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Green Banking Strategy to Support Business Sustainability in Banking Sector: A Literature Review

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Abstract

Public concern and awareness of climate change has made many business sectors start to think about implementing sustainability strategies in their business activities. Of course, this is related to accommodating the market for people who are already aware of environmental issues. In the banking world, this can mean using strategies to protect the environment, such as using digital technology to reduce paper use and reduce face-to-face meetings, which will indirectly have an impact on reducing carbon emissions in transportation modes. However, it turns out that excessive use of digital technology actually creates digital waste which has an equally negative impact on the environment. There is a need for a thorough understanding of the issue of digitalization which can be a double-edged sword for environmental sustainability. This research wants to see to what extent the banking sector in Indonesia has responded to this issue so that they can maintain their business while preserving the environment. This research uses a literature review method to search for broader information and filter it in order to see a bigger picture regarding banking sustainability strategies, Green Banking, throughout the world. Green banking implemented by banks can channel funds, especially on credit, to the community by implementing an eco-friendly environmental system.

Keywords

Green Banking, Eco-Friendly System, Banking, Climate Change, Environment.

1. Introduction

The talks around environmental change are now increasingly becoming a hot topic of conversation because the change is now already at an alarming rate. According to the National Academy of Sciences, today the Earth's atmosphere contains higher concentrations of carbon dioxide, methane and nitrous oxide compared to 800,000 years previously which causes an increase in its surface temperature (National Academic Press, 2020). This is commonly known as greenhouse gas emissions that exacerbate climate change and are the cause of greenhouse effect. The greenhouse gases came from burning fossil fuel. Carbon emissions are the byproducts of fuel combustion in internal combustion engines, external combustion engines, and jet engines that are emitted via the engine's exhaust system, which includes fuel. Such activities emit gases into the atmosphere that lead to climate change (Ria et al., 2023). Various parties are becoming more aware of the need to protect, improve, and manage the environment for the general good. This has resulted in a growing commitment from the corporate world to engage in activities that have a good impact on the social and natural environment, and make the commitment as their corporate social responsibility. Currently, the spirit of maintaining environmental sustainability is starting to be called out everywhere, including the banking industry (Andarsari & Firdiansyah, 2020).

Banking according to Indonesian law No. 10 of 1998 refers to "everything related to banks, including institutions, business activities, as well as ways and processes in carrying out their business activities". The function of banking, as it is stated in Chapter 3 of Law No. 7 of 1992, is to collect and distribute public funds or as a lending institution and facilitate trade and payment transaction activities (DPR, 1998). The banking industry plays a significant role in a nation's economy. While banking operations do not significantly harm the environment as other industrial sectors, such as mining, the banking industry itself is inextricably linked to the issue of rising environmental damage if banks fail to consider this issue when providing loans and financing to their clients. Customers' operational activities when they go to the bank would cause environmental damage through gas produced by their vehicles (Sanda et al., 2023).

Carbon emission caused by transportation is one thing. Digital carbon footprint is another. The bank's efforts to reduce carbon emissions from vehicle exhaust through digital transformation have also encountered new problems. Digital banking transformation can lead to door opening for opportunities in the banking industry because it improves the relationships between banks as institutions and their customers without any restrictions (Fauzi et al., 2023). Skinner (2018) explains that in the era of digitalization, the banking sector needs to make technology-based innovations to fit the needs of the new market that is very tech-driven. This indirectly changes the way the banking industry runs their businesses, it also changes the dynamics between customers and banks (Choi, 2020; Fauzi, 2019) The digital transition was previously only intended to limit customer mobility, but previous studies found that carbon emissions can also be produced through digital technology (Sharma & Dash, 2022). Customers used to have to go directly to the bank to do transactions such as sending money, checking balances, starting new accounts, and so on. However, as a result of digital transformation, customers no longer need to use this conventional technique. Customers can now perform all of these banking tasks via the internet and applications rather than waiting in line at the bank. Along with the advancement of technology, banks are now beginning to create internet-based services, such as internet banking and mobile banking. Customers can now complete numerous transactions using simply the internet and cellphones.

