



Corporate governance attributes, banks characteristics and green banking disclosure in Indonesia

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Abstract

Purpose - The purpose of this study is to examine the influence of corporate governance attributes and banks characteristic on Green Banking Disclosure of Indonesian Islamic banks.

Method - Using the panel data regression framework of multiple linier regression method, this study analyses a sample comprising nine Indonesian Islamic banks from 2018 to 2024.

Result - The results show that board size, independent ommissioner, profitability, and size have a significantly positive effect on Green Banking Disclosure Index (GBDI), while sharia supervisory board has significantly negative on GBDI but contradictive to board gender diversity, meeting frequency, and leverage do not have significantly affect on GBDI.

Implication - The practical implications of this study emphasize the critical role of corporate governance attributes and banks characteristic in improving green banking disclosure index of Indonesian Islamic banks.

Originality - This study comprises an in-depth examination of corporate governance attributes and banks' characteristics, as there is limited literature in Indonesia concerning diversity on the board and banks' characteristics, despite the relevance of the topic.

Keywords: corporate governance; banks characteristics; green banking

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Introduction

In recent years, the concept of sustainability has become one of the most extensively studied topics and has gained increasing importance for entities in light of the growing global population and rising climate change risks (Marfuah et al., 2025; Tahmid et al., 2022). Entities are expected to adopt environmentally and socially responsible practices as part of their long-term business strategies (Barbosa et al., 2023). Within this context, the banking industry has started greening its operations by incorporating green banking strategies into its decision-making (Park & Kim, 2020). Green banking strategy has now grown popular in the banking industry, which integrates environmental considerations into financial services. Green banking (GB) refers to banking practices that emphasize economic, social, and environmental considerations to protect the climate and preserve natural resources (Mir & Bhat, 2022). The implementation of GB requires directing resources toward eco-friendly products and services to reduce climate impacts and protect the environment (Rai et al., 2019). GB plays a crucial role in establishing of a green economy paradigm which promotes economic growth in emerging markets for achieving sustainability through lower energy consumption and reduced pollution (Gulzar et al., 2024).

In Indonesia, the GB strategy has been issued through Financial Services Authority Regulation (OJK) No. 51/POJK.03/2017 concerning the implementation of sustainable finance for financial institutions, issuers, and public companies (Indonesian Financial Services Authority, 2017). After the implementation of OJK Regulation No. 51/POJK.03/2017, the banking industries, specifically those categorized as commercial bank business category and foreign banks, were required to disclose their sustainable financing practices starting January 1, 2019. This law aims to provide guidelines for the financial industries and issuers on whether an activity, product, or service has fulfilled the sustainable finance principle (Citraningtyas et al., 2024).

According to Zhang (2022), green banking activities exhibit a significantly positive effect on environmental performance, which promotes sustainable development. In addition, a study conducted by the European Banking Federation revealed that allocating funds to eco-friendly projects can positively influence a bank's financial performance overtime by enhancing efficiency, curtail expenditures and bolster risk management (Park & Kim, 2020), enhance investment efficiency, raise costumer royalty, brand recognition then potentially improving bank's profitability (Rai et al., 2019; Sutrisno et al., 2024). Likewise, through the disclosure of green banking initiatives, banks can maintain their ethical standards, create a green bank image, and therefore have a significant impact on the sustainable performance of banks (Gazi et al., 2024).

The promulgation of green banking disclosure is a strategic issue for banks, which can be influenced by internal and external factors ranging from stakeholder pressure (Bukhari et al., 2019), the dynamics of board characteristics (Farida & Purwanto, 2021), and the financial performance of banks (Citraningtyas et al., 2024; Park & Kim, 2020; Tahmid et al., 2022). As corporate governance (CG) concerns strategic issues, the conflict of interests of different actors in the sustainability disclosure is a vital challenge for banks that require appropriate and transparent corporate governance practices. The role of director plays a fundamental role in including sustainability in their business strategy and in aligning the interests of the company and the shareholders towards green banking disclosure (Farida & Purwanto, 2021). Moreover, Islamic finance mandates that all investments conform to Sharia principles, which promote environmental responsibility and the sustainable management of natural resources. Research from Ardianto et al (2024) found that SSB enhance corporate social responsibility disclosure in Islamic banking, emphasizing the board's role in promoting sustainability.

