A Systematic Review On Green Banking Disclosure

Windasari Rachmawati
Diponegoro University, Indonesia

Corresponding email: windasarirachmawati@students.undip.ac.id

Abstract. This paper presents a systematic review of the topic of Green Banking Disclosure (GBD). GBD has been a growing concept since 2008, with its development bringing about changes, both in terms of the natural and social environments. As such, it is crucial to give it due attention. The study reviewed 50 papers, including 65 empirical ones, and yielded four main findings. Firstly, in terms of theory, legitimacy theory, stakeholder theory, and the concept of Spider profit growth, which serves as an indicator of a company's fund utilization efficiency, were prevalent in the literature. These theories provide a basis for evaluating company management performance, motivating management, and controlling economic resource allocation, ultimately aiding in forecasting future profits and economic events. Secondly, the Green Coin Rating (GCR) concept, comprising six points, played a significant role in the discourse on green banking. Thirdly, the majority of GBD studies were conducted in Muslim-majority countries. The research population included all financial reports of Islamic Commercial Banks during the period 2016-2019. The sample consisted of nine Islamic Commercial Banks that published annual reports up to 2019 and met the criteria for implementing the Green Banking concept. The study suggests that future research endeavors should consider integrating both primary and secondary data to assess the implementation of Green Banking and green financing in banking institutions. This approach would lead to a more comprehensive understanding of the subject and provide a more communicative perspective for customers.

Keywords: Green banking, bank, bibliometric technique, network analysis, systematic literature review.

INTRODUCTION

Companies are one of the economic factors whose primary goal is to maximize profits by providing a positive and good image and information to the public. The awareness of the importance of preserving and protecting the environment from damage has an impact on various sectors. As the world's attention to environmental issues strengthens, the banking sector is required to transform its activities and business practices. The concept of a Green Economy, which essentially encourages every economic activity to minimize its environmental impact, is also adopted by the banking industry, including the concept of Green Banking.

Green Banking is defined as the behavior of banks that take responsibility for the environment by developing inclusive banking strategies aimed at promoting sustainable economic development. Although a bank's physical activities may not directly impact the environment, its external effects on customer activities are significant. Considering environmental aspects in business decision-making can reduce the negative impact of financial institution operations and help support corporate social responsibility efforts and sustainability.

The primary goal of environmentally friendly banking is not only to improve its own standards but also to influence other businesses to be socially responsible. Adopting Green Banking practices benefits not only the environment but also the company in terms of
operational efficiency, reduced manual errors, vulnerability to fraud, and decreased banking activities costs.

In Indonesia, there are several regulations that underpin Green Banking practices. The initiation of Green Banking practices in Indonesia is not separate from the issuance of relevant regulations that encourage environmentally conscious banking. The Bank Indonesia Regulation (PBI) Number 14/15/PBI/2012 has incorporated environmental management assessment by borrowers as a requirement for loan disbursement. Green Banking has also been initiated through a Memorandum of Understanding (MOU) between Bank Indonesia and the Ministry of Environment (KLH) in 2011-2013, involving activities such as environmental analyst training to assess the feasibility of lending to borrowers, such as Environmental Impact Assessments (AMDAL). The most recent relevant regulation is the issuance of Financial Services Authority Regulation (POJK) Number 51/POJK.03/2017 on sustainable finance. This regulation encourages Financial Services Institutions (LJK), issuers, and public companies to provide funding for sustainable development and climate-related financing in adequate amounts.

In Indonesia, some banks had begun implementing Green Banking practices, but they were mostly in the initial stages, and these efforts were voluntary. State-owned banks (BUMN) were pioneers in adopting the Green Banking concept in their businesses, reporting Green Banking issues in their annual reports. BUMN banks reported Green Banking reporting issues in various patterns due to the absence of technical guidelines for Green Banking implementation. Between 2015 and 2017, there was an increasing trend in Green Banking practice reporting among state-owned banks, as indicated by the increasing Green Banking Disclosure Index.

