




Theoretical Framework for the Influence of Crucial Factors on Green Banking Strategy Implementation

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Abstract. Over the past decade, most research in sustainable development has emphasised the implementation of green banking as an essential component of the transition to Sustainable Financial 2.0. By maximising the integrated value, which integrates financial, social, and environmental value, it provides stakeholder value. Generally, one of the most important objectives of sustainable growth is to ensure environmental value. A stable environment could let the next generation gain more profit without worrying about hardship and risks from natural disasters. As a result, the stakeholder approach to corporate governance and the practice of corporate social responsibility leads to the adoption of green banks. The purpose of the study is to analyze the factors that affect how green banking strategies are implemented and to make hypotheses about how effective these factors are for green banks. To fulfil such purpose, the theory of change is used to classify these factors into ESG (environment, society and governance) model under the theoretical framework. While external factors influencing green banking strategy include the environment (including physical risks, transition risks, and liability risks) and society (including policy, regulation, customer demand, and competition), bank management is a crucial internal component to guiding the banking system toward going green.

Keywords: Bank management · Environmental pressure · Green banking · Policy and regulation · Social impacts · Theory of change

1 Introduction

This paper points out and analyses key elements in the input of green banking transformation in sustainable development strategy based on the theory of change model. The green banking strategy was introduced based on profit maximisation and the stakeholder approach to corporate governance [1].

In respect of profit maximisation, the banking industry has a long-time history with the earliest evidence of banking activity can be traced back to ancient Mesopotamia more than 2000 years ago. The role of the banking system is considered barely changeable over hundreds of years since they are large financial intermediaries that support the distribution of wealth by transferring savings into investment and facilitating trade.

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Regarding macroeconomic analysis, banks protect financial stability by following the monetary policy, boosting economic growth while managing risks. Climate changes and ecological devastation cause credit risks and market risks in the banking industry. A likely explanation is that climate change and pollution may lead to supply chain disruptions thus generating damages for traders and customers. It might raise the default rate and increase financial transaction costs. As a result, banks should be more active in managing environment-related financial risks.

Additionally, banks refer to an undertaking the business in finance sectors so banks have to operate to make profits and risk minimisation is a tool to maximise profit. [2] As discussed above, environmental risks might contribute to market risks and operational risks of banks involving reputational risks that require banks to attempt to prevent.

The business decision should consider the interest of various individual groups as much as possible. Ecosystem saving is necessary to not only ensure the health of shareholders, employees, and customers and reduce risk to business and society. Therefore, stakeholders put pressure on banks to complete a green bank model reducing risks to their life. Under the stakeholder approach, the theory of change illustrates the interventions of related parties and other factors to predict a specific development change based on the causal analysis. The theory of change draws the map to reach long-term goals by defining inputs, outputs and outcomes of a change in the social phenomenon. The models help to understand the pressure and influence of stakeholders on the promotion of green banking strategy.

Recently, stakeholders concern about the environment and national habitats as they realise the adverse impacts of overexploitation and climate change. International treaties such as Cartagena Biosafety Protocol (2000) to the Rio Convention on Biological Diversity (1992) and its Supplementary Protocol on Liability and Redress (2010); UNFCCC Framework Convention on Climate Change (1992); Kyoto Protocol (1997); Paris Agreement (2015) and Montreal Protocol (1987) as amended indicates the pressures of specific stakeholders like governments and society on the adoption of sustainable development policies in which sustainable finance plays a key role. Following the global greening trend, the banking system around the world tries to adopt a green bank strategy for a brighter future.

2 Literature Review

The development of green banks is compatible with the transformation of the sustainable finance stage. According to Schoenmaker and Schramade, sustainable finance can be categorised into 03 stages [3]. In the first stage (SF1), business entities, especially banks, try to refine the shareholder value and focus on maximising financial profits without directly focusing on environmental issues. However, sustainable finance 2nd stage (SF2) witnesses the change in the banking industry while banks and financial institutions significantly improve their integrated values (including financial value, environmental impacts and social value). Banks try to impact the ecosystem directly and indirectly by internalising the social and environmental externalities into the portfolio and decreasing risk in the medium to long term. In the future, sustainable finance 3.0 expects to orientate financial decisions to sustainable development, which moves from avoiding

risks to making opportunities. It creates common good value by optimising the social and environmental long-term value more than only focusing on financial gains. Globally, the banking industry is likely in the SF 2.0 with a variety of efforts to conduct eco-friendly practices while taking care of total income. Since the banking industry contributes to a sensitive sector of the economics, regulations and supervision framework for green banking adoption work strictly to protect financial stability and turn the whole system into a sustainable way.