Observing banks in Bangladesh, Bose et al (2017) found that corporate governance mechanisms such as board size positively affect the green banking disclosure; meanwhile, there is no relationship between the presence of independent directors on the board and green banking disclosure. Research in Indonesia also confirms that board diversity, i.e. the number of commissioners, significantly influences green banking practices (Silalahi et al., 2023). Meanwhile, Chairina & Tjahjadi (2023) stated that board size indicates a low effect on the reliability of sustainability disclosure reports in ASEAN countries.

Based on stakeholder perspective, banking institutions are implementing green rules and using green transparency to become more respectable in society (Khairunnessa et al., 2021). Research by Kasseeah (2020) affirmed that firm characteristics are a vital component of green practices. It has been experienced that firms with greater sales growth, firm size, firm age, profit return have more opportunities to invest in social disclosure (Barney, 1991; Vitolla et al., 2023). Given that, Green Banking Disclosure requires a flow of monetary resources, bank's characteristic becomes another relevant factor that drive green banking disclosure decisions. Research by Siedschlag & Yan (2021) confirmed that larger firms are more likely to invest in equipment for pollution control and in equipment linked to cleaner technologies that support green investment. Besides, Agyemang et al. (2020); Fajarini et al., 2022) found that firms with elevated leverage generally exhibit less extensive voluntary disclosure. Furthermore, a study from Indonesia, Fajarini et al. (2022) shows that firm characteristics, i.e., profitability and firm size, don't have a significant effect on disclosure related to sustainable development goals.

Understanding the factors that influence banks' decisions to invest in environmental protection is crucial for developing effective policy measures that encourage corporate participation in green banking disclosure and improve environmental quality and resource efficiency. The existing literature on what drives Islamic banks to pursue green investments is still limited. To fill this gap, this paper provides novel evidence on corporate and bank characteristics as factors that influence Indonesian Islamic banks to engage in green banking disclosure. To this purpose, we use Indonesian Islamic Banks over the period of 2018 to 2024.

Grounded in a stakeholder framework, this study provides important contributions and meaningful extensions to the green banking literature. First, this paper extends the findings of current studies based on Islamic banks in Indonesia, which require SSB of their corporate governance mechanisms, which makes them different compared to the conventional banking industry. Second, it is one of the foremost empirical endeavors to explore the determinants of green banking disclosure decision in Indonesia, as it has been issued through Financial Services Authority Regulation (OJK) No. 51/POJK.03/2017. Third, this study offers empirical evidence to regulators and policymakers in Indonesia and other emerging markets that have implemented a corporate governance framework and are exploring the integration of sustainability reporting within their specific context. Finally, it examines a comprehensive range of corporate governance attributes, including board composition and bank characteristics, using data gathered from a relatively recent period.

Literature Review

Prior research has explored the drivers of sustainability disclosure from diverse theoretical standpoints (Aly et al., 2024; Hasan et al., 2021). Among these, stakeholder and legitimacy theories are most frequently employed to conceptualize the interplay between corporate governance and disclosure practices. Realizing the gap of these theoretical paradigms, this study adopts an approach that draws on multiple perspectives between corporate governance attributes, bank characteristics, and green banking disclosure.

Stakeholder theory posits that companies are not only responsible for maximizing profit of owners and investors, known as shareholders, but also obligated to provide benefits for stakeholders who can affect or be affected by the organization, including civil societies, communities, customers, employees, governments, shareholders, and suppliers (Awa et al., 2024; Freeman et al., 2010). To maintain the good relationship between companies and stakeholders, sustainability practices may provide a global standard of social responsibility, build social welfare beyond profitability, develop employee loyalty and company reputation, and ultimately serve as a building block for corporate

sustainability and competitive advantage (Aly et al., 2024; Awa et al., 2024; Bose et al., 2017). In the context of sustainability, green banking disclosure can help resolve the principal-agent problem by ensuring that management prioritizes sustainability and aligns with the interests of environmentally conscious stakeholders (Mir & Bhat, 2022). This approach also aligns with the principles of legitimacy theory. Within this, the voluntary disclosure of non-financial information, such as green banking practices, enhances a bank's legitimacy and highlights its dedication to sustainability (Patel & Desai, 2024). Therefore, applying stakeholder theory in green banking practices serves as a strategy for banks to fulfill sustainability expectations of stakeholders, strengthen their reputation, and foster trust. It offers a valuable framework for guiding the adoption and communication of sustainability practices within the banking industry.

