Ianna Journal of Interdisciplinary Studies, *Volume 6 Number 2, August 2024 DOI: https://doi.org/ 10.5281/zenodo.12721487 EISSN: 2735-9891*

Factors Influencing Sustainable Banking Development: A Case Study of Commercial Banks in Vietnam

Lu Phi Nga[1] and Phan Thanh Tam [2*]

[1] Dean, Faculty of Postgraduate Studies, Lac Hong University (LHU), 84, Vietnam
Email: phinga@lhu.edu.vn; *https://orcid.org/0009-0009-5314-3658*
[2] Lecturer, Faculty of Postgraduate Studies, Lac Hong University (LHU), 84, Vietnam
[*]Corresponding author email: tampt@lhu.edu.vn; *https://orcid.org/0000-0003-2387-7756*

Abstract

Background: Sustainable banking development is crucial for financial institutions' long-term viability and profitability, particularly in an era of increasing global environmental awareness and regulatory pressures. Understanding the factors that influence sustainable banking is essential for banks aiming to enhance their sustainability practices and gain a competitive edge.
Objective: The study objective explores the primary factors affecting sustainable banking development in Vietnam.
Methodology: The authors conducted a descriptive survey and collected data from 600 managers who contribute to the sustainable development of commercial banks in Vietnam. The data were collected using a questionnaire and analyzed using SPSS 20.0 software, and the results were presented in tables.
Result: Research results show six factors affecting sustainable banking development with a five percent significance level. The factors are (1) regulatory and policy, (2) economic and market, (3) technological, (4) social and cultural, (5) environmental, and (6) management capacity.
Conclusion: Despite the challenges, the integration of sustainable practices in banking is imperative for long-term viability and profitability. This study highlights the above-mentioned multifaceted factors affecting sustainable banking development.
Unique Contribution: This study is beneficial in both theory and practice in sustainable banking development at commercial banks and today, ensuring profits and enhancing banks' reputation and operational capacity.
Key Recommendation: From the research results, the authors proposed regulations and policies for sustainable banking development at commercial banks in the context of development and integration. This shows that sustainable banking development is not something that is too difficult, and it does not depend on the size of the bank, large or small, but is the result of a long-term vision and the right action strategy that the bank administrators implement.
Keywords: Policy recommendation; sustainable; banking development; commercial banks.

Introduction

The banks are often seen as vital to the economy since they play a crucial role in facilitating all socio-economic activities and function as intermediaries in the flow of the whole economy. Despite not directly generating material wealth for the economy, the banking industry significantly contributes to the sustainable development of the economy due to its distinct operational characteristics. This impact is felt both internally, through its own activities, and externally, by offering various products and services. The bank facilitates sustainable company development by implementing credit policies that involve giving

financing and promoting environmentally conscious enterprises. Additionally, the bank generates positive outcomes through service operations, such as investment advice. Financial institutions have the ability to offer resources and expertise to promote the advancement of sustainable development (Kumar & Prakash, 2018; Bruno & Lagasio, 2021; Kumar & Prakash, 2019). There is a growing interest among banks in Vietnam in exploring ways to improve their positive influence on society and the environment. They aim to do this by offering financial solutions that promote environmentally friendly practices and operations across all sectors of the economy. Implementing industry sustainability standards, such as principles designed to assist banks in addressing environmental and social concerns, can enhance banks' ability to evaluate and control the environmental and social risks associated with their projects. This, in turn, enables banks to steer clear of projects that could harm the environment.

In addition, the banking sector contributes to sustainable development by fostering financial inclusion. Financial inclusion refers to providing suitable and convenient financial services to all individuals and organizations, with a particular focus on those who have low incomes or are vulnerable. The goal is to enhance access to financial opportunities, contribute to the creation of livelihoods, and facilitate the circulation of investment capital and savings in society, ultimately promoting economic growth. Hence, the banking sector plays a specific role in the implementation of the sustainable growth objectives of the SDGs. The duties allocated to the banking industry in the National Action Plan to execute the 2030 Agenda for Sustainable Development demonstrate this.

Strengthen the capacity of domestic financial institutions to encourage and expand access to banking and insurance financial services for all. Increased access to banking services, especially small and medium enterprises, including affordable credit services; increased business participation in markets and value chains. Hence, the objective of this study was to find out the determinants impacting sustainable banking development and suggest policy recommendations for sustainable banking development at commercial banks in Vietnam.

Literature Review

Sustainable Banking Development (SBD)

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. In another aspect, this definition is widely interpreted (Abubakar & Handayani, 2019; Bebbington & Unerman, 2018; Kumar & Prakash, 2019). In this article, explanations of sustainable banking development are approached by the second definition and according to modern banking management practices. There are many different views on sustainable banking development, including two main approaches: first, emphasizing the external impact of the bank through providing products and services to customers. Accordingly, sponsoring projects that are environmentally friendly and use energy efficiently, renewable energy, clean technology, emissions... Currently, equatorial principles have been applied to help commercial banks manage the environmental and social risks of the projects they sponsor around the world. Saxena et al. (2021) define sustainable banking as banking that only provides products and services to customers that consider the environmental and social impacts of their activities. This definition focuses on the bank's external impact through providing products and services to customers.

Regulatory and Policy (RP)

International regulatory frameworks play a critical role in promoting sustainable banking. Key frameworks include Basel III, which emphasizes risk management and capital adequacy, and the UN Principles for Responsible Banking (PRB), which guide the integration of sustainability into banking operations. These frameworks encourage banks to adopt practices that enhance financial stability and sustainability (Sahoo & Nayak, 2007; Bruno & Lagasio, 2021; Bebbington & Unerman, 2018). National governments have implemented policies to

support sustainable banking. European Union's Green Deal and taxonomy for sustainable activities provide a clear classification system for sustainable investments, encouraging banks to align their portfolios with sustainability goals (Bruno & Lagasio, 2021). Several case studies highlight the effectiveness of regulatory and policy interventions. In the EU, regulatory frameworks have significantly enhanced the efficiency of green finance and facilitated effective convergence among financial institutions (Li, 2023).

Economic and Market (EM)

Economic stability is fundamental for sustainable banking development. Stable economic conditions provide a conducive environment for banks to invest in sustainable initiatives. Studies have shown that banks in economically stable countries are more likely to adopt sustainable practices and offer green financial products (Kumar & Prakash, 2018). Market demand for green financial products significantly drives sustainable banking. As awareness of environmental issues grows, consumers and investors increasingly seek financial products that align with their values (Biswas, 2016; Parveen et al., 2020). Governments and international organizations offer various incentives, such as tax breaks, grants, and low-interest loans, to encourage banks to invest in sustainable projects (Kavitha & Rani, 2016).

