The 3rd International Seminar of Science and Technology
ISST 2023 Vol 3 (2024) 01 007
Trends in Science and Technology for Sustainable Living
Faculty of Science and Technology
Universitas Terbuka

An analysis of green practices for sustainability in the Indonesian banking industry

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Abstract - The demand for sustainability reports has increased in recent years. A sustainability report is an indicator of the company's sustainability, in which there are three elements: the environment. This research aims to analyze the role of Green Banking practices in Indonesian banking toward banking sustainability. This research examines 12 banks in Indonesia from 2015 to 2022 by using a sustainability report as a reference to the Global Reporting Initiative (GRI) standard. Data were analyzed using the PLS-SEM approach with the help of WarpPls software. The independent variable in this research is Green Practice, measured using 12 measurements, while the sustainability report index is the dependent variable. This study shows that the sustainability reporting index of banking in the environmental field is the lowest compared to the economic and social indexes. However, the sustainability report index is significantly influenced by applying green practices. This research also shows that the green banking indicators most fulfilled are adopting policies and technologies to reduce environmental damage.

Keywords: green practices, Indonesia, sustainable banking

1 Introduction

The demand for sustainability reports has increased as consumers, investors, and the general public become more concerned with responsible and sustainable business practices. A sustainability report is a report that presents information on the environmental, social, and economic performance of companies in the context of sustainable development [1]. All industrial sectors, including banks, are expected to publish quality sustainability reports. The banking industry is essential for sustainable development due to its unique intermediary role, crucial for mobilizing financial resources towards sustainable goals [2], [3].

Sustainability reports enable banks to become more transparent regarding their activities' environmental, social, and corporate governance impacts [4]. This transparency includes disclosures about sustainable business practices, risk mitigation actions, community engagement, and commitment to sustainability principles. The Sustainability Report helps build stakeholder trust and increase banking accountability to the public, customers, investors, and regulators [5]. By identifying and measuring economic, social, and environmental impacts, banks can identify potential risks, such as reputational risk, legal risk, or operational risk associated with unsustainable practices. Sustainability reports can also help banks identify new opportunities, such as sustainable products or services that generate long-term benefits.

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Legitimacy theory explains that companies must maintain social legitimacy by meeting the expectations of society and stakeholders [6]. Sustainability reports are an essential tool to maintain social legitimacy because they provide information on the company's social and environmental performance [7], including for banking performance in Indonesia.

The development and role of banking is crucial today. In addition to connecting parties with excess funds and those in need of funds, banks provide a source of financing for productive investments for companies and infrastructure projects. The development of sustainable banking is a concept in which the banking sector strives to achieve inclusive, efficient, and socially and environmentally responsible economic growth [8]. Research uses sustainability reports as a measurement tool for banking sustainability [9].

Industrial banks should take environmental aspects into account. In their business decisions, banks can minimize the negative impact of financial institutions' operations to contribute to corporate social responsibility efforts and achieve sustainability [10]. Various ways banks can adopt green banking, such as online banking, internet banking, green checking accounts, green loans, mobile banking, e-banking points, and savings energy, contributing to environmental sustainability programs [11]. Green Bank is a financial institution that prioritizes sustainability in its business operations (Green Practices). In this understanding, green banking is a combination: welfare, economic and social. A “green” bank will integrate these elements into business principles that care about the ecosystem and the quality of human life, to ultimately bring about corporate performance, competitive advantage, strong corporate identity and brand image, as well as balanced goal achievements [12].

Sustainable finance is a global trend that creates a new model in the world of banking and other financial institutions supporting the implementation of sustainable development. Sustainable development is a development effort based on three guiding aspects: profit, people (social relations with the community) and planet (protection of resources, nature and the environment. This term is often referred to as the three bottoms [13].