Hypotheses Development

Board attributes in a corporate governance structure are crucial in guiding a company's strategic direction and managing the diverse interests of its stakeholders. Bose et al (2017) stated that corporate governance, such as larger board size, significantly contributes to increasing disclosure of green banking practices. This finding confirms that good corporate governance can promote corporate transparency and accountability in the field of sustainability. In addition, Cakti & Aryani (2023) confirmed that board size has a significantly positive effect on sustainable finance disclosure in the ASEAN banking industry. Research by Khalid et al (2022) also showed that board size has a positive effect on environmental, social, and governance disclosure, while arguing that it has no impact on sustainability performance following the GRI framework (Hussain et al., 2018). A larger board size signifies a greater diversity in members' backgrounds, expertise, and perspectives, which often fosters a stronger orientation toward sustainability. Moreover, larger boards are generally more effective in executing oversight responsibilities, facilitating comprehensive discussions on strategic initiatives, and reinforcing managerial commitment to achieving non-financial performance. Therefore, the following hypothesis is proposed:

H1: There is a positive relationship between board size and green banking disclosure.

From the legitimacy perspective, independent commissioners play a pivotal role in strengthening the legitimacy by overseeing the adoption of sustainable practices, particularly through green banking disclosures. The board of commissioners comprises both executive and non-executive members who are not members of the executive team and do not have any personal interests in the firm (Hasan et al., 2021). Independent commissioners help companies build external relationships and attract valuable strategic resources to support the overall operation and reputation of the institution (Silalahi et al., 2023). Empirical evidence indicates that independence commissioners

positively influence environmental and green banking practices (Almaqtari et al., 2023; Marfuah et al., 2025), hence increasing transparency. On the other hand, there is an insignificant association with green banking disclosure (Farida & Purwanto, 2021) and environmental disclosure (Rabi, 2019). Therefore, a higher proportion of independent commissioners enhance objectivity within board decision-making especially through green banking disclosure. Based on the above discussion, we formulate the following hypothesis.

H2: There is a positive relationship between independent commissioner and green banking disclosure.

Recently, board gender diversity has increasingly received more attention in terms of its relation to corporate governance and sustainability practices. The capabilities of women are especially valuable in fostering connections between corporations and their external environments and in facilitating the acquisition of external resources and funding to support the corporation's needs (Chang et al., 2024). Board gender diversity broadens expertise, enriches discussions of new issues, and elevates decision quality, thereby boosting board effectiveness (Ramon-Llorens et al., 2021). Female directors often place greater emphasis on community concerns and, through their participatory leadership style and active involvement in green innovation, help raise awareness and foster broader engagement (Naveed et al., 2022). Some studies find that female directors are significantly positive to green practices (Naveed et al., 2022) and carbon information disclosure (He et al., 2021). However, research by Kiliç et al. (2015) found that there is no significant effect of female directors on carbon information disclosure. Therefore, because of their strong community focus, female directors are more inclined to disclose environmental information and thereby enhance the corporation's transparency in green banking disclosure. In this sense, entities with gender-diverse boards will be more. The following hypothesis can be considered:

H3: There is a positive relationship between board gender diversity and green banking disclosure.

The Sharia Supervisory Board (SSB) plays a vital role in ensuring Islamic banking's compliance with sharia principles. SSB with more members and diverse expertise are better equipped to monitor and enforce these requirements, thereby enhancing the bank's adherence not only to sharia law but also to broader sustainability goals (Ridwan & Mayapada, 2022). Banks that have larger or more experienced SSBs are better positioned to assess and manage environmental risks in their operations. They also tend to provide more comprehensive disclosures on green banking initiatives, demonstrating a deeper commitment to both sharia compliance and sustainable practices (Ardianto et al., 2024; Boudawara et al., 2023). Further, Mukhibad et al (2020) explained that the SSB plays a key role in making sure that banking activities adhere to sharia principles while

also focusing on sustainable, ethical, and environmental goals for the long term. This is in line with Ardianto et al (2024), who found that Research also confirmed that SSB size has a positive and significant effect on green banking practices in Indonesia. A larger SSB tends to promote greater transparency in a bank's reporting and disclosure, which is essential for fostering and preserving stakeholder trust. This level of transparency is particularly crucial in Islamic banking, where stakeholders expect adherence to both religious and ethical principles. Therefore, the following hypothesis can be considered:

H4: There is a positive relationship between Sharia Supervisory Board and green banking disclosure.