Initially, national cooperation tries to cover the environmental issues in the Basel framework for banking system stability. It occurs implicitly in the formula to calculate the risk ratio (credit risk, market risks and operational risks). Therefore, in the first stage, green policies are likely a part of codes of conduct in the corporate social responsibility of banks and a risk management tool to protect the financial market.

The concept of Green Banks first began in 2003 to shed the idea of the engagement of the financial system in protecting natural resources and habitats. In 2012, the International Finance Corporation (IFC), a member of the World Bank Group, established Sustainable Banking Network. It is considered a community of central banks, regulators and supervisors in financial sectors, and associations of countries around the world who take charge of advancing sustainable finance based on managing environmental, social and governance issues. Contributing to finding solutions for climate change and other environmental problems is one of the core objectives of the sustainable Banking Network. [4].

2.1 The Definition of Green Banking

Nowadays, green transformation becomes an inevitable trend in new era. The concept of “green banking” combines the meaning of “green” and the definition of “banking”.

Green practices are defined as method to save the environment and preserve natural resources. Specifically, the term “green” is clarified as a method for climate change mitigation and adaptation in accordance with the definition simplified by United Nation Environment Programme [5] (Fig. 1).

Meanwhile, to make the scope of green practices a little bit clearer, United Nations Framework Convention on Climate Change (UNFCCC) defines the concept as “reducing gas emissions and enhancing greenhouse gases, reducing vulnerability, maintaining and increasing the resilience of human and ecological system”. Following global sustainable development, each national system designed a particular concept of green practices based on its own social, economic and political governance.

Green practices could be adopted in the banking sector in a wide range of approaches. Kaeufer divides the environmental-friendly activities of banks into five-level, including unfocused corporate activities, isolated business projects or business practices, systemic business practices, strategic ecosystem innovation and intentional (purpose-driven) ecosystem innovation. [6] At the same time, Karyani and Vangi classify green banking practices into two approaches (lending and operating activities) with three specific steps, including defences bank, preventive banks and offensive banks. [7] Their classification is based on the responsibility and autonomy of banks in the contribution of integrated value. While the defences bank only follows the environmental protection rules as the law imposes on itself, the preventive bank begins to run cost-saving projects by applying

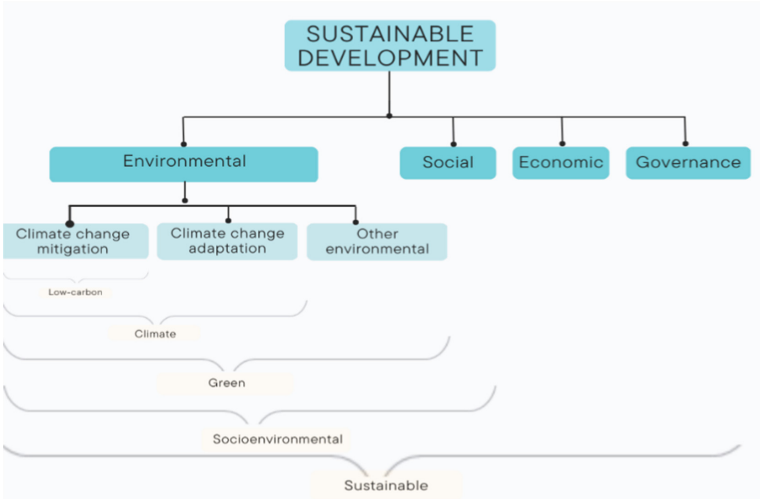


Fig. 1. Elaboration on Definitions and Concepts: Background Note [5]

a paperless process and reducing investment risk. At a higher level, the offensive bank introduces new practices to increase its eco-friendly portfolio and improve its reputation in social responsibility. The study would have been more synoptic if it had addressed the issue from the nature of banking activities which relates to the flow of capital and other business services of the banking system. It means that green banking could be considered with the use of money for environmental purposes as well as the effect of green practices on customer behaviour. The banks do not only adopt green practices to change themselves but also to change society.

2.2 The Definition of Green Banking

Green practice in the banking industry can be conducted by an independent legal entity or by adding eco-friendly products and services to a commercial bank. A typical example of the prior model is the green investment bank. Green investment banks can be defined as public entities established functionally to mobilise the capital flow into climate-friendly and low-carbon infrastructure. [8] The United Kingdom, Japan and The United States of America are concerned about such a model because they want to support public finance to improve green projects as well as generating and controlling private climate finance and investment in “their unique national and local context”. In this useful study of green investment banking, OECD pointed out that this model becomes a communication method to signal the rise in cost competition and retrofits of clean energy [8]. Also, centralising green bank functions in one institution might save costs and time for technological application, staff training and project management. Despite those benefits, the operation of a green investment bank has to deal with several barriers [8]. First, the development of renewable energy is costly and time-consuming. Till now coals make up the largest part of electricity production and the investment in building infrastructure for new energy might affect the exposure of the whole country to a large extent.