Green Banking represents banks' efforts to prioritize achieving sustainability in their lending or operations. Banks, directly, are not classified as contributing to high environmental pollution. The use of energy, water and other natural resources in banking is not as severe as in other industries, such as mining and processing industries. However, banks are not necessarily insulated from the growing problem of environmental degradation.

By providing loans or grants to customers, banks can be enablers of activities that have an impact on the environment.Several previous studies confirm the role of green practices in corporate sustainability. Yang et al., (2022) confirm that green practices measured using clean energy, green financing, and green economy significantly and positively affect sustainable practices in G7 countries. Al-Hakimi et al., (2022) found that Green Practices in manufacturing companies significantly positively affect Corporate Sustainable Performance. Meanwhile, research by Ofori Antwi et al., (2022) states that sustainable supply chain practices positively and significantly affect sustainable performance in mining companies. However, no previous research analyzes explicitly the influence of green practices on sustainability, especially in the banking sector. So far, this is the first study to analyze this.

This research will begin with a content analysis of sustainability disclosure reports seen from 3 aspects (economic, environmental, and social), then complement the research results with an analysis test of the effect of green practices on sustainability report quality in banks in Indonesia. However, not all countries require financial institutions to publish sustainability reports. However, many countries, including Indonesia, encourage or require companies to report on their sustainability

performance. The publication of sustainability reports allows financial institutions to be more transparent about their environmental, social, and corporate governance impacts [17].

Banks or financial institutions that adopt and implement green banking practices, such as financing sustainable projects, reducing carbon footprints, and investing in green sectors, have the potential to influence their sustainability report. It can include improving environmental, social, and corporate governance (ESG) performance. The hypothesis suggests that banks committed to green banking tend to produce more comprehensive, transparent, and accurate sustainability reports. It can be seen from the improvement in measuring and reporting sustainable performance indicators, such as carbon emission reduction, environmental risk management, and positive contributions towards society and the environment. Based on this previous studies, theory and the problem, the hypotheses in this study are: Green Practices Significantly Affect Sustainability in Banking in Indonesia.

2 Methods

This quantitative research uses content analysis and multivariate through Structural Equation Modeling (SEM). This research uses SEM-PLS with the help of SEM WarpPLS 7.0 software. In addition, this study also conducted a content analysis. Content analysis is applied to identify quantitative coverage of indicators in sustainability reports based on Global Reporting Initiative (GRI) standards. Content Analysis refers to research techniques for objective, systematic, and quantitative description of the manifest content of a communication [18]. Content analysis is a research method used to analyze text or other content materials to identify specific patterns, themes, sentiments, or characteristics. In this case, the communication carried out by the company is realized through sustainability reports. Furthermore, a multivariate analysis was implemented to identify whether Green Practices affect Sustainability in Banking in Indonesia.

The population in this study is all listed banks in Indonesia, totaling 42 banks. Then, based on the requirements for the issuance of sustainability reports with GRI 2016 standards for the last seven years (2015 – 2022), 12 Indonesian banks were obtained.

The Sustainable Banking variable measures banking sustainability by recording a disclosure score. With a total of 89 items, the maximum score can be obtained is 178. The following table describes the scoring system performed in this study.

Table 1. Description of Scoring System

Scale	Description
0	No disclosure
1	Conduct partial disclosure
2	Make full disclosure

Later in this study, the index was classified using the Total Compliance Rate (TCR) adapted from [19].

$$TCR = \frac{\Sigma \text{ number of items disclosed}}{178} \quad (1)$$

The data used in this study was sourced from the official website of the Indonesia Stock Exchange and the publication of sustainability reports from the company's official website. The sampling technique of this study is purposive, which is taking samples that have been determined based on specific considerations and distinctions. The sample selection criteria in this study are: Banks listed on the stock exchange (Indonesia Stock Exchange); Publishing sustainability *reports* for the period

2015-2022 (using the GRI-Standard index) and Companies with the necessary data completeness related to the variables in this study.