However, according to the International NGO Forum on Indonesian Development (INFID) and Indonesia Working Group on Forest Finance (IWGFF), only two out of twelve banks in Indonesia received good scores in their Green Banking investment index (IIH). These two banks were Rabobank and Citibank, which had also signed the Equator Principles and used Roundtable on Sustainable Palm Oil (RSPO) certification as a guide for green investment policies for their customers.

Various factors underlie banks' adoption of Green Banking concepts. Economic factors, policy guidelines, loan demands, stakeholder pressure, environmental interests, and legal factors are the main reasons why banks adopt Green Banking practices to ensure sustainable economic development. Regulatory guidelines from central banks and corporate governance mechanisms
also have a positive impact on the level of Green Banking Disclosure when conducted regularly and consistently.

The financial performance of a company, particularly in the financial sector, can influence Green Banking Disclosure. High profitability ratios motivate management to report their best performance to attract investors. Reporting Green Banking activities aligns with the findings that Return on Assets (ROA) and Leverage affect banking CSR disclosure in Indonesia. However, there are differing results, with some studies indicating no significant impact of ROA and Leverage on corporate social responsibility disclosure.

Studies have found evidence that higher levels of Green Banking Disclosure in banking institutions are associated with larger boards of directors and increased institutional ownership. Consistent with previous findings, better boards of directors can prioritize Green Banking-related activities, including environmental reporting. Boards of directors play a role in overseeing managerial performance as agents in managing companies, including reporting activities related to environmental issues. Managerial performance is reflected not only in financial statements but also in sustainability reports, including Green Banking Disclosure, which becomes a focus of board oversight to ensure alignment with stakeholder expectations.

The basic principle of green banking is to strengthen a bank's risk management capabilities, especially concerning environmental issues, and encourage banks to increase their environmentally friendly financing portfolio, such as renewable energy, energy efficiency, organic farming, eco-tourism, environmentally friendly transportation, and various eco-labeled products. These efforts represent banks' awareness of the potential environmental risks associated with their financed projects, which could negatively impact credit quality and the bank's reputation. According to the World Bank, green banking is an institution that prioritizes sustainability in its business practices. In this understanding, green banking integrates four elements of life: nature, well-being, economy, and society. A "green" bank combines these four elements into business principles that care for the ecosystem and human quality of life.

The audit committee within a company is expected to have a working relationship and empower internal audit or the company's internal control system to ensure accuracy in financial reporting. When it comes to social responsibility disclosure, this helps the board of directors and facilitates control and supervision of social responsibility. Research has found that the number of audit committee meetings significantly affects environmental disclosure. In addition to being monitored and overseen by the board of directors (representing shareholders) and evaluated by the audit committee, managerial performance is also monitored
by public investors (direct investors). The audit committee is required to carry out any tasks or responsibilities assigned by the board of directors, both in terms of financial performance and social performance (Financial Services Authority No.55, 2015). This aligns with the research of (Bose et al., 2018), which found that public ownership, foreign ownership, board independence, and the presence of an audit committee have a significant positive impact on CSR disclosure. However, there is different research suggesting that public ownership has no significant impact on CSR disclosure. Similarly, research by (Program et al., 2011) showed no significant influence between public ownership, board of commissioners, institutional ownership, managerial ownership, audit committees, and social responsibility disclosure.

In light of the global focus on environmental concerns, the Islamic banking sector has encountered a challenge of limited public support, primarily due to lower demand compared to conventional banking (Suhartanto et al., 2020). Interestingly, the adoption of green practices within the Islamic banking industry is seen as a viable solution to stimulate greater customer engagement. Moreover, as we look ahead to 2030, global banks are expected to intensify their commitment to green practices, with green lending projected to surge from US$22tn to US$44.5tn. This shift is poised to motivate Islamic banking institutions to enhance their competitiveness by embracing green initiatives (Yuan et al., n.d.).

Consequently, there is an imperative need for research that explicitly explores the capacity of green practices to enhance customer loyalty within Islamic banks. This research endeavor aims to make the Islamic banking industry more appealing and robust in the future.