Digital technology does have the advantage that customers can connect with banks without being limited by space and time, but that means there must be servers and data centers that are on for 24 hours to ensure users are always online. Digital services are now an integral component of human daily operations, playing a very critical role in providing fast communication and online file storage space, as well as developing online content and meeting video conferencing requirements. There is plenty of software and also applications that were formerly installed on users' hard drives are now available as internet-based services (World Favor, 2022). Such activity costs electricity, which currently most of it also still uses fossil fuels. Digital services rely heavily on electricity, not only to keep servers and data centers running, but also to charge cell phones, laptops or other electronic devices. Digitalization certainly increases the number of users of bank services because it can reach more people, but this means that digitalization in the banking sector also increases greenhouse gas emissions (Özen & Eren Yildırım, 2023). Digital technologies emit 4% of greenhouse gases, and their energy consumption rises by 9% annually (Sharma & Dash, 2022). Thus, digital banking also seems not quite a wise idea to reduce carbon emission. That is why, the banking industry has to act responsibly according to this matter to maintain a sustainable industry and society. Banks have an obligation to initiate any financial programs and products that promote environmental sustainability. Banks serve as intermediaries between business and society, helping to protect the environment.

The main task of banks is to store and distribute funds and other financial instruments to (and for) the community. But aside from its role as an intermediary institution, the banking industry is now expected to participate in environmental damage reduction since it is regarded as important to adapt to the environment in an interconnected manner and required by the country's law. This is what is often referred to as Green Banking. The concept of green banking itself is a banking sector activity that takes the form of an idea or invention that prioritizes friendliness and environmental awareness. Thus, the bank must conduct its daily operations with both external and internal environmental sustainability in mind. Sustainability consciousness will create socially responsible banks, sustainable banks, green banks, or ethical banks (Hossain et al., 2020; Zhixia et al., 2018). The concept of green banking is also recognized as bank systems that adopt green technology in their operational processes to reduce the carbon footprint and facilitate environmental stewardship, developing an advancement of a more environmentally friendly institutions (Bose et al., 2018). Green banking is a driver for holistic economic growth in a socio-economic country because it ensures both business sustainability and environmental sustainability (Hossain et al., 2020; UNEP FI, 2011). Thus, social and economic aspects are embedded into bank's green strategies and progress towards sustainable practices (UNEP FI, 2011). Banks pay attention and importance to environmental change and play an important role in the public towards carbon reduction for their sustainable economy (Zhixia et al., 2018). The main premise of green banking is to boost banks' risk management capabilities, particularly those related to the environment, thus encouraging banks to promote environmentally friendly funding. Banks in Indonesia care about the environment. Banking has a responsibility to promote environmental management (green banking) in the middle of digital transformation which continues to develop within the banking industry (Sanda et al., 2023).

However, the problem above is not without a way out. There are many things the banking sector can do to play an active role in finding a way out of the problem of climate change. There is one main way that is hoped to reduce emissions produced by digital services, namely by distributing electricity through climate-friendly service providers (World Favor, 2022). Ensuring that there are green banking regulations embedded in the bank's standard operational procedures is one of them.

This regulation can address issues ranging from optimizing the use of electronic devices that support services to implementing energy management systems for buildings, transportation for operations and digital infrastructure. This paper discusses the actions that have been implemented by Indonesian banks regarding their green banking policies and how these actions can ensure social, economic and business sustainability. This research wants to see to what extent the banking sector in Indonesia has responded to this issue so that they can practice business while preserving the environment.

2. Method

This research was conducted with a qualitative method using literature review. Snyder (2019) says literature review is a research process that aims to collect and extract the substance of past study while also analyzing the work of previous specialists whose statements used to back up hypotheses mentioned in the text. According to Snyder (2019), the role of a literature review is to provide a foundation for the research being done. This is because the literature review provides researchers with an awareness of various changes in knowledge, which can then be used to generate new ideas and serve as a guide for research that will be conducted. This kind of research methodology typically entails gathering a variety of textual materials, such as books, journals, periodicals, archives, articles, and other published papers. As a result, the data from this literature study is cited to bolster the body of current research. Eventually, every journal with reliable research will be discussed.

This paper gathers information from previous research. All the previous articles were searched using an online search engine such as Google Scholar, journal indexes like SINTA and Scopus or other website pages that provide scientific papers such as Jester, Emerald, and ResearchGate. This research focuses on the topic of "green banking to support business sustainability" in Indonesia and uses keywords like Green Banking, eco-friendly system in banking, sustainability banking, climate change, environment and other keywords which are deemed relevant to the topic of discussion. Apart from scientific articles, researchers also used several documents containing legal regulations to explain the legal basis for Green Banking practices in Indonesia, such as Law or regulations explained by the Financial Services Authority (*Otoritas Jasa keuangan/OJK*). Of the hundreds of thousands of articles that appear in searches using keywords, only 21 articles were selected to describe the conditions most relevant to green banking practices in Indonesia.