Technological (TE)

Technological advancements have significantly influenced sustainable banking development. Financial technology (FinTech) innovations, such as blockchain, artificial intelligence, and big data analytics, enhance transparency, efficiency, and risk management in banking operations (Mendez & Houghton, 2020). Digital banking platforms and blockchain technology support sustainability by reducing the need for physical branches, thus lowering the carbon footprint. Blockchain technology ensures transparency and traceability in financial transactions, which is essential for verifying the sustainability of investments (Alexander, 2019; Rehman et al., 2021; Prakash et al., 2018). The study provided insights into practical applications of FinTech in sustainable banking. For instance, banks in the EU have leveraged blockchain technology to enhance transparency and efficiency in green finance (Li, 2023).

Social and Cultural (SC)

Public awareness and consumer behavior significantly impact the development of sustainable banking. Increased awareness of environmental and social issues has led consumers to demand more responsible banking practices. Banks that offer sustainable products and services can enhance their reputation and customer loyalty (Kumar & Prakash, 2018; Rahman & Rahman, 2020). Corporate social responsibility (CSR) initiatives are integral to sustainable banking. Banks engage in CSR activities to demonstrate their commitment to social and environmental causes. These initiatives improve a bank's public image and foster a culture of sustainability within the organization (Abubakar & Handayani, 2019). Cultural attitudes towards sustainability vary across regions and influence the adoption of sustainable banking practices. In countries with a strong emphasis on environmental conservation and social equity, banks are more likely to integrate sustainability into their operations (Murshudli, 2023).

Environmental (EN)

Environmental risks, such as climate change and natural disasters, directly impact banking operations. Banks need to assess and manage these risks to ensure long-term stability. Sustainable banking practices, such as incorporating environmental risk assessments into lending and investment decisions, help mitigate these risks and promote resilience (Alexander, 2019; Sharma & Choubey, 2022). Environmental sustainability plays a crucial role in risk management. Banks that consider environmental factors in their risk assessments can better anticipate and mitigate potential threats, protecting their financial health and contributing to

broader environmental goals (Sredojević & Sredojević, 2021). Several banks have successfully integrated environmental considerations into their operations. Commercial banks have implemented a comprehensive environmental risk management framework guiding their lending and investment decisions (Alexander, 2019).

Management Capacity (MC)

Leadership and management capacity is the ability to manage, operate, lead, and orient a team to create value to achieve the common goals of the organization. People with excellent leadership abilities have the ability to guide and motivate others to work effectively and develop together (Owais & Arslan, 2020; Weber & Feltmate, 2016). Besides, management capacity implementing sustainable banking practices presents several challenges, including high initial costs of green investments, lack of standardized sustainability metrics, and resistance to change within traditional banking institutions (Abubakar & Handayani, 2019). Leadership and management capacity is the ability to manage, operate, lead, and orient a team to create value to achieve the common goals of the organization.

Theoretical Framework

Regulatory and Policy (RP) and Sustainable Banking Development (SBD)

Limited legal framework: Limitations in policies, regulations, and instructions from management agencies are the most fundamental reasons why commercial banks' implementation of ESG commitments is still lackluster. To facilitate the application of ESG criteria in the banking industry, the State Bank of Vietnam is currently mainly developing and promulgating directives and projects orienting the development of green credit, green banking, and comprehensive finance (Bebbington & Unerman, 2018; Galbreath, 2013). However, at the management level, this policy framework does not fully and comprehensively reflect ESG factors and is not a mandatory legal framework. This is also why commercial banks are not motivated to integrate ESG into their business activities. Besides, sustainable transformation requires commercial banks to have capacity and financial potential; however, there are not many supportive or encouraging policies from management agencies. Therefore, H1 proposes the following hypothesis:

H1: Regulatory and Policy (RP) positively influences Sustainable Banking Development (SBD).

Economic and Market (EM) and Sustainable Banking Development (SBD)

The primary objective of the bank's operating outcomes is to generate value for shareholders and investors. Thus, a sustainable development bank must prioritize generating consistent profits in order to attract and retain shareholders and investors. Hence, the Return on Equity (ROE) index is widely regarded as the primary metric employed by managers and researchers to assess the performance of banks (Reichelt & Beltratti, 2012; Parveen et al., 2020; Eberlein & Matten, 2009). Many researchers suggest applying the ratio of net profit to total assets (ROA). However, this index is, in reality, distorted by off-balance sheet factors, so it does not accurately reflect the bank's operating efficiency. Therefore, H2 proposes the following:

H2: Economic and Market (EM) positively influence Sustainable Banking Development (SBD).

Technological (TE) and Sustainable Banking Development (SBD)

Many studies show that investment in technology development is considered the most important factor promoting the development of digital banking, an important element of a sustainable banking model. Technology today participates in all banking activities, such as resource management, customer management, compliance monitoring, product/service

innovation, and reporting activities (Rehman et al., 2021; Prakash et al., 2018). Simultaneously, it also diminishes the reception and use of paper reports. This practice contributes to environmental conservation by minimizing fuel use and eliminating the need for paper-based report generation (Chiaramonte & Casu, 2017). On the banking side, using digital banking contributes to reducing the large amount of paperwork used for reporting activities and transferring records between departments and customers, reducing greenhouse gas emissions and environmental protection. Thus, H3 proposes the following hypothesis:

H3: Technological (TE) positively influences Sustainable Banking Development (SBD).

Social and Cultural (SC) and Sustainable Banking Development (SBD)

The bank's contribution to society is manifested in two aspects: towards its workers and via participation in social initiatives. Employees are essential assets in the establishment, functioning, and growth of the bank. Consequently, it is imperative to provide them with optimal training facilities, nurturing support, occupational safety, and equitable remuneration within a congenial and just work environment (Rahman & Rahman, 2020; Scholtens, 2006). The bank's most prominent contribution, from a social standpoint, is the expansion of financial services to customers, particularly priority customer groups like small and medium enterprises, women, and ethnic minorities in remote areas. This is achieved through the expansion of the branch network, ATM system, and the Internet (Busch & Hoffmann, 2011). These social activities must be recorded in the annual report, reflecting the bank's social responsibility to the community through specific actions and contributions. Thus, H4 proposes the following:

H4: Social and Cultural (SC) positively influences Sustainable Banking Development (SBD).