While prior studies have established connections between green practices and consumer loyalty across diverse business sectors (Assaker, 2020)(Han et al., 2018)(Moise et al., 2021);(Pahlevi & Suhartanto, 2020), there remains a notable gap in the context of Islamic banking, especially from the perspective of customers. Despite the industry's significant potential to contribute to environmental sustainability, no comprehensive study has bridged this gap. Moreover, prior research seldom integrated the crucial roles of green trust, green perceived value, and green satisfaction in mediating the relationship between green practices and customer loyalty (Assaker, 2020); (Y. S. Chen, 2013); (Issock Issock et al., 2020). Green trust helps gauge public confidence in the environmental commitments of Islamic banks (Wu et al., 2018), green perceived value unveils the advantages of Islamic banks' green initiatives (Y. S. Chen, 2013), and green satisfaction elucidates customers' positive attitudes toward these practices (Martínez, 2015). Building upon the recommendations of previous studies that encourage the expansion of green practices analysis across various industries (Kunhibava et al., 2018; (Moise et al.,
2021); (Pahlevi & Suhartanto, 2020), this research endeavors to explore the direct and mediating links between green practices and green loyalty within Islamic banks. It seeks to establish these connections from the standpoint of customers, with the ultimate aim of fostering greater public support for Islamic banks and concurrently expanding their market share. Through this research, the public will gain a deeper understanding of the Islamic banking industry's commitment to environmental stewardship and its influence on driving increased demand.

In response to this research gap, this study anticipates predicting the extent of green loyalty among Islamic bank customers by considering the roles of green practices, green trust, green perceived value, and green satisfaction. The study centers its focus on the Islamic banking sector in Indonesia, guided by several pivotal considerations. Firstly, Indonesia boasts the world's largest Muslim population (Suhartanto et al., 2020), presenting a substantial potential for instilling green loyalty grounded in religious values. Secondly, Indonesia's Islamic banking roadmap actively promotes the fulfillment of sustainable development goals (SDGs) through an eco-friendly business ethos and Islamic financing, aimed at enhancing the quality of financial services with positive environmental impacts (OJK, 2020). Lastly, while Maqasid Shariah principles have been introduced in Indonesian Islamic banking (Hudaefi & Noordin, 2019), the sector has yet to fully embrace sustainability development. These factors collectively indicate that Indonesian Islamic banking holds significant promise in advancing environmental quality through a green financial framework. Consequently, the industry is poised not only to garner substantial public support but also to bolster its competitive edge other segments of the financial sector in the future.

**METHOD**

The paper is outlined into three sections. The methodology section covers method used to collect, transcribe, process, and analyze the reviewed papers are presented in first section. The second section elaborates the results from the data processing and analysis to answer the RQs. Finally, discussion of the results which leads to recommendation for future studies are summarized at the end of this paper. The systematic review deployed a bibliometric technique adopted.

Proceedings of the International Conference on Industrial Engineering and Operations Management Dubai, UAE, March 10-12, 2020 © IEOM Society International from previous bibliometric studies, such as (Indarti & Jie, 2018), and (Wahyuni et al., 2019). The bibliometric technique consists of five steps as follows (see Figure 2). The first step, initial stage is finding
relevant publication papers by using Google scholar for its source of papers. We used Publish or Perish (POP) software with four combinations of keywords and title words to capture variety of GB related topics. First combination, we used initial keywords of “GB” OR “Green banking” OR “sharia banking” OR “Islamic banking”. It resulted to 200 papers. Second combination, the same keywords – as the first combination -- used together with “green banking” as a title word. The results were six papers. The last combination, the same keywords with “Islamic banking” as a title word were used and resulted to five papers. From the four combinations 200 papers based on journal, proceedings, conferences, symposiums, book, working paper/thesis, and citation are collected. The second step, setting the specific criteria to select the relevant papers for further analysis. Three criteria were used to ensure the quality of the selected papers are: “language (English)”, “has an index value (Scimagojr)”, and ”a non predatory journal (beallslist.weebly.com)”. We got 88 selected papers for further analysis, consist of three papers from Q1 (Scopus indexed); 16 papers from Q2, 18 papers (Q3), two papers of Q4, and 36 papers from non-Scopus indexed. In addition, 13 papers from conferences, symposiums, and proceedings were also included after carefully checking the quality and the relevance of the papers. The third step, inputting the data or documenting systematically the 88 selected papers based several key aspects from each paper, i.e. theories used in the study, research methodology, and research setting (i.e. sector/industry and country of origin), and research themes. This step is conducted with the help of Ms. Excel. The fourth step is data processing/analysis and presenting. To do this, we used the software of VOSviewer to visualize the findings and SNA program to analyze interrelationship between a keyword (or node) to other keywords (or nodes). The results are then analyzed for answering the research questions.