According to agency theory, board meetings are a key governance mechanism for ensuring effective oversight and monitoring within an organization (Vafeas, 1999). On the other hand, Kwarteng et al (2023) also agree that frequent board meetings signify the board's effectiveness in monitoring, as they provide a forum for discussing critical issues that affect the firm's operations. This regular engagement not only encourages greater transparency but also enhances the board's ability to oversee management activities and address the concerns of diverse stakeholders (Aly et al., 2024). Empirical results indicate a positive correlation between board meeting frequency and the level of ESG disclosure. Similarly, Kwarteng et al. (2023) found that frequency board of meetings is positively linked with environmental and social performance in Africa. The positive relationship between board meetings and environmental disclosure was also found by Hussain et al. (2018) in their research. In contrast, Ghosh et al. (2022) reported no association between board meetings and sustainability practices. Meanwhile, Osazuwa et al. (2017) highlighted a negative relationship between board meetings and ED. Therefore, the frequency of board meetings is regarded as an indicator of effective monitoring of sustainable issues, particularly green banking disclosure.

H5: There is a positive relationship between Board Meeting and green banking disclosure.

Profitability reflects the availability of a company's internal funds. Higher profitability indicates greater operational funds, allowing the company more flexibility in planning and executing its business activities (Fajarini et al., 2022). Profitability is widely regarded as a key indicator of effective corporate management. Strong management practices typically foster greater transparency in information disclosure, thereby enhancing stakeholder value (Kasseeah, 2020). In addition, highly profitable companies are more likely to engage in extensive information disclosure. This is because companies with higher profit-generating capabilities typically have more available resources to support both mandatory and voluntary disclosure. Kasseeah (2020) conducted a study of the small businesses in an emerging economy and found that profitability is a significant determinant of greening measures. Further, the results of research confirmed by

(Fajarini et al., 2022; Orazalin & Mahmood, 2020) show that ROA has a significant effect on the disclosure of sustainability reporting. Meanwhile, Khairunnisa & Kusmayanti (2019) state that profitability hurts corporate social disclosure. Hence, the following hypothesis is proposed.

H6: There is a positive relationship between profitability and green banking disclosure.

Leverage is defined as a financial ratio that evaluates a company's capacity to fulfill its long-term liabilities (Hoque et al., 2022). This ratio reflects the degree to which a company utilizes debt financing to support its operational activities (Kipngetich et al., 2019). The level of a company's leverage ratio is a key factor influencing its strategic decisions regarding green banking disclosures. Higher leverage may prompt greater transparency to reduce stakeholder concerns and as a signal of accountability. According to Agyemang et al. (2020) and Fajarini et al. (2022), who observed that firms with elevated leverage generally exhibit less extensive voluntary disclosure. Contrary to Elfeky (2017), who confirmed that firms with higher levels of debt are more likely to engage in voluntary disclosure to reassure creditors and facilitate the extension or renewal of debt agreements. Consequently, the seventh hypothesis is:

H7: There is a negative relationship between leverage and green banking disclosure.

Bank size refers to the scale of a bank's operations, which can be measured by the total assets. Larger banks are generally perceived as more credible by the public, enabling them to mobilize customer deposits more effectively. According to stakeholder theory, larger banks tend to disclose a greater amount of information in order to mitigate the pressures from stakeholders to which they are exposed and reduce the risk level (Vitolla et al., 2023). Further, Elfeky (2017) explained that the positive association between size and extent of voluntary disclosure may be due to many reasons. First, larger firms tend to provide more extensive voluntary disclosure compared to smaller firms because they have more resources. Second, larger firms are more exposed to political costs than small firms; consequently, they often seek to mitigate these costs by voluntarily disclosing more information. Research by Hanifah & Widiyanti (2023) found that bank size has a positive and significant effect on green banking disclosure and green initiatives (Siedschlag & Yan, 2021). However, Hanifah & Widiyanti (2023) found that firm size does not strengthen green banking disclosure and sustainable growth. Consequently, our eighth hypothesis is:

H8: There is a positive relationship between size and green banking disclosure.