Environmental (EN) and Sustainable Banking Development (SBD)

Integrating environmental factors into the current operating model may be difficult for traditional banks because it increases operating costs and affects business results. However, for banks to develop sustainably, environmental factors integrated into the business model are considered a prerequisite. First of all, the application of environmental-related policies in lending and investment activities through risk assessment activities of banks must be institutionalized by the Board of Directors. Next, measuring and recording the results achieved in minimizing the impact of banking activities on the environment must be quantified (Ren et al., 2020; Sharma & Choubey, 2022; Hebb & Hachigian, 2018). The study has been quantified and gradually reduced over the years as banks implement their banking development strategies. Therefore, hypothesis H5 proposes the following:

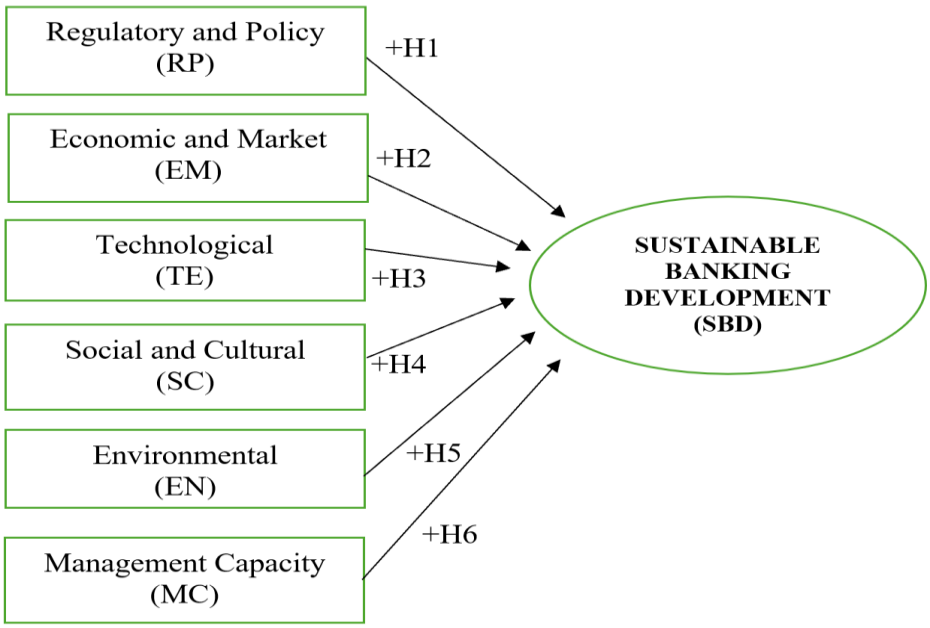
H5: Environmental (EN) positively influences Sustainable Banking Development (SBD).

Management Capacity (MC) and Sustainable Banking Development (SBD)

The concept of sustainable banking management encompasses five key areas: product and service offerings, customer relationship management, asset management, risk management and financial stability, and long-term sustainability (Owais & Arslan, 2020). Every issue requires a suitable management strategy that can be measured using precise quantitative indicators. The advancement of eco-friendly products and services is regarded as a crucial first phase and a significant achievement in the fields of study, design, and implementation. Introducing new environmentally friendly products and services will give customers a more favorable view of the bank's image. This will connect more new customers (Weber & Feltmate, 2016; Jeucken, 2001). Therefore, hypothesis H6 proposes the following:

H6: Management Capacity (MC) influence Sustainable Banking Development (SBD).

Based on the results of analyzing the above-related studies, the authors proposed a research model with six factors influencing sustainable banking development at commercial banks in Vietnam; the authors suggested the form of a structural equation model below.



Source: The authors proposed

Figure 1: ***The model for six factors influencing the sustainable banking development***

Figure 1 shows that there are six factors influencing sustainable banking development at commercial banks, including (1) regulatory and policy, (2) economic and market, (3) technological, (4) social and cultural, (5) environmental, and (6) management capacity.

Research Methods

The research process includes 3 stages: qualitative stage, preliminary quantitative stage, and official quantitative stage. These stages are detailed in 12 steps below.

Phase 1: Design a research model: This stage is carried out through seven specific steps as follows:

Step 1: Identify the problem that needs research: Based on the process of learning about the current situation of commercial banks in Vietnam, the authors examined issues related to the sustainable development of commercial banks. In particular, the authors focused on urgent issues with scientific and practical significance to serve the research on factors affecting the sustainable development of commercial banks in Vietnam.

Step 2: Determine research goals: After identifying the problem that needs to be researched, the research paper clearly defines the general research objective and specific objectives for the research paper.

Step 3: Propose a research model: After determining the research objectives, the authors consulted previous related studies on sustainable banking development. Based on a review of research, the authors proposed a research model.

Step 4: Build a draft scale: After having a research model based on previous surveys, research and build a draft scale through Vietnameseizing foreign scales as a basis for implementing qualitative methods to develop scales. The qualitative result provided the clear

questionnaire in Table A1 (Hair et al., 2018).

Step 5: Group discussion: By consulting relevant documents and previous studies, the research paper builds an outline to conduct group discussions to record the opinions of experts during the discussion of factors affecting the sustainable banking development of commercial banks in Vietnam. The purpose of the group discussion is to evaluate the original scale and expand the scale to better evaluate the factors in the study.

Step 7: Interview experts: The authors continued to interview 15 managers of 15 commercial banks based on a questionnaire to evaluate the complete survey questionnaire in general and the scale after being developed by group discussion in particular. The managers participating in the interview are Directors/Deputy Directors/Heads of Department. The results of the expert interviews are intended to once again ensure the quality of the scale before being used to collect data and conduct quantitative research. At the end of this step, the authors completed the survey for theoretical research.

Phase 2: Preliminary research: After determining the research model and developing the scale in the survey, the authors conducted preliminary research. A preliminary survey was also conducted in the study to ensure the quality of the constructed scale. The preliminary research phase includes the following specific steps:

Step 8: Preliminary survey: The preliminary survey was conducted with a stratified probability sampling method. The authors conducted a preliminary survey with a sample size of 200 employees working at commercial banks and branches in Dong Nai province.

Step 9: Preliminary inspection: The project analyzed Cronbach's Alpha coefficient to evaluate the scale based on collected data. Once the reliability of the scale is determined, it will move to the official research phase. Furthermore, non-probability sampling is often used to evaluate factors in preliminary exploratory studies. The survey period is from December 2023 to March 2024, and the data are processed. After verifying the scale's reliability and analyzing the factors, the authors used a structural equation model (SEM) to test the model and research hypothesis.

Phase 3: Formal research having an official survey, analyze data and Conclusion, and give management implications.

Step 10: Official survey: The authors actually distributed survey questionnaires to 600 managers of commercial banks in the provinces and cities of Vietnam within the scope of the study. The expected number of ballots issued is 600 to ensure the number of ballots collected meets the required number of observations for quantitative research. The survey was conducted by sending questionnaires directly to employees at branches of banks in five major centrally run cities. The options for agreement levels in the study conducted by Hair et al. (2018) are as follows: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree. The sampling procedure employed was convenient and distributed to each participant. However, out of the 585 samples analyzed, 15 votes were found to be lacking information. As a result, only the remaining 585 votes were utilized in the study model.

