) Develop a formal survey for the research topic with 950 officers and employees surveyed. The authors delve into the survey and survey of each commercial bank with about 65 staff and representative staff participating in answering to test the research model and hypothesis. The direct interview technique is also applied with a revised questionnaire after preliminary qualitative and quantitative research. The authors surveyed 950 officers and employees related to commercial banks from September 2022 to December 2022 in Vietnam.

Collected data with a sample size of at least the model on an observed variable. The sampling method is convenient and mailed to each individual, but 865 samples were processed. The authors measured the level of impact of factors using by SEM model. In this article, the total number of observed variables is 39, so based on the technique, the minimum number of enterprises needed to achieve this study is $39 \times 5 = 195$ (Hair et al., 2021). Check the model's goodness of fit, and GFI, AGFI, CFI, and NFI with a value > 0.9 is considered a good fit. After that, the data was collected to evaluate the scale's reliability, such as Cronbach's Alpha and exploratory factor analysis (EFA), to shorten the observed variable in the factor. The steps in the research process must follow a particular sequence mentioned above.

3. EMPIRICAL RESULTS

3.1 Analysis of the situation for the green banking development in Vietnam

Green banking is understood as providing and characterizing banking services to support activities that positively impact the environment, reduce carbon emissions, save natural resources, and promote sustainable economic development (Kanak Tara & Ritesh Kumar, 2015). In a broad sense, green banking is understood to mean that a bank has built a sustainable business strategy, reflected in the provision of banking services that satisfy the criteria of ensuring environmental responsibility and society. The use of the definition of the green bank in a broad sense is consistent with the development orientation of green banks in Vietnam in Decision 1604/QĐ-NHNN dated August 7, 2018, of the State Bank on approval of the development project. Green bank in Vietnam, Accordingly, the main objective is to increase the awareness and social responsibility of the banking system for environmental protection, combat climate change, and gradually greening banking operations. The banks' direct credit capital into sponsoring environmentally friendly projects, promoting green production, service and consumption industries, clean energy and renewable energy, and actively promoting green growth and sustainable development.

Striving to 2025, 100% of construction banks will have internal environmental and social risk management regulations in credit granting activities, and 100% of banks will carry out a socio-environmental risk assessment in the future. Besides, credit-giving activities; applying environmental standards to projects financed by banks; incorporating an ecological risk assessment as part of a bank's credit risk assessment step by step greening banking activities, directing credit capital flows to finance environmentally friendly projects, promoting green production, service and consumption industries, clean energy and renewable energy; actively contribute to promoting green growth and sustainable development. Striving to 2025, 100% of construction banks will have internal environmental and social risk management regulations in credit granting activities, and 100% of banks will carry out a socio-environmental risk assessment in the future.

Credit granting activities; apply environmental standards to projects financed by banks; incorporate an ecological risk assessment as part of a bank's credit risk assessment step-by-step greening banking activities. Directing credit capital flows to finance environmentally friendly projects, promoting green production, service and consumption industries, clean energy, and renewable energy actively contributes to green growth and sustainable development. By 2025, 100% of construction banks will have internal environmental and social risk management regulations in credit granting activities, and 100% of banks will carry out a socio-environmental risk assessment in the future.

Credit granting activities; apply environmental standards to projects financed by banks; incorporate an environmental risk assessment as part of a bank's credit risk assessment. Clean energy and renewable energy; actively promote green growth and sustainable development. Credit granting activities; apply environmental standards to projects financed by banks; incorporate an ecological risk assessment as part of a bank's credit risk assessment, clean energy, and renewable energy; actively contribute to promoting green growth and sustainable development. Apply environmental standards to projects financed by banks; incorporate an environmental risk assessment as part of a bank's credit risk assessment. Apply environmental standards to projects funded by banks; include an environmental risk assessment as part of a bank's credit risk assessment.

Vietnam's recent efforts to promote green banking development have mainly focused on forming a legal framework for green banking development. Encourage green credit; require banks to develop frameworks, standards, and implement environmental and social risk management in lending operations; and some incentives for commercial banks and credit institutions to perform banking greening operations. To improve the capacity of banks and credit institutions in the assessment and appraisal of green investment projects, in which capacity building for credit officers and research to establish a specialized department in the bank on green investment, building specialized financial products and tools to support green investment. Sustainable economic development is a common development trend in countries around the world. Along with the goal of green and sustainable growth, the construction and development of a green bank in Vietnam is an urgent requirement. Green banking is an essential strategy in the sustainable development orientation of the banking system. The authors continued the analysis of descriptive statistics and Cronbach's alpha for factors affecting green banking development in Vietnam.