Research Methods

This research explores how corporate governance attributes and bank characteristics influence green banking disclosure of Islamic Banks in Indonesia. The

data for this research were generated from the annual report and sustainability report of Indonesian Islamic Banks, with nine banks selected through a purposive sampling method. The sample criteria are Indonesian Islamic Banks that were registered in the Financial Services Authority and Islamic banks that carry out green banking reports during the period of 2018 to 2024 through the annual report or sustainability report. Based on these criteria, the research used a panel data set that consists of 63 observations from a sample of nine Indonesian Islamic Banks.

The researchers measured corporate governance attributes, including board size, independent commissioner, board gender diversity, sharia supervisory board, and board meetings, and banks' characteristics, including profitability, leverage, and firm size, as independent variables. These variables are commonly used to assess the influence of corporate governance attributes on green practices (Ardianto et al., 2024; Bose et al., 2017; Patel & Desai, 2024). The dependent variable, Green banking disclosure, was also measured using the Green Banking Disclosure Index (GBDI) indicator, which was developed by (Bose et al., 2017). A dichotomous technique has been applied in this case, where the disclosed green banking item is marked as 1 or 0, comprising 21 items of information based on the central bank's regulatory guidance. The index of GBDI is as follows:

$$GBDI = \frac{\sum_{i=1}^{21} d_i}{21}$$

Where GBDI is the green banking disclosure index, is the total number of items considered, which is given as 21, and d_i represents whether a particular item (item i) is disclosed or not. If $d_i = 1$, it means the item is disclosed; if $d_i = 0$, the item is not disclosed. Meanwhile, the corporate governance attributes and bank characteristics are the independent variables, as explained in Table 1.

Further, this research was conducted using a panel data type analysis. Under the statistic panel data analysis, the best fit regression model must be selected out of three regression models, i.e. "the Ordinary Least Square (OLS), The Fixed Effect Models (FEM) and the Random Effect Models (REM)" were evaluated using the chow test, hausman test, or lagrange multiplier test, to ensure the most appropriate model was selected for the data and research questions. The regression model was then applied to test the hypotheses using the following specification:

$$GBDI = \alpha + \beta_1 BS_{it} + \beta_2 BIC_{it} + \beta_3 WOMBOD_{it} + \beta_4 SSB_{it} + \beta_5 MF_{it} + \beta_6 ROA_{it} + \beta_7 LEV_{it} + \beta_8 SIZE_{it} + et$$

Where: α = constant; BS = Board Size; BIC = Independence commissioners; WOMBOD = women in board; SSB = Sharia Supervisory Board; MF = meeting frequency; Lev = leverage; ROA = Return on Asset; SIZE = firm size; β_1 - β_8 = coefficient; it = 2018-2024 and et = error term.

Table 1*Measurement of variables*

Variables	Measurement	References
Dependent Variables: Green Banking Disclosure (GBDI)	$\frac{\sum_{i=1}^{21} d_i}{21}$ Score $d_i = 1$, if there is disclosure in the company's annual report or sustainability report Score $d_i = 0$, if there is no disclosure in the company's annual report or sustainability report	(Bose et al., 2017)
Independent Variables: Board Size	Total number of directors	
Independence Commissioner	The proportion of independence board members to all board members	(Almaqtari et al., 2023; Marfuah et al., 2025)
Board Gender Diversity	The proportion of female members on the board of directors	(Chang et al., 2024; Kılıç & Kuzey, 2019)
Sharia Supervisory Board	Total number of sharia supervisory board	(Ardianto et al., 2024; Boudawara; et al., 2023)
Meetings Frequency	The amount of board meetings in a year	(Ananda, 2025; Harymawan et al., 2020)
Profitability Leverage	Net income to total asset Debt to Equity Ratio	(Kasseeah, 2020) (Elfeky, 2017; Fajarini et al., 2022)
Size	Log of Total Asset	(Elfeky, 2017; Fajarini et al., 2022)

Source: Authors' work

Results and Discussion

The results of this study are presented through descriptive statistics and hypothesis testing. The descriptive statistics summarize the mean, maximum, minimum, and standard deviation of each variable employed. This section presents a descriptive statistical analysis based on the data shown in Table 2.