Step 11: Analyze data: Primary data collected from the official survey will be put into SPSS 20.0 software to perform descriptive statistics, Cronbach's Alpha reliability coefficient tests, EFA analysis, and use AMOS software to conduct analysis of confirmatory factor analysis (CFA) and the SEM used in many related previous studies.

Step 12: Conclusion and management implications: Based on the results of data analysis, the authors draw conclusions as well as propose some recommendations for managers related to sustainable banking development.

Study Results

Analysis of descriptive statistics, Cronbach's alpha, and confirmatory factor analysis for factors affecting the sustainable banking development at commercial banks in Vietnam

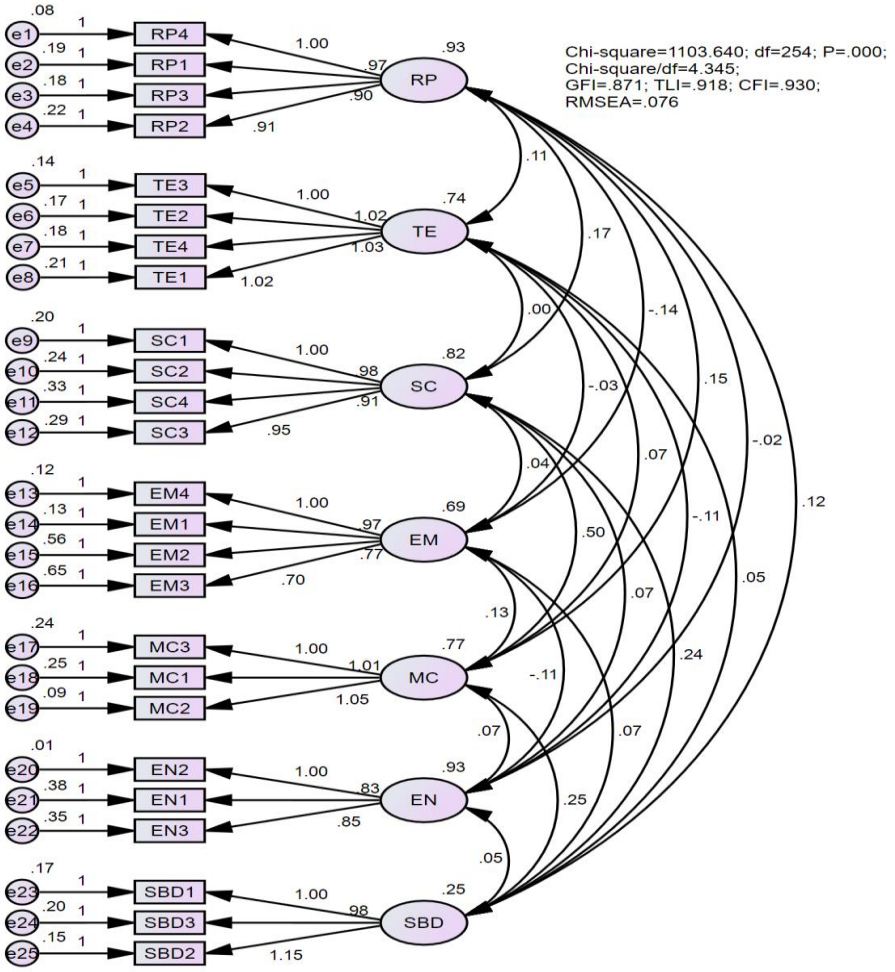
Table 1: ***Testing descriptive statistics and Cronbach's alpha for critical factors affecting the sustainable banking development at commercial banks in Vietnam***

Code	Items	Cronbach's alpha	Mean	Std. Deviation
Regulatory and Policy (RP)		**0.952**	**3.041**	-
RP1	International regulations and frameworks	0.943	2.990	1.032
RP2	National policies promoting sustainable banking	0.943	3.043	0.998
RP3	Successful policy implementations	0.936	3.072	0.970
RP4	Financial support policies for green banking activities and sustainable development	0.924	3.058	1.007
Economic and Market (EM)		**0.861**	**3.378**	-
EM1	Stable economic environment, such as growth, inflation, politics, rates…	0.812	3.364	0.883
EM2	Role of market demand for green financial products	0.825	3.487	0.985
EM3	Influence of economic incentives and subsidies	0.851	3.299	0.992
EM4	Economic policy maintains stability and flexibility, giving priority to sustainable development	0.805	3.361	0.900
Technological (TE)		**0.946**	**3.009**	-
TE1	Advancements in financial technology supporting sustainable banking	0.933	2.954	0.986
TE2	Role of digital banking and blockchain in sustainability	0.929	3.012	0.968
TE3	The banks invest in technological innovations in digital conversion	0.926	3.041	0.941
TE4	Applying current technology to develop banking services	0.929	3.027	0.982
Social and Cultural (SC)		**0.919**	**3.010**	-
SC1	Public awareness and consumer behavior toward sustainable banking	0.880	3.038	1.010
SC2	Corporate social responsibility initiatives	0.888	3.000	1.017
SC3	Influence of cultural attitudes on sustainable banking practices	0.901	2.988	1.016
SC4	Consumer behavior changes through digital transformation	0.909	3.014	1.010
Environmental (EN)		**0.897**	**3.255**	-
EN1	Environmental risks and their impact on banking operations	0.893	3.282	1.011
EN2	Role of environmental sustainability in risk management	0.783	3.289	0.972
EN3	Preferential interest rates and tax policies for banks implementing sustainable development	0.880	3.195	1.015
Management Capacity (MC)		**0.925**	**3.276**	-
MC1	Leaders control credit risks and financial management well	0.907	3.279	1.020
MC2	Develop environmentally friendly products and services	0.864	3.316	0.967
MC3	Developing digital banking while promoting the image of environmentally friendly banking	0.906	3.234	1.006
Sustainable banking development (SBD)		**0.823**	**2.367**	-
SBD1	Sustainable banking development includes the environment and society	0.743	2.325	0.649
SBD2	The bank complies with regulations, laws, administrative and economic	0.742	2.421	0.696
SBD3	Applied modern technology in banking services	0.783	2.356	0.667

Source: Data processed from SPSS 20.0

Table 1 shows that Cronbach's alpha for key factors affecting sustainable banking development at commercial banks in Vietnam is higher than 0.7. Six factors include (1) regulatory and