3. Results and Discussion

Basically, the application of green banking principles in Indonesia has not been specifically regulated. Many questions still arise, such as what the banking sector's responsibility is for environmental changes, whether the transformation to banking digitalization falls within the scope of this responsibility, and which party is most responsible for this issue. To answer this question, we must first understand the regulations that underlie the implementation of green banking principles in Indonesia.

In Indonesia, regulations regarding banking operations are usually regulated by the Financial Services Authority (OJK). However, before the establishment of the OJK, Bank Indonesia (BI) as the central bank, had issued Bank Indonesia Regulation Number 14/15/PBI of 2012 concerning Assessment of Commercial Bank Asset Quality. Even though these regulations do not specifically talk about business sustainability which is closely related to the environment, it encourages national banks to consider environmental feasibility factors when assessing business prospects in their operations. This regulation is a continuation of Government Regulation Number 27 of 2012 concerning Environmental Permits and Minister of

the Environment Regulation Number 5 of 2012 concerning Business Plans and/or Activities that Must Have an Environmental Impact Analysis (*Analisis Mengenai Dampak Lingkungan/AMDAL*) (Agus Salim, 2018). This demonstrates the regulator's seriousness in creating a stimulus to ensure that firms always incorporate the concepts of environmental sustainability into their operations.

After OJK was founded, OJK became one of the institutions that supervised the operation of all financial institutions. OJK then issued OJK Regulation (POJK) Number 51/POJK.03 of 2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers and Public Companies. This is where sustainable finance is discussed in formal centralized regulation. In Article 1 paragraph 7 POJK Number 51/POJK.03 of 2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers and Public Companies, it is stated that sustainable finance is comprehensive support from the financial services sector to create sustainable economic growth by aligning economic matters with social and environmental matters. Through this provision, the OJK emphasizes the paramount importance of policymakers in supervising financial institutions and assuring their continued commitment to environmental sustainability. This is where OJK tries to raise ecological awareness while also calling upon the banking industry to start acting immediately. Currently, banks have started to comply with these regulations. However, these banks have not published the results of integrating green banking to the public (Agus Salim, 2018).

The digitalization of the banking industry delivers numerous benefits to both clients and society as a whole. Johannes & Johannes (2022) explained that these benefits, among others, are: (1) customer engagement; (2) providing a positive customer experience; (3) inspiring customers to use various banking products sustainably (customer insight); (4) increasing customer trust and perception; and (5) providing convenience for physically disabled customers. Overall, banking digitalization delivers numerous benefits to the community. Both in terms of reducing the use of transportation modes and accelerating transactions. Everything has gotten quite efficient. However, there are concerns associated with the expansion of banking digitalization, one of which affects the surrounding environment (Johannes & Johannes, 2022). Even though banks are not directly the cause of environmental damage, their external operations also have some impact (Khaer & Anwar, 2022). Green banking is said to be the solution to the problem. Green banking is an effort to transform national development from a greedy economy to a green, and more sustainable economy. Banks should try to ensure that their customers' activities have a positive impact on the environment or not (Nasution, 2018).

So, what things can the banking industry do to perform green banking principles and comply with existing regulations? A press release article published by the Center for Climate and Energy Solutions or C2ES (2021) states that digital technology can also be an intermediary agent to promote support for reducing carbon gas emissions in protecting the environment. This is an opportunity for banks that are actively carrying out digital transformation to also take a proactive role. To have a direct impact, banks can try to implement a more environmentally friendly energy management system, for example by switching energy to carbon neutral technology (Chaudhary, 2019), such as solar panels for building electricity. Banks can also provide financing for businesses that are initiatives in environmental protection and sustainable economic development (Khaer & Anwar, 2022). Banking must also start to be inclusive of its customers, for example by providing special products and services for businesses operating in the renewable energy sector. Providing easy access to financial products for savings, investment, and even loans for this business could be an option for things the banking industry can do to maintain ecological commitments. Digital financial inclusion is proven to reduce household carbon