Table 2*Descriptive Statistics*

Variable	N	Min	Max	Mean	Std. Dev
GBDI	63	0.14	0.95	0.63	0.14
BS	63	2.00	6.00	4.09	0.89
BIC	63	0.00	1.00	0.65	0.17
WOMBOD	63	0.00	0.33	0.09	0.13
SSB	63	2.00	3.00	2.24	0.43
MF	63	3.00	29.00	12.5	5.60
ROA	63	-0.08	2.05	0.64	0.74
LEV	63	0.12	9.43	1.85	1.70
SIZE	63	14.32	23.53	17.47	2.34

Source: Authors' work

The descriptive statistic in Table 2 shows that during this research period, the green banking disclosure index has a mean of 0.63, which means that 63% of Indonesian Islamic Banks have implemented green banking practices. The average board size is 4.09, which is equivalent to four directors. The average of board independence is 0.65, or 2, whereas the number of women on the board of directors is 0.09, or equivalent to one person. The SSB is equivalent to three board members and the meeting frequency is 12.5 times a year. Besides, the average of ROA is 0.64 and the average of Leverage is 1.85, which is still classified as a safe category because it does not exceed two times or 200% however, the average of log(size) is 17.47, respectively.

Moreover, in Table 2, the research data from sample companies have passed the classical assumption test. Based on the normality test, the Jarque-Bera value is 0.22, which is greater than the alpha significance of 0.05, it can be concluded that the data is normally distributed. The multicollinearity test, applied using the pairwise correlation method, indicates that all variables have correlation coefficients below 0.80. This suggests that the multicollinearity problem is not a concern in the model. The final classical assumption tested was heteroscedasticity using the Park Test. The results demonstrate that all variables have probability values greater than the 0.05 significance threshold, confirming that the heteroscedasticity problem is not present in the residuals of the model.

Further, in this section, we discuss the regression results regarding the impact of corporate governance attributes and bank characteristics on the green banking disclosure index of Islamic banks in Indonesia, as presented in Table 3. Based on the outcome of Chow, Lagrange Multiplier (LM), and Hausman test, the Fixed Effects Model (FEM) was identified as the most appropriate model for this analysis. The model in table 3, which utilized Fixed Effect Model (FEM), shows board size ($\beta = 0.06$, $p < 0.10$), board independence commissioner ($\beta = 0.04$, $p < 0.05$), profitability ($\beta = 0.01$, $p < 0.05$), and size

($\beta = 0.00$, $p < 0.01$) were found to have statistically significantly positive effect on GDBI, while SSB ($\beta = 0.03$, $p < 0.05$) has significantly negative on GDBI but contradictory to board gender diversity ($\beta = 0.12$, $p > 0.05$), meeting frequency ($\beta = 0.34$, $p > 0.05$), and leverage ($\beta = 0.43$, $p > 0.01$), were found to have insignificant effect on GDBI. The model in Table 3 has R squared value of 0.83, and the probability value of F statistic is 0.00, demonstrating that corporate governance attributes and bank characteristics can Green Banking Disclosure Index by 83% during the sample period while the 17% was attributed to other factors that were beyond the scope of this study.

A t-test was utilized in this study to assess the relationship between various board attributes, bank characteristics, and green banking disclosure as described below. Regarding corporate governance attributes, the results of the first hypothesis suggest that there is a positive and significant association between board size and the green banking disclosure index. Therefore, the first hypothesis (H1) is accepted. This means that a larger board of directors is associated with a greater level of green banking disclosure of Indonesian Islamic Banks. A larger board is able to incorporate a broader range of perspectives by drawing on the diverse opinions and experiences of various stakeholders, which often results in increasing voluntary information disclosure. This finding is inline with (Bose et al., 2017; Farida & Purwanto, 2021), who stated that corporate governance, such as larger board size, significantly contributes to increasing disclosure of green banking practices. In addition, larger boards are more likely to represent a heterogeneous group of stakeholders who actively encourage the banks to adopt green practices towards their diversity of background and perspective.