The dependent variable in this study is Sustainable Banking. Sustainable Banking is measured using the disclosure of indicators in the Sustainability Report [9], [20]. The determination of the Sustainability Reporting Index (SRI) is calculated based on the Global Reporting Initiative (GRI) framework model, which includes 3 categories: economic indicators, environmental indicators and social indicators. All metrics are calculated based on content analysis to obtain SRI values [9], [20]. The calculation of *the Sustainability Reporting Index* (SRI) is as follows:

$$SRI\ (i,t) = \sum_{i=1}^{N} Score\ (j) \quad (2)$$

Information:
SRI = 2 for full disclosure, 1 for partial disclosure, and 0 for none
disclosure on economic, environmental, and social indicators.
N = 17 for the i-th economic indicator
N = 32 for the i-th environmental indicator
N = 40 for the i-th social indicator
M = Maximum possible score, which is 178

Table 2. Item Green Banking Disclosure

No	Item
1	Bank policy towards environmental conservation and climate change
2	Financing of environmentally friendly projects and their monitoring activities.
3	Reduction of paperless use and waste management.
4	Adoption of policies and technologies to reduce environmental damage in the internal operations of bank electronic offices.
5	The use of environmentally friendly materials.
6	Energy conservation of business operations.
7	Efforts to reduce the impact of climate change and emissions by employees.
8	Information about the bank's green products.
9	Bank initiatives and involvement in networking on environmental issues
10	Competently evaluate the impact of the client's business before sanctioning the financing facility.
11	Organizing activities to raise environmental awareness for the community.
12	Role as an environmentally friendly bank, contribution to environmental improvement, and excellence in environmental reporting practices.
13	Award for environmental conservation initiatives.
14	The bank's involvement in supporting facilities in line with environmental programs
15	Information on the establishment of a climate change fund.
16	Green branch arrangement for operational efficiency purposes.
17	Internalization of green marketing in internal communication media.
18	The bank's initiatives and engagement to encourage and train its employees on the green movement.
19	The amount of budget allocated each year for green banking practices.
20	Actual amount spent on various green banking programs
21	Use of a separate page for Green banking reporting in the annual report.

The independent variable used in this study is Green Practices in banking. This research uses a green banking approach adapted from Khan et al., (2021) research. Green Practices in banking are measured using content analysis that refers to Green Banking Disclosure. The Green Banking Disclosure Index is measured by counting 21 items, scoring 1 if revealing and 0 if not disclosing. The 21 items are listed in table 2.

3 Results and discussion

In Indonesia, the Sustainability Report is an obligation for companies to follow the rules of the Financial Services Authority (OJK) number 51 / POJK.03 / 2017 concerning the Application of Sustainable Principles for Financial Service Institutions [22]. This regulation regulates the obligation of financial service institutions, including banks, insurance companies, and securities companies registered in Indonesia, to prepare sustainability reports. This OJK regulation refers to several principles that must be applied in preparing sustainability reports, including accountability, sustainability, linkage with business, integration, comparability, transparency, and completeness.

This study calculates the level of disclosure compliance in the Sustainability Report using the Total Compliance Rate (TCR) approach [19]. TCR calculates the number of disclosures divided by the maximum disclosure score in each indicator. The results of the TCR comparison per each dimension of banking sustainability in Indonesia are in the following figure.