Also, green banking is an interdisciplinary issue. As a result, inconsistent policies might be an obstacle to sustainable development. Next, the transition toward environmental and social values has a long-term impact, therefore, it is difficult for central banks and financial regulators can react immediately to the mistake in policy and regulation. Additionally, due to the long payback period, green bank investment lacks financial sources from individual or private investors. The most serious problem could be found that once national budgets have to be spent on other sectors, the operation of green banking might be suspended. Banks and financial institutions had better increase the private funds for the implementation of eco-friendly practices because the voluntary of market players implies the corporates' awareness of environmental value [9]. Especially, the asymmetric information of banks in the system might affect the performance of green banking practices. These obstacles can be solved by creating a database and a supervision board to manage risk and guide the firm to ensure the smooth run of this transition. It is therefore considered a stepping stone for the transition of the banking system toward sustainable finance [8]. It attempts to provide a wide range of relations between the green investment bank and other actors in the financial markets such as government-sponsored loan programs, institutions for cleantech research and development, public agencies, banks and international funds. Green investment bank builds a shared database and connects related subjects to help the green strategy run smoothly. The study might have been more persuasive if the author had explained why developing nations like India, Pakistan, Bangladesh and Vietnam tend not to apply such a model and whether there are proper ways to construct an independent institution to implement green practices and allocate green funds in the banking industry. It may be because when environmental resilient programs are housed in different banks and financial institutions, consolidated projects might expand green practices to a large scale. However, intervention may cause a stir in business operations. Meanwhile, centralising green banking into one institution can prevent unexpected change but require huge national budgets and a completed working strategy.

In general, green banking practices refer to internal operations, also known as bank culture and external operations including the products and investments of banks. Bank cultures refer to the shared values in a bank as practised by bank staff in an informal and unspoken language that makes each bank distinct. Nowadays, the integration of innovative technology and digital management contributes to the reduction of paper and leads to a paperless working environment in near future. Some internal operations can be listed as training staff for environmental protection, paperless operation and a green work environment. Banks make lots of attempts to develop a unique green working culture [10].

At the same time, green products and services open up new opportunities for business thanks to the support of authority and the increase in demand from corporate. Green products can be listed as online and Mobile Banking, Green checking accounts, green bonds development, green lending and green deposit schemes. Banks tend to spend more money on research and development (R&D) to create new green products and integrate technology to reduce paper use and provide customer-friendly services.

2.3 Green Financial Products and Services from Banks

In addition to covering environmental-friendly internal operations, green banks have the function of developing and improving the diversity of the green product market as a financial instrument for protecting the environment. New generation products are designed to promote consumer awareness of environmental issues, manage medium and long-term risks, and finance the future.

As mentioned above, green banks join in the green process by innovating sustainable banking services such as offering green deposit-taking schemes, green credit extensions and green payment accounts. Further, banks are encouraged to widen their investments by providing diversified financial products and services to protect the ecosystem.

The green finance market has risen from \$5.2BN in 2012 to \$511.5 BN in 2021 [11]. It demonstrated a significant increase in supply and demand for green financing.

Concerning green banking services, green credit extension accounts for the most significant proportion of green financing. For personal lending, banks introduced green mortgage lending, green car lending and green loans for small businesses. Banks offer reductions of interest or incentives for loans that meet environmental criteria like using renewable energy. In Vietnam, BIDV collaborated with BIC and SolarBK to introduce BigK solar power solutions for households, which guarantee to support 70% of the total cost for households to install solar electricity systems, to sponsor 277,000 home installations in Vietnam by the end of 2019 [12]. At the same time, Sacombank provides loan packages without credit line limits with many incentives, for example, loans valued at up to 100% of capital need (maximally VND500 million) for individuals and households in need of solar power equipment installation or buying cars with eco-friendly labels. Meanwhile, Agribank reduces interest from 0.5% to 1.5% per year for individuals joining in building green, clean, smart and sustainable agricultural product chains [12]. For corporate lending, following governmental policies, banks focus on green project financing by funding large-scale renewable energy and green agriculture development. In 2017, the State Bank of Vietnam promulgated decision 813/QĐ-NHNN on the loan provision program serving high-tech and clean agriculture development under the government's resolution no. 30/NQ-QH. Agribank, Vietcombank, Vietinbank, BacABank, HDBank, Sacombank and ACB proposed a VND135.000 billion to support green and hi-tech agriculture. Further, solar energy projects, green tourism, water management and waste management are specialised long-term investments for climate change mitigation and ecosystem protection that banks lead the effort to finance [13]. Therefore, banks issue or underwrite green bonds to provide a new fund-raising channel for long-term investment projects. According to the HSBC report, Vietnam is the second largest green bond issuer in ASEAN (reaching 01 billion USD and focusing on transportation and energy) [14]. Generally, green lending finance environmental-friendly projects with high-standard of supervision and transparency. The fund comes from social lending and the government budget to support long-term sustainable goals.