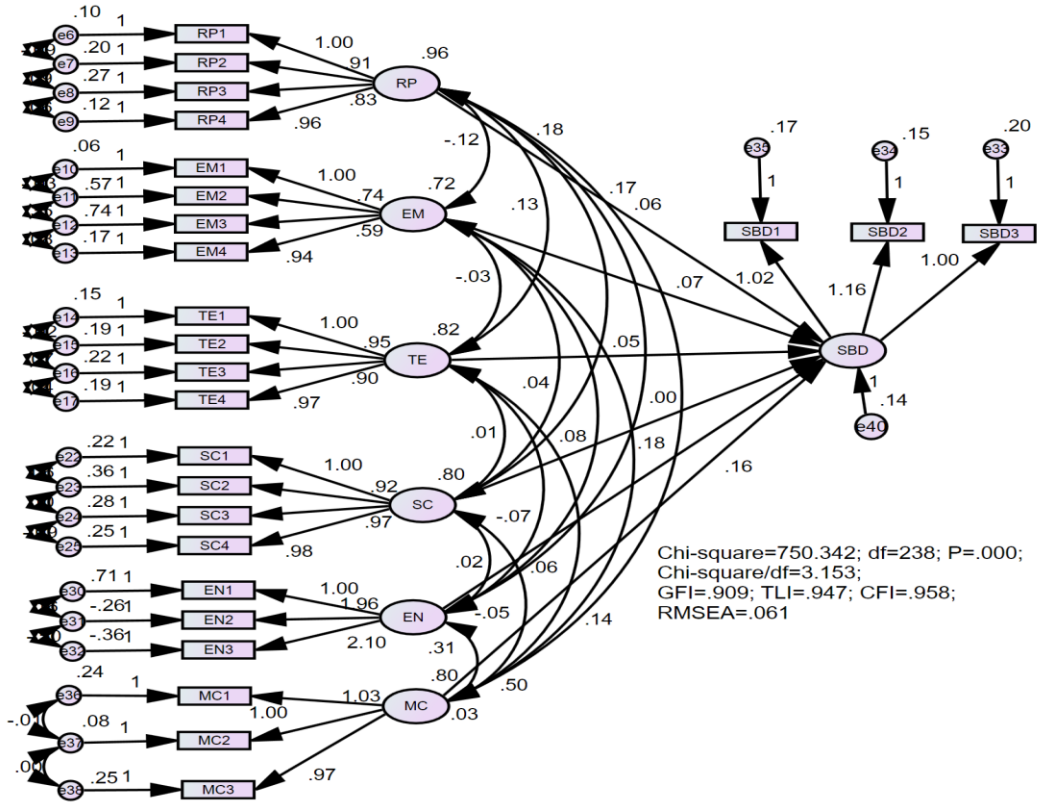
policy, (2) economic and market, (3) technological, (4) social and cultural, (5) environmental, and (6) management capacity. Besides, one dependent variable shows the sustainable banking development at commercial banks.



Source: The data processed by SPSS 20.0 and Amos

Figure 2: ***The confirmatory factor analysis for six factors influencing sustainable banking development***

Figure 2 shows that the confirmatory factor analysis (CFA) is a test used to fit indices such as Chi-square/df = 4.345 (< 5.0), CFI = 0.930 (> 0.9), TLI = 0.918 (> 0.9), GFI = 0.871 (> 0.85), RMSEA = 0.076 (< 0.08). Figure 2 also evaluated the observed variables' quality, confirming factor structures. Exploratory Factor Analysis (EFA) is tasked with identifying the underlying factor structure of a group of observable variables without prior knowledge of which variables are related to a common factor. In contrast, Confirmatory Factor Analysis (CFA) differs significantly from EFA. The variables observed in the CFA analysis are presumed to have been assigned to their respective scales, and the purpose of CFA is to assess the suitability of these observed variables within each scale. CFA can quantitatively evaluate this using Cronbach's Alpha and applicable SEM procedures. The CFA test results show that all standardized and unstandardized weights are greater than 0.5, and the results of calculating the extracted variance coefficients are greater than 0.5, so it is concluded that the scale is valid converge and is an important scientific basis to continue testing the SEM model.



Source: The data processed by SPSS 20.0 and Amos

Figure 3: ***Testing critical factors influencing sustainable banking development at commercial banks***

Figure 3 showed that testing critical factors affecting the sustainable banking development at commercial banks with the following results based on model fit indices such as Chi-square/df = 3.153 (< 5.0), CFI = 0.958 (> 0.9), TLI = 0.947 (> 0.9), GFI = 0.909 (> 0.85), RMSEA = 0.061 (< 0.08). Figure 3 tested six factors affecting sustainable banking development at commercial banks in Vietnam, with a significance level of 0.05.

Table 2: ***Testing six factors influencing sustainable banking development***

Relationships			Standardized estimate	S.E	C.R	P	Result
SBD	<---	EM	0.124	0.024	2.982	0.003	Accepted H2
SBD	<---	TE	0.084	0.022	2.083	0.037	Accepted H3
SBD	<---	SC	0.334	0.030	6.043	***	Accepted H4
SBD	<---	EN	0.072	0.026	2.429	0.015	Accepted H5
SBD	<---	MC	0.290	0.031	5.115	***	Accepted H6
SBD	<---	RP	0.114	0.020	2.813	0.005	Accepted H1

*Note: *** is significance 0.01; Source: Data processed from SPSS 20.0, Amos*

Table 2 displays the six factors that have an impact on the sustainable banking development of commercial banks in Vietnam. These factors have been shown to be statistically significant at a level of 0.05. The article's main contribution is in identifying the social and cultural (SC) that has the greatest influence on the sustainable banking development of commercial banks in Vietnam. This influence is quantified by a standardized estimate of 0.334. This is the most influential factor and also the priority for policy implementation, with such important implications.

Table 3: ***Testing average variance extracted for factors affecting the sustainable banking development at commercial banks***

Indicators	CR	AVE	MSV	Results
EM	0.945	0.666	0.073	Good
TE	0.938	0.857	0.374	Good
SC	0.925	0.887	0.045	Good
EN	0.936	0.869	0.066	Good
MC	0.954	0.832	0.034	Good
RP	0.916	0.827	0.028	Good
SBD	0.876	0.678	0.305	Good

Source: Data processed from SPSS 20.0, Amos

Table 3 illustrates that all CR findings exceed the criterion of 0.8, suggesting that the overall reliability of this scale is excellent and acceptable. All AVE values exceed 0.5. To ensure the convergence of the scales, the Average Variance Extracted (AVE) must be at least 0.5. The AVE values for the factors vary from 0.666 to 0.887, indicating that the convergence criterion is met. Furthermore, the maximum shared variance (MSV) is less than the EVA, thereby guaranteeing discriminant validity.