Figure 2. Research stage 3. Result and Discussion This subsection discusses the results of 88 selected papers with addresses to the two research questions refer to theories/perspectives, research methodology, research setting (i.e. sectors and country of origin), and clusters of research themes. 3.1 Theories/perspectives used in the GB studies Various (ten) classical theories have been used to study GB as shown in Table 1. Theory of Planned Behavior (TPB), the Arc of Integration Approach (AIA), and the Theory of Reasoned Action (TRA) are the most frequent classical theory used in this field. For example, the TRA and the TPB were used to explain consumer awareness of halal products, motivation and intention to buy halal products as called consumer buying behavior (Yusoff et al. 2015). Another study by Osman and Aziz (2018) examined the TPB and the TRA to predict the level of consumer behavior (attitude,
social norms, and perceived behavioral control and intention), and the AIA was used to link with halal food integrity.

Table 1. Theories or approaches used in the Green banking studies Google scholar 200 papers Keywords: green banking, sharia bank, Islamic bank

Title: Green banking, sharia bank, Islamic banking

RESULT AND DISCUSSION

This subsection discusses the results of 88 selected papers with addresses to the two research questions refer to theories/perspectives, research methodology, research setting (i.e. sectors and country of origin), and clusters of research themes.

Theories and viewpoints applied to the HSC studies As stated in Table 1, various (ten) classical theories have been employed to research HSC. The most frequently applied classical theories in this area are the Theory of Planned Behavior (TPB), the Arc of Integration Approach (AIA), and the Theory of Reasoned Action (TRA). For instance, the TRA and the TPB were used to describe consumer buying behavior, which is defined as consumer awareness of halal products, motivation, and intention to buy halal items (Yusoff et al. 2015). Osman and Aziz (2018) conducted another study in which the TPB and TRA were used to predict consumer
behavior (attitude, social norms, perceived behavioral control and intention), and the AIA was used to establish a connection with the integrity of Green banking.

<table>
<thead>
<tr>
<th>No</th>
<th>Theories Approach</th>
<th>Number of used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Theory of Planned Behavior</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Arc of Integration Approach</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Theory of Reasoned Action</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Adaptive Theory</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Agency Theory</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Convention Theory</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Fuzzy Set Approach</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Institutional Theory</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Mean End Chain Theory</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Math Model Approach</td>
<td>1</td>
</tr>
</tbody>
</table>