Regarding other financial services, banks introduced a green deposit scheme by green checking accounts. It reduces the paper used and improves the digitalisation in the banking system with the purpose of saving resources [10]. Also, green cards and cashless payment systems are designed to provide discounts and low fees to users who purchase eco-friendly products and services [5]. Since there is a wide range of products and services that green banks provide, the efficiency of these financial instruments relies on many factors. Besides the internal banking strategies, environmental pressures and policies & regulations might be mandatory elements to urge the bank to commit the green development. Additionally, customer demand and competitive pressure are supplementary factors to improve the green growth of banks.

3 Methodology

The theoretical framework proposed in this study based on the theory of change which evaluates the impact of input factors, including the legal frameworks, social pressures, environmental pressure, competition pressure and corporate governance requirement on the efficiency of green banking implications.

The theory of change can be traced back to the late 50 decades of the twentieth century in the United States before it was developed and popularised by Weiss in 1995 as “a theory of how and why an initiative works” [15]. ToC was widely used to navigate how “an initiative—such as a policy, a strategy, a program, or a project—contributes through a chain of early and intermediate outcomes to the intended result” [16]. It provides basic criteria to identify the resources, recognise stakeholders and build a plan and framework for monitoring and assessing the efficiency of such changes. Shortly, it helps to explain the causal links between stakeholders’ pressure and the outcomes thus suggesting lawmakers and supervisors regulate and direct the green transformation in the banking and finance sectors for a long-term process.

The motive for the theory of change in green banking practices might come from the “results agenda”. Donor funds in global development are making change and “value for money”. The theory of changes provides a strategic framework to demonstrate the connection between changes in externalities and corporate behaviours as well as the economy toward green growth. ToC is illustrated in a diagram with narration covering the problem, monitoring methods and evaluations.

As applied in the green banking adoption, ToC can be analysed as a table bellowed (Figs. 2 and 3).

For the green banking adoption, the stakeholder group and input factors could be defined as:

- (i) Environmental pressures include
 - a. Physical risks;
 - b. Transition risks;
 - c. Liability risks

THEORY OF CHANGE FRAMEWORK

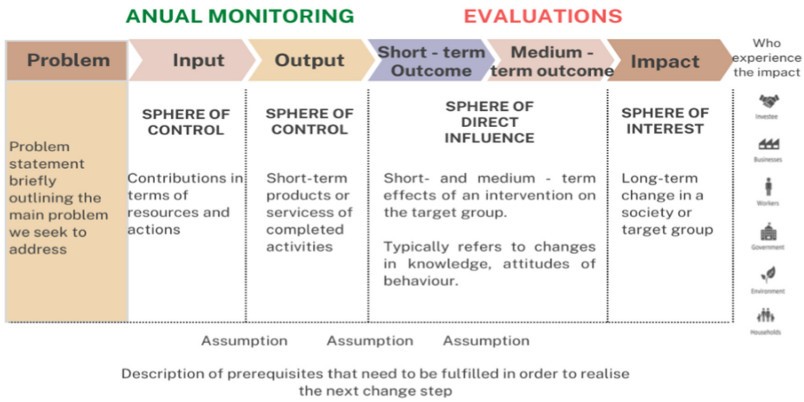


Fig. 2. Cited from Norfund [17]