Table 4: ***Testing Bootstrap 20.000 samples for factors affecting the sustainable banking development***

Parameter			SE	SE-SE	Mean	Bias	SE-Bias	CR	Results
SBD	<---	EM	0.025	0.001	0.068	0.005	0.003	1.667	Good
SBD	<---	TE	0.029	0.001	0.047	0.001	0.001	1.000	Good
SBD	<---	SC	0.035	0.001	0.180	0.004	0.003	1.333	Good
SBD	<---	EN	0.030	0.001	0.060	0.004	0.004	1.000	Good
SBD	<---	MC	0.035	0.001	0.166	0.006	0.005	1.200	Good
SBD	<---	RP	0.033	0.001	0.057	0.001	0.002	0.500	Good

Source: Authors collected and processed from SPSS 20.0, Amos

Table 4 shows the results of a Bootstrap test with a sample size of 20.000 to examine the factors that impact the sustainable development of commercial banks in Vietnam. The test was carried out using a significance level of 0.05. The Bootstrap technique was used with 20.000 repeated examples, represented as population. The mean estimations from N samples closely resemble the population estimate.

Discussion of Findings

This study seeks to fill these gaps by (1) holistic analyzing the six primary factors (regulatory, economic, technological, social, environmental, and management) that affect sustainable banking development. This comprehensive approach offers a more complete understanding of the dynamics involved. (2) Combining both qualitative and quantitative methods to validate the factors influencing sustainable banking. The study uses a robust survey methodology to collect data from 600 managers and employ structural equation modeling for empirical validation. (3) Offering insights specific to Vietnamese commercial banks, which can be valuable for understanding the unique context of sustainable banking in developing countries. This focus provides practical implications for similar regions. (4) Translating research findings into specific policy recommendations to help banks develop and implement sustainable practices

and provide a strategic roadmap for bank administrators. This study significantly contributes to the literature on sustainable banking by addressing these gaps. It enhances theoretical understanding and offers practical guidance for banks aiming to adopt and sustain sustainable practices in a competitive and evolving market environment. Based on SEM testing, the findings identify six key factors that affected sustainable banking development at commercial banks, with sig. 0.05. Six components need to be considered: (1) regulatory and policy, (2) economic and market, (3) technological, (4) social and cultural, (5) environmental, and (6) management capacity, following discussions synchronously implemented:

Firstly, regulatory and policy: This factor affects the sustainable banking development at commercial banks at a significance level of 0.05 in Table 2; there are the same results of studies (Bebbington & Unerman, 2018; Galbreath, 2013). Therefore, the state bank continues promulgating documents guiding banks to implement sustainable products and services according to international practices and in accordance with the general development situation, which is necessary because sustainable banking development is a trend. The situation cannot be reversed in current banking practices. Building a legal framework for the development of a typical sustainable banking model is very important for banks because on that basis, commercial banks will adjust their business models from traditional to sustainable models by How to gradually integrate sustainable elements to approach a complete long-term sustainable development banking model.

Secondly, economic and market: This factor affects the sustainable banking development at commercial banks at a significance level of 0.05 in Table 2, the same as the results of previous studies (Reichelt & Beltratti, 2012; Parveen et al., 2020; Eberlein & Matten, 2009). Therefore, the Government needs to parallel the creation of a legal corridor for a sustainable banking development model, as the reporting system plays a very important role. The report document should provide instructions on how to disclose information related to institutional, technological, financial, social, and environmental sustainability criteria in an open, transparent, and scientific manner. This reporting system will serve as supervision and inspection, as well as be the basis for assessing the level of sustainability of each bank in particular, increasing openness and transparency in the operations of the banking system. Vietnam has done well in this program in recent times. From an industry development perspective, the State Bank of Vietnam needs to take stronger actions to increase international connectivity on sustainability and, at the same time, support sustainable banking development with a clear legal.

Thirdly, technological: This factor affects the sustainable banking development at commercial banks with a significance level of 0.05 in Table 2 and the same results as previous studies (Rehman et al., 2021; Prakash et al., 2018; Chiaramonte & Casu, 2017). Therefore, banks need to establish modern technology in order to enhance the quality of products and services. Products and services related to green and sustainable finance are one of the important factors when international organizations consider and evaluate the sustainability of banks. There are many individual products or product chains related to industries such as construction, agriculture, processing and mining industry, and clean and renewable energy that banks can apply. However, products like this are still little or not yet designed and applied in the current bank product basket. Therefore, designing and implementing sustainable financial products is necessary for banks today. The outstanding significance of this work is to show the growth/decline trend in the performance of the group of sustainable financial products in the overall operating revenue of the bank.

Fourthly, social and cultural: This factor affects sustainable banking development at commercial banks with a significance level of 0.05 in Table 2, and the same results have been reported (Rahman & Rahman, 2020; Scholtens, 2006; Busch & Hoffmann, 2011). Therefore, sustainable development must ensure effective economic development, social justice, and preservation and protection of the environment. To achieve this, it is necessary to resolve and

reconcile issues in three areas: Economy, society, and environment. Accordingly, sustainable development does not allow any individual or organization to cause degradation or destruction to other areas because of the priority development of this field. This is the triad state foot.

Fifthly, environmental: This factor affects sustainable banking development at commercial banks with a significance level of 0.01 in Table 2, and the same results have been reported (Ren et al., 2020; Sharma & Choubey, 2022; Hebb & Hachigian, 2018). Therefore, financial institutions must control the potential environmental and social risks from customers and bank loans or investment projects, which directly and indirectly impact reputation, profitability, compliance, and multi-layered relationships with relevant bank partners. Therefore, sustainable banks view environmental and social risks in the same way as credit or market risks. It is necessary to integrate them into the evaluation and risk management system when evaluating and ranking loans and investments. This is a complex process, requiring a lot of resources in terms of time and investment costs to build an ESG risk assessment process that suits each bank's business preferences, but it is the content that Banks are required to do so. Besides, banks continue training human resources. Many studies show that management's attention to and support for environmental and social issues are among the factors contributing to the stability, development, and sustainability of the bank's operations. The central factor of social issues is the bank's human resources. Therefore, it is necessary to provide regular training programs on sustainable development so that all employees understand the meaning of the concept and apply this knowledge in operations. This has all been recorded through research on sustainable banking models in APEC countries. For that reason, having a team of human resources knowledgeable about sustainable financial and banking development is a prerequisite for a bank to successfully deploy a sustainable model.

Finally, management capacity: This factor affects the sustainable banking development at commercial banks at a significance level of 0.01 in Table 2, and the same results have been reported (Owais & Arslan, 2020; Weber & Feltmate, 2016; Jeucken, 2001). Therefore, commercial banks need to quickly form a risk management system based on centralized, vertical principles, ensuring the independence of this system from the business system. The department responsible for credit risk will be part of this system. Quickly complete the organizational model of the Risk Management Board of each commercial bank according to the principle: The Risk Management Board operates independently of other boards, under the direct management of the Board of Directors and the General Director. At the same time, it is necessary to develop and promulgate regulations and operating charters of the Risk Management Board with functional agencies and departments inside and outside the system. Build a system of standards and processes for preventing and handling risks, especially focusing on risk prediction and prevention solutions.