emissions through electricity consumption and natural gas consumption share, two pathways that often intersect with the bank's internal and external operations (Zhou et al., 2023). Another research also resulted in a theory that Green Banking practices with Green Banking Disclosure Index variables, M-Banking Transaction Frequency, Bank Efficiency, and Corporate Social Responsibility (CSR) Funds have a significant influence on bank profitability in Indonesia simultaneously (Mahardika & Fitanto, 2023). Although initially banks require additional costs to transform operations to be more environmentally friendly, the better the bank in implementing Green Banking practices, in the long run it has the potential to increase the profitability obtained. Therefore, the implementation of a bank's Green Banking concept can be an important consideration for stakeholders in making decisions (Mahardika & Fitanto, 2023).

After generally discussing green banking practices, the next step is to see the practice of this green banking in Indonesia. Previous research revealed that several banks have begun to implement environmentally friendly principles into their operations. For example, it is shown in the previous study that the practice of green banking in Indonesia is done by supporting agricultural businesses that provide food security without relying on imports, so it will reduce shipping activities which increase fuel use for vehicles (Hidayat, 2018). Apart from providing access to the agricultural sector that supports food security, banks in Indonesia have also started to be inclusive towards environmentally friendly projects in order to implement policy written in the President Decree No. 59/2017 (Handayani et al., 2020). Bank Syariah Indonesia, in research by Febiola et al. (2023), said that they have been able to implement policies such as going paperless, minimizing the risk of global warming, green building, as well as managing and reducing waste. In this research, it is also said that BSI has played an active role in distributing credit to companies operating in the renewable energy sector and implementing corporate social responsibility for environmental sustainability. BSI has also adopted green banking in operational activities such as the existence of online savings accounts, financial reports that adopt paperless systems, and clean banking which means customers can carry out banking activities without having to go to the bank while also consider the efficiency of their digital services (Milza et al., 2021). Another example is research conducted with Bank Muamalat Indonesia as the subject. It is said that Bank Muamalat has implemented green banking in the operational activities, such as prioritizing the distribution of financing to corporate customers engaged in palm oil, channeling financing to environmentally friendly organizations and organizations that carry out the concept of sustainability, green office or green building, efficient use or management of energy, efficient use of water, waste management and reduction, efficient use of paper (paperless), and minimizing the risk of global warming (Ria et al., 2023). This research is also in line with research on Islamic banks in Indonesia which have implemented green banking principles. Sharia banks should be at the forefront of implementing green banking principles as they align with sharia principles that govern all aspects of people's lives, including faith and worship, economics, socials, and economics (Nasution, 2018; Ria et al., 2023). So, when discussing green banking, of course it will not be far from discussing sharia principles. These concepts focus on human relationships with others and nature, which align with the goals of green banking. This is accomplished by providing access to financing in environmentally friendly sectors or industries, such as energy-efficient manufacturing, renewable energy management, industries that use solar panels for electrical power generation, industries that produce and process organic products, and creative industries that use waste, efficient products (high end products), processing agricultural and forestry waste, and using more eco-friendly alternatives (Nasution, 2018). This commitment to environmentally friendly industries must also be in line with limiting access to finance in industries that have

the potential to damage the environment, such as the fast-fashion industry or franchise industry that does not implement good supply chain management (Nugraheni et al., 2022). Even though these two types of industry are industries that are usually market leaders, they certainly do not apply business ethics in terms of preserving the environment.

Unfortunately, not many banks in Indonesia have disclosed their green banking activities. Previous study shows that economic disclosures are the most widely and the most commonly disclosed information, while environmental disclosures are the lowest (Gunawan et al., 2022). Bank Rakyat Indonesia, commonly called as BRI, is one of the banks that disclosed this information. Through their report of the Task Force on Climate-related Financial Disclosures (BRI, 2022), BRI guarantees that its management will always oversee business implementation that ensures environmental sustainability. BRI has also carried out a risk and opportunity analysis of climate change to prepare the bank's strategy to face the risks of climate change, one of which is by creating a strategy that implements financial sustainability. They are also one of the banks in Indonesia that conducts research to develop products that support ESG (environmental, social and governance) values. Meanwhile, BRI has also implemented its CSR program which is expected to have a direct impact on the environment, namely the "Yok Kita Gas" program which implements waste management (Kumparan Bisnis, 2024). Since its launch in 2021, this program has been implemented in 41 locations in Indonesia, consisting of five locations in traditional markets and 36 locations in community environments. This is a manifestation of the ESG principles instilled by the bank. These eco-friendly commitments are what is expected from the banking industry.