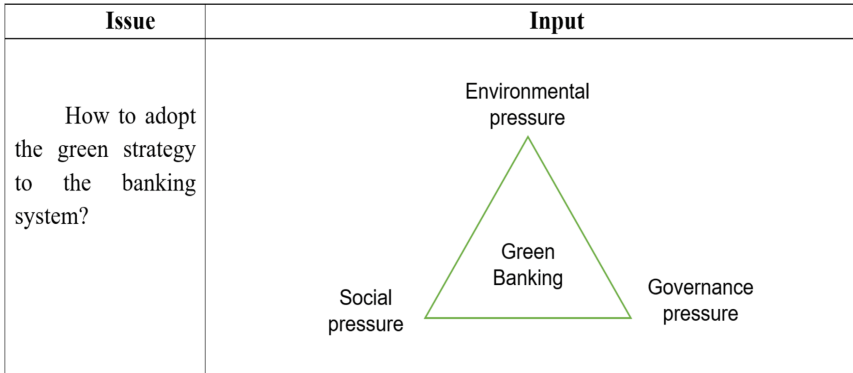


Fig. 3. Factors affecting green banking strategy

- (ii) Social pressures cover
 - a. Policy and regulation requirements
 - b. Competition: reputation and support from the state
 - c. Customer pressure: green life and green concern
- (iii) Governance pressures include
 - a. Green banking culture
 - b. Management requirements

The environmental pressures land the lead role in the process of green banking adaptation. Tara pointed out that environmental sustainability is one of the constituents of using resources without damaging the environment and depleting the supplies for current

and future generations [18]. As a result, banks bear high pressure from environmental protection requirements.

In addition, social issues such as policymakers, regulators, and customer pressure force the banking industry to conduct green practices. Public awareness about the harmful effects of climate change and environmental pollution increases the number of policies and legal frameworks focusing on green finance [19]. If banks do not follow these rules, they might not get support from national priority programs for green growth or even might be liable for an administrative fine. However, policy risks exist when there is uncertainty about the effect of regulation on low carbon assets overtime. It might cause harmful impacts on many sectors. For example, the uncertainties in consistent policy have damaged the real estate market and energy efficiency, causing the energy crisis in China and inefficiency operation of energy market in the EU [20]. Similarly, besides the influence of Russia – Ukraine war, the late reaction of government significantly raises the energy costs, thus causing cost-of-living crisis [20]. Consumers are struggle to pay higher bills. Long-term policy, framework and plans have to be consistent to reach sustainable goals. Also, customers are one of the main stakeholders of financial institutions. Owing to the importance of stakeholder theory in corporate governance, banks have a concern about the demand and interests of customers while making financial transactions. Customers and society encourage responsible manners and ethical behaviour [21]. In case banks could not adapt to their need, they might choose services from other competitors that not only do banking activities but also provide better profits for the society and environment. As a result, competition also put pressure on the green transformation of the banking industry due to the mimetic effect. Once the banks' competitors introduce new eco-friendly practices, the banks tend to evaluate these practices and improve their operations to catch up with other players in the market.

Another crucial input factor of green banking adoption is management pressures. Environmental pressure and social pressure require bank managers commit the applying green strategy. The management had better include internal approach and external activities to develop a completely sustainable bank. From the scope of this paper, the impacts of vital stakeholders including the environment, society (policymakers, regulators and supervisors, customers) and managers will be discussed in detail. The management pressures deal with technology risks and business model risk. It plays an important role in the financial decision making of a bank.

4 Discussion

4.1 Environmental Pressure on the Green Banking Policy

Environmental degradation and climate change impose serious risks to banks in the process of green growth, which can be classified into physical, transition and liability risks [22]. Physical risks can broadly be defined as direct risks resulting from natural disasters such as floods, hurricanes, ice storms, rainy storms, droughts and fires as well as damages from ocean level rise, temperature increases and ecosystem disturbances like productivity decrease, poor harvest and freshwater shortage. It might lead to higher default credit rates in vulnerable industries such as agriculture, forestry, fishery and tourism. Additionally, bank properties might decline in case of a global food crisis or

economic crisis caused by ecosystem disruption. Meanwhile, transition risks refer to the reduction in asset values or the rise in transaction costs of some industries on the pathway to a carbon-lower economy [22]. It occurs when there is a lack of carbon-neutral to substitute fossil fuels (steel, oil, coal and gas) so businesses have difficulties in changing their decision and redesigning their production to an eco-friendly manufacturing chain. As a result, banks face problems of higher default rates by carbon-intensive sectors and “impaired loan portfolio due to stranded assets” [23]. Also, the increase in energy and commodity prices more or less negatively affects the liquidity and monetary policy, forcing banks and insurance companies to modify the value of investments. However, the transition offers a chance for innovation in the digital revolution, the creation of new jobs and competition improvement. At the same time, banks take their eyes on the liability risks, which come from business entities claiming damages and losses generated from physical or transition risks as indicated. It increases insurance costs and guarantees fees that require banks to adjust their working plan.

Although the transition toward green banking has to face risks related to the significant remodelling of carbon-intensive sectors, the benefits of the green banking strategy to mitigate physical environmental risks might be much more extensive than the impacts of transition risks on financial stability. What the bank manager should do is design a management strategy to cope with transition risks and related liability risks to avoid catastrophic tipping points while supporting other businesses with greener financing [24]. As a result, the paper proposes the following hypothesis for further empirical research:

H1: Environmental pressure will positively speed the green banking implementation.