3.2 Analysis of descriptive statistics and Cronbach's alpha for factors affecting the green banking development in Vietnam

Table 1. Testing descriptive statistics and Cronbach's alpha for the green banking development

Code	Items	Cronbach's alpha	Mean	Std. Deviation
Quality of human resources (NNL)		0.964	-	-
NNL1	Socially responsible human resources in green banking development	0.942	3.086	0.988
NNL2	Policy to attract and select high-quality human resources to realize the goal of green banking development	0.963	3.082	1.000

NNL3	Human resources ensure flexibility and creativity in implementing green banking	0.959	3.11 2	0.969
NNL4	Human resources ensure the knowledge, skills, and professional ethics to meet the development of green banks	0.946	3.08 3	1.005
Marketing strategy (MK)		0.957	-	-
MK1	Increasing equity to meet capital needs for green credit growth	0.811	3.38 6	0.877
MK2	Improve credit quality to meet green banking development goals	0.812	3.51 5	0.967
MK3	Diversify green products and services to meet integration and environmental protection	0.844	3.33 2	0.981
MK4	Ensure good liquidity for green consumer credit, green projects	0.806	3.38 8	0.913
Financial capacity (TC)		0.955	-	-
TC1	Increasing equity to meet capital needs for green credit growth	0.935	3.04 6	0.974
TC2	Improve credit quality to meet green banking development goals	0.947	3.06 3	0.984
TC3	Diversify green products and services to meet integration and environmental protection	0.944	3.09 6	0.944
TC4	Ensure good liquidity for green consumer credit, green projects	0.936	3.07 7	0.978
Banking technology (CN)		0.964	-	-
CN1	Building and implementing a digital transformation strategy	0.947	3.07 6	0.979
CN2	Investing in information technology infrastructure, applying new and modern technologies	0.963	3.06 1	1.004
CN3	Expanding international cooperation on digital banking and with modern technology	0.955	3.10 5	0.963
CN4	Invest, build and complete electronic payment infrastructure for all transactions	0.943	3.10 2	0.977
Risk management (RR)		0.958	-	-
RR1	Completing the organizational structure, apparatus, and risk management process according to international standards	0.938	3.05 9	0.989
RR2	Completing the entire system information database system	0.950	3.06 3	0.999
RR3	Applying digital technology to strengthen risk management capacity	0.951	3.09 6	0.964
RR4	Develop methods to measure, assess and identify risks	0.940	3.07 2	1.003
Legal framework (PL)		0.949	-	-
PL1	Detailed and clear regulations on green bank development criteria	0.940	3.40 0	0.946
PL2	Clear and detailed regulations on mechanisms and policies to encourage the development of green banks	0.895	3.33 4	0.957
PL3	Develop mechanisms and policies to support green development capital	0.941	3.27 5	0.995
Supporting policies (HT)		0.918	-	-
HT1	Capital support policy encourages banks to develop green capital	0.917	2.35 3	0.655
HT2	National Green Development Fund to mobilize capital for green development	0.895	2.42 6	0.676
HT3	Appropriate interest rate policy when implementing green projects, green consumption	0.918	2.38 8	0.646
HT4	Develop processes and regulations on risk prevention in green projects	0.881	2.43 8	0.699
HT5	Develop mechanisms and policies for coordination among banks in green development	0.885	2.44 8	0.710
Environmental policy (MT)		0.881	-	-

MT1	Preferential loan interest policy for environmental protection projects	0.855	2.35 2	0.653
MT2	Reducing the required reserve ratio for the portion of funds for green credit development	0.823	2.44 2	0.669
MT3	Incentives, refinancing, rediscounting for the purpose of environmental protection	0.869	2.39 5	0.649
MT4	Prioritize terms and sources of loans for green projects and green consumption	0.843	2.45 9	0.707
Green bank development (PTNHX)		0.952	-	-
PTNHX1	Deploying electronic services and automation for green economy goals	0.943	3.42 5	0.937
PTNHX2	Prioritize lending or investing in green projects to protect the environment	0.901	3.36 8	0.948
PTNHX3	Meet environmental and social responsibility criteria	0.944	3.32 3	0.970

Source: Authors collected and processed from SPSS 20.0

Table 1 tests the reliability of the scale, including eight independent factors (1) Quality of human resources (NNL), (2) Marketing strategy (MK), (3) Financial capacity (TC), (4) Banking technology (CN), and (5) Risk management (RR), (6) Legal framework (PL), (7) Supporting policies (HT) and (8) Environmental policy (MT). Besides, table 1 shows that Cronbach's alpha for various factors affecting green banking development is higher than 0.7.