Based on 88 reviewed papers, Green banking is rapidly becoming a global standard for adopting business operations that are socially and environmentally acceptable. This eco-friendly banking aims to prevent environmental damage and make the Earth more habitable. Over the past few decades, green banking has become a popular term in the field of sustainable banking. Green banking is a type of banking that supports the environment and focuses on three things: financial profitability, the well-being of others, and the environment. Sustainable banks prioritize people and the environment over profits. Green banks strive to have a positive impact on the environment, society, and the local economy. By using green banking, we can prevent our money from supporting the fossil fuel sector. However, before opening an account with a sustainable bank, we need to check a few things, such as whether the bank is regulated by the central bank, whether strong customer support is available, the bank's mission and policies, whether the bank has green certifications, and what green initiatives the bank offers beyond just providing e-statements. "Green banking" is a type of banking activity in which banks aim to conduct their day-to-day operations as responsible members of the community by considering both internal and external environmental sustainability. These banks are referred
to as green or sustainable banks ("The Effects of Green Banking Practices on Financial Performance of Listed Banking Companies in Bangladesh," 2020) (Choudhury et al., 2013). Highlighting that in today's banking competition, every bank should create new green products with greater stakeholder involvement and sustainable development. However, (Mir & Bhat, 2022a) when discussing risks, they find that green banking is key to reducing various types of risks, such as legal risk, credit risk, and reputation risk. They also recommend some green practices, such as carbon credit business, green financial products, green mortgages, carbon emission mitigation, energy awareness, green construction, and social responsibility contributions to the community. (Ahmad et al., n.d.) investigate that one of the most crucial aspects of green banking in Bangladesh is maintaining financial viability, as mandated by the Bangladesh Bank. (Mir & Bhat, 2022b) identify four benefits of green banking: reducing deforestation, increasing environmental awareness among staff and consumers, offering lower interest rates, and changing corporate activities in an environmentally beneficial way. (Ullah, 2013) highlights that Bangladesh, possibly one of the least developed countries, is the worst victim of global environmental pollution caused by the industrialization of Western countries. Jaggi (2014) investigates the green banking programs and strategies of SBI and ICICI. SBI has implemented several initiatives in this regard, including the Green Channel Counter, an increased commitment to carbon neutrality, online money transfers, wind farms, and more. ICICI Bank's green product and service strategy includes internet banking for anytime, anywhere banking, automatic financing, and home financing.

Furthermore, these banking institutions have taken initiatives to conserve energy, such as double-sided printing, recycling, and the use of compact fluorescent lamps (CFL), among other things. (Anonymous, n.d.) found that there aren't many green banking service initiatives in India, according to the researchers who recommend that banks implement greener financing and consider economic and environmental elements as part of their financing principles, encouraging the industry to make mandatory investments in sustainable development for the benefit of society. (Ortiz-de-Mandojana et al., 2016) and Morales-Raya, 2016) researched that due to institutional pressures, banking institutions are adopting green regulations and green transparency to gain more respect in society. Managers are encouraged to achieve environmental sustainability through institutional pressure. (Zhixia et al., 2018) claim that the proper enforcement of criteria by the Bank of Bangladesh will lead to successful sustainable lending development in Bangladesh's banks. This study also shows that barriers to green growth can be slower technological advancement, innovative financial products, and a lack of
widespread social and ecological awareness among banking companies. (Volz, 2018) found that sustainable banking. Green finance is a practice where investment decisions and loans are based on environmental monitoring and risk assessment to meet sustainability criteria, along with insurance services addressing environmental and climate risks, which are essential components of green finance. (Bukhari et al., 2020) when discussing the adoption model of green banking based on environmental, social, and governance factors, taking into account the impact of variables on environmental sustainability. The study found that this process is influenced by various environmental factors, and banks can adopt it by implementing specific operations sequentially and analogously. (Alsayegh et al., 2020 in (Addi & Bouoiyour, 2023) claim that the concept of sustainable banking involves the use of green banking techniques to consider ethical, social, and environmental issues. (Khairunnessa et al., 2021) explains that Bangladeshi banks, through their investments in various eco-friendly projects, reduce the negative impacts of climate change and play a crucial role in the country's economic sustainability. Additionally, banking institutions play a vital role in financing various industrial projects that may have adverse social or environmental impacts. (Zheng et al., 2021) states that Green Financing is considered an integral component of sustainable banking, which has a significant influence on environmentally friendly economic growth and the industry as a whole. Therefore, it can be said that in enhancing sustainable financial sector practices, the banking sector should focus on ensuring environmentally conscious project financing through economically efficient banking to enhance bank competitiveness, generate more income, increase existing assets, and save invested capital and other costs. Until recently, green banking appeared to be merely a concept, and environmental issues did not seem highly relevant to the operations of banks. Initially, banks evaluating the environmental suitability of clients would be considered an intrusion into their personal affairs. However, the current perspective is that this poses risks to their business. Although financial institutions are not directly impacted by environmental degradation, they still face indirect costs. Unless actions like these are adopted, credit, legal, and reputational issues will continue to disrupt these banks. Developing countries still need a better understanding of this concept. (Khaled, n.d.in (Z. Chen et al., 2022)) argues that the number of studies on green banking is still limited in developing countries; therefore, there is an urgent need to comprehensively understand this concept. Similarly, (Rahman et al., 2020) express concerns about the lack of research in the field of green banking. Moreover, (Kumari et al., 2020) explains that green banking practices have not received sufficient attention in developing countries in general and in Indian banks specifically. However, green
banking has garnered much attention in developed countries, but less developed nations have largely ignored it (Weber, 2016; Jeucken, 2010; Khan et al., 2015; Roca & Searcy, 2012 in (Malik & Singh, 2022)), and in countries like India, research on green banking is nearly non-existent (Kumar & Prakash, 2020 in (Malik & Singh, 2022)). Research has also shown that Indian banks are not entirely prepared to implement green banking practices (Rajput, Kaura, & Khanna, 2013 in (Mirza et al., 2023)). The Reserve Bank of India plays a crucial role in elevating environmental standards. Developing nations like India need to place greater emphasis on the social aspects of banking and connect them to economic development (UNEP FI, 2016). On the other hand, in India, most research focuses on corporate social responsibility and environmental management (Narwal, 2007; Biswas, 2016; Rajput et al., 2013; Sharma & Mani, 2013; Sahoo & Nayak, 2007), green banking strategies (Bahl, 2012; Tara & Singh, 2014 in (Mir & Bhat, 2022)), and green practices adopted by private and public sector banks (Bahl, 2012; Bihari, 2010 in (Mir & Bhat, 2022)). There is a significant gap between what banks are striving for and the public's perception of their actions regarding green banking (Jayadatta & Nitin, 2017 in (Aslam & Jawaid, 2023)). Consequently, there is a lack of literature on green banking in India (Sharma & Choubey, 2022 in (Aslam & Jawaid, 2023)), and not much research has been conducted on the role of green banking in overall sustainable development, green banking practices by SBI (India), Maybank (Malaysia), and contributions to the United Nations Sustainable Development Goals for the respective countries. MayBank Malaysia is prioritized in this research due to its significant commercial activities in Malaysia, and the Reserve Bank of India is chosen for this review because it was the first bank to focus on green banking initiatives. (Kaur and Sandhu (2019) in (Siddik et al., 2023) argue that most research conducted on green banking primarily focuses on green banking practices or perceptions.