4.2 Social Pressure on Reaching a Green Growth in Banking System

Policy and Regulation Requirement. It is necessary to examine how legislators involve these theories in making a framework for environmental-friendly operations toward sustainable development. Central banks and financial regulators contribute significantly to the policy-making and regulation implementation of green banking development.

Green banking policy instruments or legal frameworks could be classified in a variety of ways. Looking at the economic perspectives, the framework of green banking can be grouped into four categories which include macro-prudential policy, micro-prudential policy, market-marketing policy and credit allocation policy [23]. Loan exposure restriction aims to limit the credit exposure given to high-carbon projects. It might become a barrier for investors who fund their carbon-intensive work. Environmentally damaging products could be reduced by this macro-prudential policy. Generally, these policies are consistent with the Basel accord to ensure the harmonisation and cooperation of the international community.

Different from Dikau and Volz, Oyegunle & Weber divide green banking policy or framework by the interference of government power [1]. These policies or rules can be classified into three main categories, including mandatory regulation, voluntary guidelines and the hybrid approach. Mandatory regulations such as are widely known as disclosure requirements, green macroprudential regulation and climate-related Stress Testing (CIGI research Convening), reserve requirements and Capital requirements (as criteria under Basel III) Mandatory regulations are widely used in Bangladesh, China,

Indonesia and France. These requirements state specified quotas of the amount of credit that banks have to lend for green projects and the quota of exposure for the green facilities of internal operation. The advantage of this approach is that it provides a transparent framework with disclosure requirements and provides the same opportunities and challenges to banks in reaching environmental goals without bias. However, this paper does not demonstrate the drawback of this approach. One major disadvantage is that compulsory regulation might affect the autonomy of banks and violate the market principle to some extent. As a result, the International Finance Corporate (IFC) recommends the use of the voluntary framework for eco-friendly banking practices [4]. Despite those benefits, one drawback of compulsory rules can be mentioned is the resistance of banks and financial institutions to follow green practices. Under some circumstances, eco-friendly operations might be a financial burden to banks unless subsidies are given since green bank investments take a long period to pay back and receive positive results [4]. Further, the lack of consistency in legal frameworks of other sectors might affect the whole of economics since banks play a core role in the financial systems. Voluntary guidelines include the performance of directed green credit policy instruments like subsidised loan rates for priority sectors (low-carbon industry), rediscount rates, budgetary subsidies and extend of the payment period [23]. Also, accepting a carbon certificate is considered a tool to attract the inclination of firms as it helps gain reputation and earn economic profits. Banks are encouraged to voluntarily change their goals from maximising the financial value to optimising the integrated value for sustainable development. Unfortunately, the research of voluntary guidelines lacks data management and a transparent system to help firms compare and contrast the pros and cons of each voluntary instrument. For the government, they inspire the participation of banks in the green programmes by supporting communication, creating priority and providing subsidies in investment and taxonomy policy. Looking for profit from such policies, banks and financial institutions are eager to join and design innovative methods for climate adaption and mitigation as well as other environmental issues.

Combining the advantages of both approaches, hybrid instruction is another way of green banking implementation. It combines reserves requirements and voluntary guidelines for green banking practices. According to Park and Kim, Brazil and Switzerland are countries applying such a hybrid approach to enhance green banking practices [23].

Practitioners' Dialogue on Climate Investments (PDCI) has another way to classify the green banking guidance related to the scope of application for each category. Based on their discussion, regulations are "specific mandatory for governance or lending". At the same time, policy refers to "specific mandatory instructions for financial and business activities" while guideline means suggestions to comply with the regulation or the policy. In short, guidelines are soft laws to support the implementation of regulation and policy in practical cases.

In fact, the consideration of what instruments could be chosen and how these instruments complied together depends on the decision of financial authorities. The role of central banks and financial regulators is evaluated in some recent papers [22, 25]. Before reaching an agreement about the important role of central banks and financial regulators, there are debates about the incentives of central banks and financial regulators to impose a framework on green banking. G20 Sustainable Finance Study Group specified barriers

to green practice and mobilise private capital for eco-friendly projects. Similarly, the Bank for International Settlement (BIS) indicated the core function of central banks which is regulating the monetary policy to support the nation's financing and ensure stable financial development. Although financial profits are considered the main goals for banking systems, they argue that there is no conflict of interest in gaining profits and reaching environmental and social values because maintaining financial stability and sustainable development are also functions of central banks and financial regulators for earning profits in the long term.