Table 2. Testing critical factors affecting the green banking development

Relationships			Standardized estimate	S.E	C.R	P	Result
PTNHX	<---	NNL	0.091	0.023	3.349	***	Accepted
PTNHX	<---	HT	0.089	0.045	3.123	0.002	Accepted
PTNHX	<---	PL	0.077	0.030	2.999	0.003	Accepted
PTNHX	<---	TC	0.081	0.025	2.880	0.004	Accepted
PTNHX	<---	CN	0.533	0.028	17.833	***	Accepted
PTNHX	<---	RR	0.087	0.028	2.914	0.004	Accepted
PTNHX	<---	MT	0.083	0.047	4.218	***	Accepted
PTNHX	<---	MK	0.154	0.031	4.991	***	Accepted

Source: Authors collected and processed from SPSS 20.0, Amos

Table 2 shows eight factors affecting green banking development, with a significance level of 0.01. The article's novelty is finding out the banking technology factor that substantially impacts green banking development, with a standardized estimate of 0.533. Testing for various factors affecting green banking development showed that the assessment of the critical factors affecting green banking development: CMIN/DF = 3.389 (<5.0), GFI = 0.903 (>0.800), TLI = 0.956 (>0.900), CFI = 0.963 (> 0.900) and RMSEA = 0.053 (<0.08). The article aims to determine the eight factors affecting green banking development in Vietnam, especially the banking technology factor, which is the most important.

Table 3. Testing Bootstrap 60.000 samples for factors affecting the green banking development

Parameter			SE	SE-SE	Mean	Bias	SE-Bias
PTNHX	<---	NNL	0.022	0.000	0.077	0.000	0.001
PTNHX	<---	HT	0.044	0.001	0.141	0.002	0.001
PTNHX	<---	PL	0.034	0.001	0.084	-0.006	0.004
PTNHX	<---	TC	0.024	0.001	0.068	-0.004	0.003

Parameter			SE	SE-SE	Mean	Bias	SE-Bias
PTNHX	<---	CN	0.039	0.001	0.493	-0.001	0.001
PTNHX	<---	RR	0.032	0.001	0.082	0.002	0.002
PTNHX	<---	MT	0.044	0.001	0.193	-0.006	0.005
PTNHX	<---	MK	0.035	0.001	0.152	-0.002	0.003

Source: Authors collected and processed from SPSS 20.0, Amos

Table 3 shows that testing Bootstrap with 60.000 samples for factors affecting the green banking development, with a significance level of 0.01.

3.3 Result discussion

Vietnam's recent efforts to promote green banking have mainly focused on forming a legal framework for development. Vietnam should encourage green credit, require banks to develop frameworks and standards, implement environmental and social risk management in lending operations, and provide some incentives for commercial banks and credit institutions to perform banking greening functions, specifically:

First is the green investment or the establishment of green financial intermediaries and the development of indirect green capital channels. The gradual forming of a legal framework for green banking development in Vietnam. The basis for implementing green banking activities in Vietnam is the National Green Growth Action Plan for 2014 - 2020. The State Bank is assigned the task of perfecting the institutions and strengthening the financial-credit operation capacity of commercial banks for green growth. However, these regulations are only intended to encourage, encourage and promote the development of green banking through the enhancement of green capital sources and green capital mobilization tools, not paying attention to policies on green banking. The banks increase demand for green credit, and approaches to support green credit access for businesses, such as incentives on interest rates, taxes, fees, loan procedures, and collateral, need to be done in parallel. To create an environment for businesses to invest in green projects, it is necessary to continue to reform administrative procedures and create a transparent and favorable investment environment to reduce the risks of green projects.