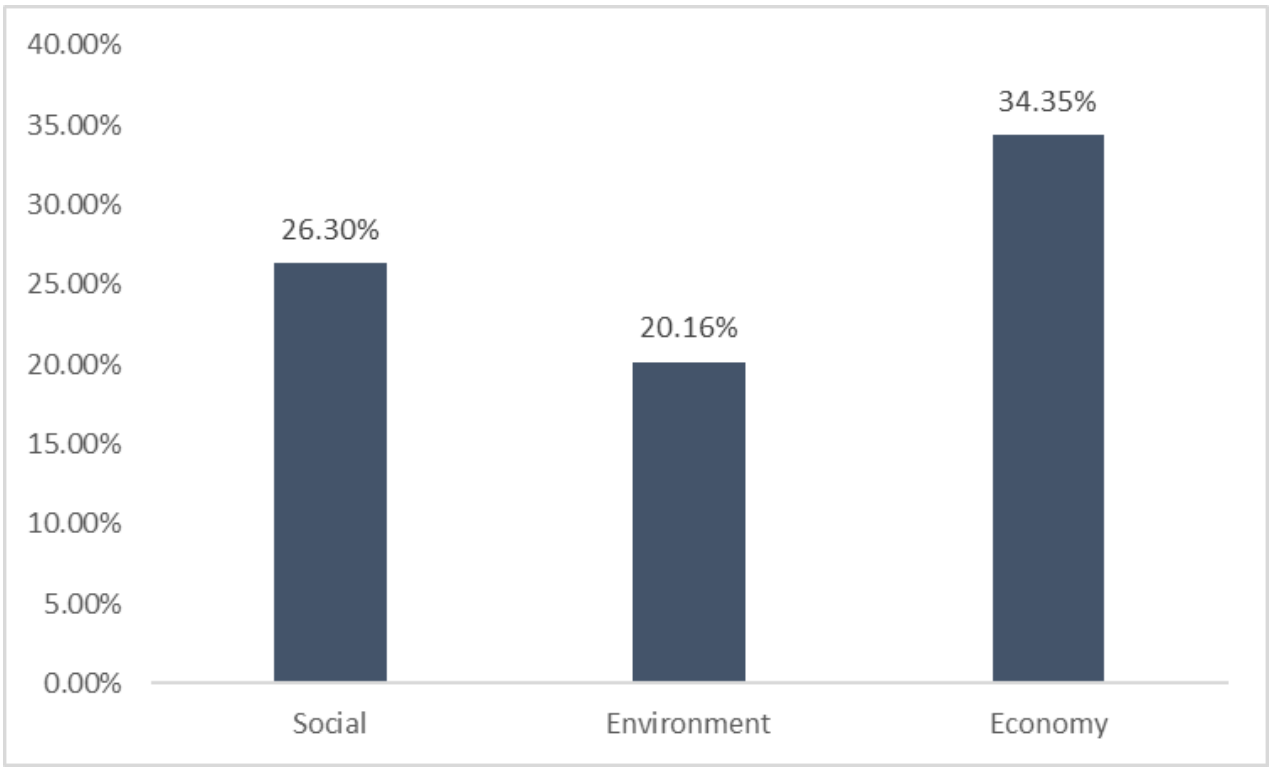

Fig. 1. Total Compliance Rate (TCR) Sustainable Banking di Indonesia

The Economic and Environmental Sustainability Report disclosure indicator shows that banks in Indonesia have TCR values with leverage of 34.55% and 20.16%.

3.1 Least Square Pastial Analysis (PLS)

3.1.1 Evaluation of Formative Models (Outer Model)

PLS analysis for variables with formative indicators, validity tests are carried out by ensuring that there is no multicollinearity (multicollinearity is marked with a value of VIF>10) and outer weight indicators with significant latent variables [23]. The results of the evaluation of the formative outer model are presented in Table 3.

Table 3. Measurement Model Evaluation Results

Variables	Indicator	P Value	VIP	Results
Green Practices	21 items	<0.001	0.000	Valid
Sustainable Reporting Quality	Economics	<0.001	2.131	Valid
	Environment	<0.001	1.870	Valid
	Social	<0.001	2.124	Valid

Based on the table above, it can be seen that all indicators in the variables Green Practices and Sustainable Banking produce a P value of < 0.001, which means the probability of alpha < 5%. Thus, all indicators are valid in measuring Green Practices and Sustainable Banking variables.