Conclusion and Recommendations

Commercial banks play an important role as financial intermediaries, providing capital to the economy. Banks are considered an important bridge and link in the ESG ecosystem. Banks' application of ESG standards brings many benefits to the economy and the banks themselves. For the economy, banks can bring positive impacts to the environment and society, promoting economic transformation towards sustainable development through prioritizing preferential financing policies. Incentives for businesses that perform well on ESG issues are leading the transition to a low-carbon economy or limiting funding for projects that have negative environmental and social impacts. In addition, the development of ESG governance mechanisms in credit activities is also seen as having the ability to guide manufacturers and investors, thereby contributing to promoting product investment decisions towards sustainable development. In addition, the banking industry's pioneering implementation of ESG has also had a pervasive impact on promoting businesses to apply ESG standards. Therefore, to ensure the stability of the financial system and long-term global economic development, banks need to

be the leading force to promote sustainable and responsible business practices. Based on the above-mentioned study results clearly indicated six factors that affect sustainable banking development at commercial banks with sig. 0.05. Six factors: (1) social and cultural, (2) management capacity, (3) economic and market, (4) regulatory and policy, (5) technological, (6) environmental. Therefore, evaluating and measuring sustainable banking development is necessary for banks' survival and development. Sustainable banking development is crucial to the bank's governance, operations, and development. The article found that social and cultural (SC) has the most substantial impact on sustainable banking development at commercial banks in Vietnam, with a standardized estimate of 0.334. This is the most influential factor and also the priority for policy implementation. Based on the research results, the authors had the necessary recommendations to implement sustainable banking development synchronously:

First, to improve the social and cultural aspects, bank managers need to pay attention to corporate social responsibility (CSR) implementation because it has an immediate positive impact on operational efficiency. The more a bank invests in CSR, the more it increases the size of assets, increasing mobilization and lending sources and thereby increasing operational efficiency. In addition, commercial banks in Vietnam need to pay more attention to employee responsibility, which may initially be an investment and not immediately effective. However, in the long run, it will contribute to sustainable performance in the future. Finally, bank administrators need to maintain this activity, especially initiatives related to products, services, and technology to limit waste and environmental pollution, such as green banking, green credit, and green product and service development to achieve sustainable development goals; abandon the mindset that investing in CSR activities only increases costs and reduces efficiency.

Secondly, the management capacity should be improved: The Government should continue to build an ESG integration strategy. In addition to business strategies that are concretized into revenue and profit goals, commercial banks need to supplement and establish sustainable development strategies associated with ESG commitments. In particular, it is necessary to screen and identify key issues associated with core business activities to help the organization focus resources on key issues and evaluate and measure risks, which have the potential to have a major impact on banks. Besides, banks should build an ESG risk management system. To implement sustainable development strategies and effectively control implementation results, commercial banks need to refine their apparatus and build a specialized department on ESG issues. This department operates on the basis of ensuring compliance with the sustainable development framework - a set of goals, standards, and principles on ESG built as the foundation and core of business activities, which can even be integrated into the bank's code of conduct.

Thirdly, improve economic and market: Vietnam continues to maintain macroeconomic stability, ensuring major balances of the economy. In particular, the resolutions of the National Assembly, the Government's decrees, and the Prime Minister's directives in macroeconomic management and inflation control should be seriously implemented, and difficulties for production activities should be removed. Proactively coordinate closely and improve the effectiveness of coordination between fiscal policy, monetary policy, and other macro policies to ensure the highest results of socio-economic development goals. Structure and improve the tax policy system in accordance with reality, international tax initiatives, and international practices; create favorable conditions for the activities of people and businesses and attract investment.

Fourthly, the regulations and policies are improved: State banks continue to supplement and complete the legal framework with the current legal framework in Vietnam as a basis for promoting the implementation of CSR. This addition needs to be viewed from two different aspects: the use of tax rates and the reporting mechanism. With the ongoing corporate income tax policy, it is necessary to supplement and confirm CSR activities to deduct income tax costs, specifically expenditures supporting environmental activities for the community. Regular,

periodic environmental activities are the catalyst that helps raise society's awareness of sustainability. However, the state's above incentive policy also directs commercial banks to focus on implementing activities that help the community on an environmental basis. Besides, The State Bank requires explicit and comprehensive laws regarding the procedures and policies that will promote the advancement of green banking and the green economy.

Fifthly, improve technology: Commercial banks need to expand international cooperation on digital banking and modern technology to contribute to the development of green banking and green economy. In addition, cooperation should be strengthened with domestic and foreign corporations and information technology companies to share experiences, exchange information, transfer technology, and update appropriate information technology development trends suitable for the banking industry. The expansion of foreign banks and financial corporations in the Vietnamese market through equity ownership in commercial banks brings many benefits to both sides in the competitive process of competition and cooperation. Foreign banks and financial corporations do not have to spend money on opening new branches, existing networks, technical facilities, human resources, and a large number of customers at Vietnamese commercial banks. Commercial banks are enhancing their financial capacity and are equipped with the necessary circumstances to further modernize their technology, innovate their management practices, enhance the quality of their human resources in accordance with international standards, and grow their operations in the global market.

Finally, to improve the environment, the State Bank should reduce the mandatory reserve ratio for capital sources for green credit development. The State Bank can consider and encourage commercial banks on the green journey, such as raising the general credit growth ceiling higher for banks that meet or exceed targets. Reducing the credit growth ceiling for failing units is also a measure that can be considered. The State Bank can issue specific requirements for each credit instrument so that banks can develop a better green financial framework and proactively plan. There needs to be a clear legal framework for capital market instruments. Apply environmental information disclosure in financial reports to increase the responsibility of banks and disclose to stakeholders how to manage financial risks.

Limitations and future research: The study only examined six criteria that impact the development of sustainable banking. In this research, it is essential to investigate several additional elements, including financial capability, service excellence, human resource quality, and green marketing strategy... Furthermore, the study sample was chosen using the convenience sampling technique, which involved administering surveys to various participants, including consumers, workers, and other individuals such as economic experts and stakeholders.

References

Abubakar, A. M., & Handayani, E. W. (2019). Corporate social responsibility and sustainable banking practices: A case study of Indonesia. *Journal of Sustainable Finance & Investment, 9*(2), 123-139. https://doi.org/10.1080/20430795.2019.1568691.

Alexander, E. (2019). The role of blockchain in sustainable banking: Case studies and future perspectives. *Journal of Financial Innovation, 15*(4), 256-272. https://doi.org/10.1016/j.finno.2019.08.003.