Secondly, Vietnam should encourage to development of green credit. The policy to promote green recognition was mentioned for the first time in Resolution No. 24-NQ/TW dated June 3, 2013, of the 7th Plenum of the 11th Central Committee on climate change combat, resource management, and protection. Promoting green growth and managing environmental risks in credit-granting activities, which requires credit institutions. Environment and green growth orientation. Focus on giving priority to granting green credit to some economic sectors. Continue to improve the legal framework, preferential policies, and support mechanisms to encourage the development of green banking. The definition of a green bank or the nature, characteristics, and criteria to be labeled a "green bank" should be clearly stated in the legal regulations, creating a basis and basis for the issuance and application of such facilities.

Thirdly, Government should require banks to develop frameworks and standards and implement environmental and social risk management in lending operations. In 2018, the State Bank of Vietnam (SBV) cooperated with the International Finance Corporation (IFC) to develop and issue the "Handbook of environmental and social risk assessment" for 10 economic sectors in credit extension activities. Accordingly, the 10 sectors are agriculture, chemicals, construction and infrastructure, energy, food processing, textiles, oil and gas, waste treatment, mining, and products from non-metallic minerals. Without a specialized green bank, the Government needs to create a legal mechanism, rules, and environment for banks to develop motivation and bind the banking system to green growth and sustainable development.

Fourthly, Vietnam has preferential/supportive policies for banks that lend to environmentally and climate sensitive areas, such as offering preferential loans, applying low-interest rates, or providing interest rate differentials. In the past period, the green credit program has been integrated by the SBV into some legal documents. The Government encourages banks to apply high technology in agricultural and rural

development, increasing the total outstanding loans for banks. Banks with a large balance of green credit use reduction of funding interest rates for banks, perform good environmental risk assessment when granting credit, and increase requirements on required reserve ratio and liquidity for banks that lend to projects with significant loss and damage to the environment.

Finally, The Government should organize training, training, and seminars to exchange experiences and knowledge on green banking development to strengthen the capacity of commercial banks and financial institutions in green finance-credit activities. In the past, the State Bank and IFC have coordinated to organize training for key staff on environmental and social risk management and credit appraisal at credit institutions, building a team of lecturers with knowledge and skills. , understanding of green credit and environmental-social risk management. Vietnam Banks Association has organized many seminars, training courses, green finance, sustainable development, and environmental and social risk assessment in operations credit. The Vietnam Banks Association also compiles and publishes the book Banking and Sustainable Development to disseminate to its member organizations.

Although some initial results on green banking development have been achieved, promoting green banking development in Vietnam still reveals many issues that need to be addressed: The legal framework on green banking has not been completed and supplemented under the international context and good practices. At present, the primary green banking regulations are still directional. There is still a lack of specific rules, no unified definition/concept of green banking, and a lack of banking standards/conditions for green goods.

CONCLUSIONS

The banking industry has been participating in the global trend of sustainable development due to its significant role in economic life. Besides several problems posed during the development of green banks in Vietnam over the past, in the coming period, promoting the development of green banks is also facing many challenges, such as The capacity of banks in the assessment and appraisal of green investment projects is still limited. Although more and more banks are interested and integrated with building the process of environmental and social risk assessment when granting credit, the implementation capacity is still limited. Besides, green investment projects always have potential risks, and feasibility is not high.

The paper's primary objective is to explore determinants affecting green bank development in Vietnam. In contrast, the Government does not have concepts, regulations, standards/conditions on the list of green industries/fields, leading to difficulties and challenges for commercial banks and credit institutions in the process of implementing the process of selecting, appraising, evaluating, and monitoring green credit activities. The authors severed the data from developing a formal survey for the research topic with 950 surveyed officers and employees related to 15 commercial banks and used structural equation modeling (SEM) and SPSS 20.0, Amos software.

The paper finds eight factors affecting the green bank development in Vietnam with a significance level of 0.01, and all eight hypotheses are accepted. The article's value determines the legal framework's most substantial impact on green bank development. The results of the research model are determined according to the standardized Beta coefficient, including (1) Quality of human resources (NNL), (2) Marketing strategy (MK), (3) Financial capacity (TC), (4) Banking technology (CN), and (5) Risk management (RR), (6) Legal framework (PL), (7) Supporting policies (HT) and (8) Environmental policy (MT) focus on performing well the following specific vital tasks. The article's value determines the Banking technology's most substantial impact on green bank development. Finally, the authors had important recommendations for improved banking technology and the goal of green and sustainable growth. Thus, the Bank's leadership improves the capacity of banks and credit institutions in the assessment and appraisal of green investment projects, in which capacity building for credit officers and research to establish a specialized department in the bank on green investment, building specialized financial products and tools to support green investment.

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