Central banks and financial regulators are considered decisive state agencies who are responsible for boosting the green banking strategy. Firstly, central banks and financial regulators are active and powerful subjects in the financial system. They adjust the monetary policy, test the stability of the whole system, and prevent distortion to maintain public safety. Consequently, they should interfere with the banks' operation as soon as possible to manage risk and guide market players in the healthy and equal competition [22]. Secondly, central banks are the caretaker of financial stability. Based on the theory of political economics above, to protect price stability and mitigate environmental risks, monetary policy has to take concern of energy prices. Therefore, central banks and financial regulators are responsible to predict and prevent harmful effects on the financial system [3].

However, the central banks and financial regulators have to face several challenges in imposing a stable model for development. One of the most difficult is dealing with multi-objective optimisation. Central banks and financial regulators have to balance the goals of economic growth and the re-investment in the ecosystem [25]. Some financial profits have to be integrated with social welfare and environmental protection. Moreover, the banking industry is put in relation to a variety of disciplines. A small change in banking operations might influence a wide range of players in the market. Central banks have to co-operate and coordinate with the regulators and supervisors of other sectors.

Although some difficulties occur in the implementation of policy and regulation for green banking, it cannot deny that the guidelines from these documents provide a more transparent overview of the green growth of the banking system.

In Vietnam, policies and regulations are core elements to change the green growth of the banking system. Decision 1604/QĐ-NHNN dated August 7, 2018, the State Bank approved the green banking development project in Vietnam, whereby the main goal is to increase awareness and responsibility of the banking system. It aims to protect the environment, combat climate change and gradually transform to green banking operations, direct credit capital flows to work in support of environmentally friendly projects, promote manufacturing and service industries, green service, clean energy and regenerate energy. By 2025, 100% of construction banks are expected to have rules for environmental and social risk management in credit granting activities and 100% of banks carry out risk assessments in operating banking services. Banks have to apply environmental standards and incorporate risk assessments for the environment. The government make an attempt to form a legal framework for green banking development in Vietnam. The basis for the implementation of green banking activities in Vietnam is the National Green Growth Action Plan for the period 2014–2020 (Decision No. 403/QĐ-TTg dated March 20, 2014) and currently, the Decision No. 1658/QĐ-TTg, approving the National Green

Growth Strategy for 2021–2030 period, vision to 2050. Legal documents such as Directive 03/CT-NHNN 2015, Decision 528/QD-NHNN 2015, Decision 1355/QD-NHNN 2016, Decision 1604/QD-NHNN 2018 and Decision 1552/QD-NHNN 2020 issued by the State Bank to impose rules and soft methods to improve the green strategy. Policy and regulations not only encourage the green development of the banking system but also prevent environmental and financial risks for them by requiring banks to develop frameworks, standards, and implement environmental and social risk management in lending operations.

Customer Pressure and Competition Pressure on the Implementation of Green Banking. Customer pressure and competition pressure on green banking adoption are intimately connected to the reputation of a bank as an eco-friendly and ethical corporation which are deserved to receive trust and encouragement from society.

Customers are considered one of the major stakeholders stimulating the process of greening the banking system [13]. It is widely known that consumers own the free right to choose the products and services that adapt to their satisfaction. Nowadays, they are concerned about the environment. From surveys conducted by Deloitte and Butler in the UK and the US market, the number of people who have adopted a more sustainable lifestyle by choosing sustainable and ethical brands increase remarkably [26, 27]. To save the ecosystem, customers pay attention to sustainable products, waste reduction and carbon-neutral operations. Eco-friendly marketing identity and green practices innovate banks by developing the relationship between customers and green banking products thus creating a competitive advantage for green banks over other financial institutions. Although customers establish a positive attitude toward green products and services, costs and information asymmetry seem the biggest barriers to conducting green banking practices [28]. It put high pressure on banks to build a generic strategy for competition.

Leveraging the bank's distinctive combination of attributes, including brand equity, brand image, carbon emissions, and eco-friendly banking operations, could generate long-term competitive advantages [29]. Therefore, banks should improve customers' awareness through green news, websites, social networks and publication to promote their image and show their social responsibility toward the environment, investors, customers and other stakeholders. To fulfil this target, green banking adoption has to cover three following pillars:

- (i) Green cost leadership means decreasing costs by controlling carbon-intensive raw materials and increasing the cost of “poor environmental performance” [29].
- (ii) Green differentiation refers to offering a wide range of green products based on a different level of green demand of customers. It might mitigate transition risks while ensuring green transformation in the banking system.
- (iii) Green focus is the strategy built on the combination of green cost leadership and green differentiation. It involves the match of a specific green product to a specific segment of the market.