Green banking has been proven to provide new opportunities for the banking industry in markets that have high awareness of environmental issues. Scientifically it has also been proven that the application of Green Finance or Green Banking will provide a competitive advantage for banks in an era of increasingly tight business competition (Park & Kim, 2020). The limited number of reports and scientific articles that show the implementation of green banking in the Indonesian banking sector illustrates that not many banks have a full commitment to an issue that is clearly felt by many people. Liebman et al. (2019) in an article written once said that in implementing this value, the banking sector faces challenges. The main challenge in the financial sector is that there is still a perception that projects that promote eco-friendly business have not been able to provide good financial returns. This perception is a result from a combination of perceived high risk in renewable energy investments and perceived high costs of capitalizing similar businesses, which is further exacerbated by the lack of subsidies. Many banks have not found a good formula for implementing environmentally friendly banking concepts without sacrificing profitability. Apart from that, many bank executives still believe that implementing environmentally friendly banking (green banking) is very expensive (Guild, 2020).

In the other words, financing is difficult to obtain, given the aversion of Indonesian banks to risk and short loan terms. Financial credit laws make banks in Indonesia reluctant to invest in renewable energy and energy efficiency projects, giving rise to poor risk perceptions and poor return projections. Apart from that, there are also political and institutional constraints (Guild, 2020). The main barriers to development can be traced back to low levels of human capital, which happened to be the most common problem in the developing country like Indonesia. It is said that there is a lack of capacity and experience in domestic financial intermediaries with novel instruments such as green finance that act as more challenges for the financial industry, banking as precise, to face. Not to mention the institutional design that makes it more difficult for private banks to compete against the dominance of state-owned banks in terms of having subvention to practice sustainability. As for

now, government funding is the main source of funding for low carbon emission development in Indonesia (Setiawan et al., 2021). These institutional obstacles are apparently also fostered by the deep-rooted interests and political influence of the extractive industry lobby. So, if political interests still interfere, there will still be distance and unfair competition between private banking and state-owned banks. Meanwhile, as a country that has many natural resources, Indonesia is actually blessed with many opportunities to apply these pro-ecological principles.

Banks in Indonesia have been instructed to follow several banking programs such as creating products, services, and operations by implementing green banking by adjusting technology through technological advancements. But it turns out that there is still a gap in terms of understanding of banks in Indonesia related to financial concepts and understanding of risk. As the public has difficulty learning about new innovative financial products and services as well as the consequences of violating rules and regulations related to financing, social and environmental aspects (Maryanti et al., 2021). External limitations make it increasingly difficult for banks to really commit to preserving green banking principles for environmental sustainability. Other research demonstrates that banks must be careful of green banking practices without slowing down the existing banking system. Because if green banking principles slow down previously carried out operational activities, it can have a negative influence on the bank's brand image as well as enterprises that require money from banks. As a result, banks must strike the correct balance in order to implement green banking practices while maintaining their ability to give financial support to businesses. The banks seek to create a clean and sustainable environment since the concept of green banking is critical to nature's long-term viability. Banks achieve this by improving environmental management, expanding their portfolio of environmentally friendly funding, and implementing sustainable business practices. Furthermore, green banking has the potential to boost the financial industry's reputation and brand image in the community. Of course, banks must make concrete steps such as creating a clean, hygienic bank environment, adopting green banking, and greening (Khaer & Anwar, 2022).

4. Conclusion

Indonesia, with its abundant natural resources, presents numerous potentials for the banking industry to be more proactive in addressing and resolving environmental issues. To add, the awareness of this issue is growing. Digitalization transition is a two-edged sword: on the one hand, it can give efficiency, but on the other, it has not completely solved the carbon emissions problem associated with digital waste. Banks have a wide range of direct and indirect environmental benefits, from helping firms in the renewable energy sector to offering SCR programs that directly implement energy reductions.

The environmental effects resulting from banking digitalization need further discussion. This research is still limited to a literature review that discusses matters around this topic, while studies regarding environmental effects on banking digitalization need to be enriched. Future research could try to dig deeper into the banking industry's ecological awareness, to oversee the topic regarding green banking in general, so as to produce an understanding that excessive digitalization is not without risks.

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