Table 3

Classical Assumption Test Result

Normality Test								
<i>Jarque-Bera</i>	0.22							
Multicollinearity Test								
Variables	BS	BIC	WOMBOD	SSB	MF	ROA	LEV	SIZE
BOD	1.00							
BIC	0.65	1.00						
WOMBOD	-0.40	-0.32	1.00					
SSB	0.13	0.11	-0.12	1.00				
MF	-0.27	-0.02	0.06	-0.14	1.00			
ROA	-0.22	-0.21	0.20	0.31	-0.10	1.00		
LEV	-0.13	0.16	0.01	-0.21	0.18	0.01	1.00	
SIZE	0.09	0.08	-0.21	0.08	0.09	0.39	0.26	1.00
Heteroscedasticity Test								
	BS	BIC	WOMBOD	SSB	MF	ROA	LEV	SIZE
Prob.	0.85	0.30	0.51	0.19	0.48	0.41	0.28	0.62

Significance levels in 1%(***), 5%(**) and 10%(*)

Source: Authors' work

Table 4*Fixed Effect Model Regression Result*

Variables	Fixed Effect Model Regression
BS	0.07 (0.04)*
BIC	0.04 (2.26)**
WOMBOD	-0.90 (-4.09)
SSB	-0.05 (-2.19)**
MF	0.02 (0.96)
ROA	0.07 (2.62)**
LEV	-0.00 (-0.79)
SIZE	0.29 (6.42)***
_Cons	-4.46*** (-4.62)
N	63
R2-Adj	0.83
Prob F	0.00
Chow Test	Prob Cross-sec F = 0.00***
Hausman Test	Prob Chi2 = 0.00***

Significance levels in 1%(***), 5%(**) and 10%(*)

Source: Authors' work

The findings related to the second hypothesis indicate that an independent commissioner has a statistically significant effect on green banking disclosure. This means that a larger independent commissioner is associated with a greater level of green banking disclosure of Indonesian Islamic Banks. Therefore, the first hypothesis (H_2) is accepted. An independent commissioner plays a crucial role in strengthening the legitimacy by controlling and supervising managerial behavior. The stakeholder theory also emphasizes the protection of stakeholder interests through the presence of an independent commissioner, whose autonomy and lack of personal interest might conflict with those of the stakeholder. This finding supports the research of Almaqtari et al (2023) and Marfuah et al (Marfuah et al., 2025), who stated that board commissioners positively influence environmental and green banking practices. Therefore, a higher proportion of independent commissioners enhances objectivity within board decision-making by providing an unbiased viewpoint within the governance framework. They contribute to greater transparency, especially in the context of green banking disclosure.

The result of the third hypothesis confirms the insignificant influence of board gender diversity and green banking disclosure. This means that the existence of women on boards does not affect green banking disclosure of Indonesian Islamic Banks. Therefore, the third hypothesis (H_3) is rejected. This finding is in line with Abdullah et al. (2023) and Kiliç et al. (2015), who found that there is no significant effect of female directors, green initiatives, and ESG disclosure. The lack of significance may be attributed to the proportion of women on the board. According to statistical data, the average of women on the board is only 9% which is still a minority. Moreover, Manita et al. (2018) suggest that women's representation on committees must reach a 'critical mass' of at least three members to achieve sustainability performance. Therefore, the small proportion of women on the board is unable to affect the bank's strategy of green banking initiatives because they do not have enough power to persuade and to gain more support among board members.

The findings related to the fourth hypothesis indicate that SSB has a statistically significant negative effect on green banking disclosure. This means that a larger SSB membership is associated with a lower level of green banking disclosure of Indonesian Islamic Banks. Therefore, the fourth hypothesis (H_4) is rejected. The large size of SSB led to a lack of communication quality, coordination of activities, and complicated decision-making. Moreover, the negative effect may be due to the different responsibilities of SSB members. Putri et al (2024) state that the role of SSB is primarily focused on ensuring that all financial products and services (ex-ante), as well as the screening of operations and activity (ex-post), comply with the sharia principle. Therefore, the role of SSB, which focuses more on sharia compliance aspects in the bank's operational activity rather than considering sustainability aspects such as green banking practices, may have a significantly negative effect on green banking disclosure of Indonesian Islamic banks.

The result of the fifth hypothesis confirms the insignificant influence of board meeting frequency and green banking disclosure. This means that the board meetings did not affect green banking disclosure of Indonesian Islamic Banks. Therefore, the fifth hypothesis (H_5) is rejected. Several empirical studies indicate that the frequency of board meetings doesn't always correlate positively with the level of corporate disclosure responsibility (Ananda, 2025; Harymawan et al., 2020). Although the intensity of meetings does not necessarily ensure in-depth discussions on sustainability issues. On the other hand, board meetings often focus more on operational and financial issues, while the green banking initiatives are not a priority on the agenda. Moreover, a higher frequency of meetings doesn't guarantee the quality of discussions or the effectiveness of strategic decision-making, and therefore, it doesn't automatically lead to greater transparency or stronger corporate commitment in disclosing green disclosures.