According to these pillars. The strategy for green banking adoption requires not only the cooperation and supervision of the state agency but also the bank management to process creatively competitive advantage for green banks.

In brief, it cannot deny that policy and regulation, customer pressure and competition pressure of the market change the way the bank operates. Toward the green transformation, it is hypothesised that:

H2: Social pressure will positively impact the application of green banking.

4.3 Internal Governance Coercive Pressure for Green Banking Adoption

The management of bankers is likely a direct factor that involves high influencing and cooperative ability for the green banking adoption [18]. The implementation of green practices in daily banking operations requires the combination of green internal activities and green external activities which are coordinated smoothly by the bank's top management.

Regarding green indoor activities, internal constituents refer to banking culture, banking staff and banking infrastructures. They are powerful internal motivations to adopt environmental practices in the banking industry. Banking culture focuses on the application of institutions' rules, changing attitudes and behaviours toward sustainable development. At the same time, bankers can train their staff and set greener goals for their work. Bonus and praise are effective methods to encourage banking staff to follow the green path. Also, green infrastructure plays an important part in the green indoor strategy. It includes the building design to minimise the use of land & save water and electronic consumption, paperless or paper reduction and green waste management (for example, the zero-waste banking model). On another sides, the management have to face the technological risks to ensure that green strategy is completely sustainable for the banking system. It because low carbon technology can be relatively nascent. There can be uncertainty whether the performance of such technology is effective and stable or not. New technology used in the next ten years is almost in the demonstration or prototype phase [20]. As a result, internal management have to strictly follow the early-stage development of the technology and prepare a backup for risk management.

In respect of external operation, as the banking industry focuses on deposits, credit activities and payment method, the green transformation of outdoor management have to take into account these business lines. However, business model risks relate to the difficulties in balance the new trend of investment. It raises a question about the revenue generating and operating model of some low carbon investments, which contribute to a large proportion of banking portfolio [23]. The high risks associated with changes in low carbon infrastructures might lead to a higher cost of capital and, given the competitiveness of global capital markets, difficulties in attracting the capital required. Banks should apply low costs and differentiation strategies to provide green products such as green deposit accounts, green lending, green bonds and environment-friendly debit or credit card. Additionally, banks had better support lenders with carbon-neutral projects and improve the cashless payment system to reduce the use of natural resources. Also, green marketing and green logos might increase public awareness and boost green banking implementation.

Based on these arguments, a hypothesis is proposed that

H3: Management strategy will positively turn the banking operation into greener way.

These hypotheses could be empirically tested in further research to assess the influence of these inputs on the green banking strategy.

5 Limitations and Conclusion

5.1 Limitations

The generalisability of these results is subject to certain limitations. First, the study does not include an empirical test for the hypothesis related to the theory of changes in green banks. The analysis might be empirically evaluated in the banking systems in different national jurisdictions to figure out the impact of interested parties on the adoption of green banking as a tool to achieve sustainable finance goals. Second, the study was limited by the absence of giving solutions for unexpected factors that affect the effectiveness of green banking adoption. It can be addressed by including additional aspects based on a specific banking activity scenario. Last, the study only applies theoretical underpinnings like legal description and theory of change. Further research could be carried out to explore the connection between theoretical insights of green banking adoption with additional theories which are relevant to banking governance or sustainable development strategy.

5.2 Conclusion

Green banking is recognised as one of the effective tools for sustainable finance toward sustainable development goals [3]. Additionally, the banking system turns into a greener industry since banks try to fulfil their corporate social responsibilities as well as take care of their stakeholders' interest in environmental protection. As a result, green banking is developed as the core national strategy of developed countries like the US, the UK, Japan and developing countries such as China, Bangladesh, India and Vietnam. According to the theory of changes, the efficiency of the green banking transformation process depends on the pressures from environments, society and internal governance because these factors are important inputs having causal links to the outcomes of the whole process [23].

The paper attempts to add more information to the green banking literature thanks to applying the theory of change to identify determinants of green banking implementation and develop a theoretical framework for the green growth of the financial market. Based on existing literature, the paper analysed the role of environmental risks, including physical, transition and liability risks in the banking industry. Also, it discussed the influence of policy, regulation, customer pressure and competition on the green program. These social pressures might let bank managers cover eco-friendly practices in the operation of the bank. Accordingly, the paper posited several hypotheses for the influence of such inputs on green banking development. Despite having some limitations, the paper suggests several ideas to assess the effectiveness of green banking implementation which can be tested in the near future.

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