3.1.2 Evaluation of the Structural Model (Inner Model)

After evaluating the measurement model, the structural model (Inner Model) is evaluated. Evaluation of structural models on Partial Least Squares (PLS) formative research models tests relationships between constructs. It measures how models can explain and predict observed phenomena [24]. Evaluation of the Inner Model in research using the Goodness of fit model. The Goodness of fit Model results are summarized in the following table.

Table 4. Goodness of Fit Model Results

Variable	R^2	Q^2
Sustainable Banking	0,710	0,850

Table 4 shows the results of these study variables' Goodness of fit model. The variable R-square of Sustainable Banking is 0.710 or 71.0%. It shows that the diversity of Sustainable Banking variables can be explained by the Green Practices variable of 71.0%. In comparison, the remaining 29.0% is the contribution of other variables that are not discussed in this study.

3.1.3 Hypothesis Testing of Direct Influence

In the results of testing the direct influence hypothesis listed in Table 7, it can be seen that the Pvalue value of the influence of Green Practices on Sustainable Banking is 0.002. The test results show that the Pvalue value < 0.05 and the Path Coeff value is 0.283. It can be interpreted that Green Practices have a significant and positive effect on Sustainable Banking.

Table 5. Results of Testing the Direct Influence Hypothesis

Independent	Dependent	Path Coeff.	P value	Note
Green Practices	*Sustainable Banking*	0.283	0.002	Itself.

4 Discussion

The results of this study support the results of previous research by Al-Hakimi et al., (2022); Ofori Antwi et al., (2022) and Yang et al. (2022), where Green Practices have a significant and positive effect on company sustainability. The results of this study focus on aspects of green practices in banking.

In line with legitimacy theory, companies must maintain social legitimacy by meeting the expectations of society and stakeholders. Green banking practices refer to policies and actions adopted by financial institutions to promote environmentally friendly and sustainable practices in banking operations. Banks can provide loans or special credit for projects that contribute to environmental sustainability, such as renewable energy, energy efficiency, or waste management projects. Banks can also offer investment products prioritizing projects and companies committed to sound environmental practices.

The results of this study confirm that the flow of green practices in banking has a significant positive impact on corporate sustainability, especially in banking. By implementing green practices, companies can meet the necessary criteria to gain access to sustainable financing from banks. It can help companies finance projects or initiatives to improve energy efficiency, reduce carbon emissions, or improve other environmental practices.

Banks that consider environmental and social risk factors in credit and investment evaluations can help companies identify and manage potential risks related to the environmental impacts of their operations. It can minimize the possibility of incidents or legal claims related to environmental damage.

Banks that encourage or provide specialized financial products to sustainable companies can help facilitate investment in sustainable technologies and initiatives. It could be low-interest rate credit for green projects or investment products focused on sustainable companies. Green practices can also help banks reduce long-term operational costs through energy efficiency, better waste management, and other resource savings.

However, the results of content analysis from this study show that disclosure of environmental aspects in banking obtained the lowest score compared to disclosure in economic and social aspects. Sustainability disclosures in the banking sector may tend to focus more on economic and social aspects than environmental aspects because, historically, banking has focused more on economic and social aspects than environmental aspects. The banking industry often finances economic and social projects such as business investment, housing, and infrastructure development. Therefore, the focus on economic and social aspects has become the core of the banking business.

5 Conclusion

Banking customers and stakeholders are often more focused on economic and social factors than environmental factors. Although environmental awareness has increased, there is still a higher awareness and demand regarding Finance and corporate social responsibility. Banking is also an industrial sector that does not directly affect the contribution of harmful environments, such as manufacturing companies.

While environmental sustainability disclosures may tend to be lower, it's important to remember that this area constantly evolves. With increasing awareness and demands related to the environment, banks are expected to continue to increase focus and transparency regarding environmental aspects in their sustainability disclosures.

This research has limitations only conducted on banks in Indonesia listed on the stock exchange. In the future, many research areas can still be explored more deeply, such as conducting research by comparing banking companies in Indonesia with other countries.

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