The findings related to the sixth hypothesis indicate that profitability has a statistically significant effect on green banking disclosure. This means that a higher ROA is associated with a greater level of green banking disclosure of Indonesian Islamic Banks. Therefore, the sixth (H_6) is accepted. Return on Assets (ROA) is a financial performance indicator that reflects a company's efficiency in utilizing its assets to generate profits (Khalid et al., 2022). In the context of green banking disclosure, a high ROA indicates that a company is in good financial condition and has greater resource capacity to invest in green practices. This finding is supported by (Rachmawati et al., 2023), who discovered a positive relationship between ROA and green practices. A similar finding from Elfeky (2017), who found that firms with high profitability tend to disclose more information on voluntary disclosure. According to legitimacy theory, banks with strong financial performance are more inclined to maintain a positive image and corporate reputation through sustainable business practices. Therefore, the higher ROA of banks may have greater resources to invest in green banking disclosure, as a strategy to build and maintain long-term relationships with stakeholders.

The findings related to the seventh hypothesis indicate that leverage does not have a statistically significant effect on green banking disclosure. This means that the leverage doesn't affect green banking disclosure of Indonesian Islamic Banks. Therefore, the seventh hypothesis (H_7) is rejected. This finding is not consistent with stakeholder theory, which argues that companies relying on equity financing are motivated to attract investors who prioritize transparency and sustainability practices. Moreover, a strong incentive for firms to disclose comprehensive disclosure, demonstrating their commitment to managing environmental risk and promoting sustainability reports (Agyemang et al., 2020; Elfeky, 2017). The lack of significance may be attributed to some factors. First, companies with high leverage levels do not always have an incentive to increase green banking disclosure because they may be more focused on enhancing their financial performance to fulfill their debt than increasing green banking practices. On the other hand, companies with lower leverage levels can't always have the ability to increase green banking disclosure because it requires a lot of resources and significant monitoring, which may not be feasible for companies with low leverage levels.

The findings related to the eighth hypothesis indicate that size has a statistically significant effect on green banking disclosure. This means that bank size is associated with a greater level of green banking disclosure of Indonesian Islamic Banks. Therefore, the eighth (H_8) is accepted. Larger banks are generally perceived as more credible by the public, enabling them to mobilize customer deposits more effectively. Large firms often have greater resources to invest in environmental or green practices; hence large companies can more easily disclose more information in a transparent and accurate manner. From the stakeholder perspective, large firms are more likely to be in the public

and media spotlight, which gives them a greater incentive to maintain a good environmental reputation. By disclosing environmental information in a transparent way, large firms can demonstrate their commitment to the environment and enhance their reputation. This finding is support by (Elfeky, 2017; Hanifah & Widiyanti, 2023; Siedschlag & Yan, 2021), who found that bank size has a positive and significant effect on green banking disclosure and green initiatives.

Conclusion

This study investigates the main factors that drive banks to adopt green banking practices, with sample selection estimated over the period of 2019-2024 to analyze the internal factors, such as corporate governance attributes and bank characteristics of Indonesian Islamic Banks. This finding indicates that meeting frequency and leverage don't affect the extent of green banking disclosure. Meanwhile, the disclosure of green banking initiatives is influenced by board size, board of independent commissioners, return on assets, and size of the banks; conversely, SSB size has a negative impact on green banking.

On a practical contribution, this study offers some strategies for Indonesian Islamic Banks in seeking to enhance green banking disclosure. It highlights board size, board of independence, return on assets, and size can foster transparency and stakeholder trust, prompting proactive green banking initiatives disclosures.

However, this study has some limitations that future studies can address. Firstly, this study is confined to a sample of Indonesian Islamic Banks, respectively, thus potentially limiting the generalizability of the results to other commercial banks. Secondly, this study only uses a limited period and a regression method. Therefore, future studies could explore in depth the key factors that shape a more detailed understanding of this relationship. In addition, investigating potential moderating or mediating variables affecting green banking disclosure in Indonesian Islamic Banks could contribute meaningful insights and enhance the overall comprehension of these dynamics.

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