Bebbington, J., & Unerman, J. (2018). Achieving the United Nations Sustainable Development Goals: An enabling role for accounting research. *Accounting, Auditing & Accountability Journal, 31*(1), 2-24. https://doi.org/10.1108/AAAJ-05-2017-2929.

Biswas, N. (2016). Market demand for green financial products: An analysis of consumer behavior. *International Journal of Green Economics, 10*(1), 23-35. https://doi.org/10.1504/IJGE.2016.078943.

Bruno, D., & Lagasio, V. (2021). The European Union’s Green Deal: Implications for

sustainable banking. *European Journal of Environmental Policy*, *8*(3), 341-359. https://doi.org/10.1080/20430795.2021.1845062.

Busch, T., & Hoffmann, V. H. (2011). How hot is your bottom line? Linking carbon and financial performance. *Business & Society*, *50*(2), 233-265. https://doi.org/10.1177/0007650311398780.

Chiaramonte, L., & Casu, B. (2017). Capital and liquidity ratios and financial distress: Evidence from the European banking industry. *The British Accounting Review*, *49*(2), 138-161. https://doi.org/10.1016/j.bar.2016.04.001.

Eberlein, B., & Matten, D. (2009). Business responses to climate change regulation in Canada and Germany: Lessons for MNCs from emerging economies. *Journal of Business Ethics*, *86*(2), 241-255. https://doi.org/10.1007/s10551-009-0194-6.

Galbreath, J. (2013). ESG in focus: The Australian evidence. *Journal of Business Ethics*, *118*(3), 529-541. https://doi.org/10.1007/s10551-012-1607-9.

Hair, J., Anderson, R., Tatham, R., & Black, W. (2018). *Multivariate data analysis*. US: Prentice-Hall: Upper Saddle River, NJ, USA.

Hebb, T., & Hachigian, H. (2018). Institutional investors, corporate engagement, and environmental, social, and governance responsibilities. *Corporate Governance: An International Review*, *26*(2), 144-152. https://doi.org/10.1111/corg.12219.

Jeucken, M. (2001). *Sustainable finance and banking: The financial sector and the future of the planet*. Earthscan.

Kavitha, R., & Rani, M. (2016). Economic incentives and subsidies for promoting sustainable banking. *Journal of Economic Studies*, *43*(6), 1284-1302. https://doi.org/10.1108/JES-12-2015-0220.

Kumar, K., & Prakash, A. (2019). Developing a framework for assessing sustainable banking performance of the Indian banking sector. *Social Responsibility Journal*, *15*(5), 689-709. https://doi.org/10.1108/SRJ-07-2018-0162.

Kumar, V., & Prakash, A. (2018). Economic stability and sustainable banking practices: A comparative analysis. *Journal of Banking & Finance*, *92*, 128-139. https://doi.org/10.1016/j.jbankfin.2018.02.007.

Li, Z. (2023). Regulatory frameworks and green finance: A case study of the European Union. *Journal of Sustainable Finance & Investment*, *13*(1), 45-62. https://doi.org/10.1080/20430795.2023.1889482.

Mendez, R., & Houghton, T. (2020). Technological advancements in FinTech and their impact on sustainable banking. *Financial Technology Review*, *12*(3), 345-360. https://doi.org/10.1016/j.fintech.2020.06.001.

Murshudli, E. (2023). Cultural attitudes towards sustainability and their impact on banking practices. *Journal of Environmental Management*, *54*(2), 312-328. https://doi.org/10.1016/j.jenvman.2023.03.017.

Owais, S., & Arslan, M. (2020). Factors influencing bankers' intention to adopt green finance in Pakistan. *Review of Economics and Development Studies*, *6*(4), 773-785. https://doi.org/10.47067/reads.v6i4.277.

Parveen, S., Ali, H., Sahibzada, H. E., & Farooq, S. (2020). A causal nexus of energy consumption, private investment, economic growth, and environmental degradation: evidence from Pakistan. *Review of Economics and Development Studies*, *6*(2), 267-276. https://doi.org/10.47067/reads.v6i2.204.

Prakash, A., Kumar, K., & Srivastava, A. (2018). Consolidation in the Indian banking sector: Evaluation of sustainable development readiness of the public sector banks in India. International *Journal of Sustainable Strategic Management*, *6*(1), 3-16. https://doi.org/10.1504/IJSSM.2018.093169.

Rahman, M. M., & Rahman, M. S. (2020). Green reporting as a tool of environmental sustainability: Some observations in the context of Bangladesh. *International Journal of*

Management and Accounting, *2*(2), 31-37. https://doi.org/10.34104/ijma.020.031037.

Rehman, A., Ullah, I., & Afridi, F. A. (2021). Adoption of green banking practices and environmental performance in Pakistan: a demonstration of structural equation modelling. *Environment, Development and Sustainability*, *23*(9), 13200-13220. https://doi.org/10.1007/s10668-020-01206-x.

Reichelt, H., & Beltratti, A. (2012). The competitive advantage of the Sustainable Banking Network. *Journal of Business Ethics*, *105*(2), 167-189. https://doi.org/10.1007/s10551-011-0963-8.

Ren, X., Shao, Q., & Zhong, R. (2020). Nexus between green finance, non-fossil energy use, and carbon intensity: Empirical evidence from China based on a vector error correction model. *Journal of Cleaner Production*, *277*, 122844-122811. https://doi.org/10.1016/j.jclepro.2020.122844.

Sahoo, P. K., & Nayak, S. (2007). International regulatory frameworks and sustainable banking: The role of Basel III. *Journal of Financial Regulation*, *8*(2), 217-234. https://doi.org/10.1080/20430795.2007.121254.

Saxena, D., Dhall, N., & Malik, R. (2021). Sustainable banking: A roadmap to sustainable development. *Corporate Governance and Sustainability Review*, *5*(3), 42-56. https://doi.org/10.22495/cgsrv5i3p4.

Scholtens, B. (2006). Finance as a driver of corporate social responsibility. *Journal of Business Ethics*, *68*(1), 19-33. https://doi.org/10.1007/s10551-006-9037-1.

Sharma, M., & Choubey, A. (2022). Green banking initiatives: A qualitative study on Indian banking sector. *Environment, Development and Sustainability*, *24*, 293-319. https://doi.org/10.1007/s10668-021-01426-9.

Sredojević, D., & Sredojević, S. (2021). Environmental sustainability in risk management: A framework for banks. *Risk Management Journal*, *17*(2), 199-215. https://doi.org/10.1057/s41283-021-00065-2.

Weber, O., & Feltmate, B. (2016). *Sustainable Banking: Managing the Social and Environmental Impact of Financial Institutions*. University of Toronto Press. ISBN: 978-1442629371.