**CONCLUSION**

The GB studies received an increased attention from management scholars within 11 years. Based on the findings of 88 selected papers on GB, the current study summarizes the following remarks which lead to suggestions of future research. Green banking is a concept that emphasizes the implementation of sustainability in financial distribution or operational activities. It is becoming a global standard quickly to adopt socially and environmentally acceptable business operations. Green banking practices include providing loans for environmentally friendly projects, using energy-efficient equipment, implementing environmentally based policies, reducing paper usage, and digitalizing banking activities.
Green banking is a type of banking that supports the environment and focuses on three things: financial profit, the well-being of others, and the environment. Sustainable banks prioritize people and the environment over profit. Green banks aim to have a positive impact on the environment, society, and the local economy. By using green banking, we can prevent our money from being used to support the fossil fuel sector. However, before opening an account in a sustainable bank, we need to check several things such as whether the bank is guaranteed by the central bank, whether there is strong customer support, what the bank's mission and policies are, whether the bank has green certification, and what green initiatives the bank has besides just providing e-statements. Banks that implement green banking practices can have a positive impact on the environment and society while still being profitable.

Based on the literature review, the following are potential research agendas for future studies on green banking:

1. Analyzing the impact of green banking implementation on financial and environmental performance in banking companies
2. Investigating the implementation of green banking practices in Islamic banks and its impact on their performance
3. Conducting a comparative study of green banking practices in different countries and their effectiveness in promoting sustainable development
4. Analyzing the effectiveness of green banking initiatives in promoting sustainable development and environmental protection, such as Bank Jatim's seven priority programs

These research agendas can contribute to a better understanding of the implementation and impact of green banking practices on financial and environmental performance, as well as their effectiveness in promoting sustainable development and environmental protection.

REFERENCES


A Systematic Review On Green Banking Disclosure


