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Research Paper

Implementation of Green Banking and Determinant Factors: Testing the Mediation Effect of Green Financing

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Abstract

This study examines the effects of bank size, profitability, institutional ownership, and operational efficiency on green banking implementation, with green financing as a mediating variable, using data from nine Islamic commercial banks in Indonesia during 2020–2024. Employing a quantitative approach with path analysis and Sobel tests, the results show that bank size and profitability have a significant positive effect on green financing, while institutional ownership and operational efficiency do not. In the green banking model, bank size and green financing significantly enhance green banking disclosure, whereas profitability, institutional ownership, and operational efficiency exhibit no direct effect. Mediation analysis confirms that green financing significantly mediates the relationships between bank size, profitability, and institutional ownership and green banking, but fails to mediate the effect of operational efficiency. These findings indicate that green financing functions as a critical transmission mechanism linking internal bank characteristics to sustainability disclosure. The study contributes theoretically by extending stakeholder theory through the integration of green financing as a mediating mechanism in Islamic banking, and practically by highlighting that regulatory and managerial efforts should prioritize strengthening green financing capacity, particularly in large and profitable banks, to improve the effectiveness of green banking implementation in Indonesia.

Keywords: *Green banking, Green Financing, Profitability, Institutional Ownership, Operational Efficiency, Bank size.*

INTRODUCTION

Sustainable development is a global commitment to achieve a balance between economic growth, environmental sustainability, and social well-being as contained in the Sustainable Development Goals (SDGs). The application of sustainability principles requires a paradigm shift in economic development from being oriented towards increasing profits to fulfilling responsibility for the environment and society (Dhar et al., 2022). Indonesia, as a developing country, faces challenges in realizing inclusive economic growth amid the need to conserve natural resources, reduce emissions, and strengthen a sustainable financial system (Abdulrahman, 2021).

The banking sector has an important role in supporting sustainable development because of its function as an intermediary institution that distributes funds to the productive sector. Through green financing policies (Green Financing), banking can lead to environmentally friendly projects such as renewable energy, water conservation, and energy efficiency (Dhar et al., 2022). In the context of Indonesia, Green Banking has become an important instrument to achieve sustainability goals, especially in Islamic banking that prioritizes a balance between profits and sustainability values (Anggraini and Fasa, 2022).

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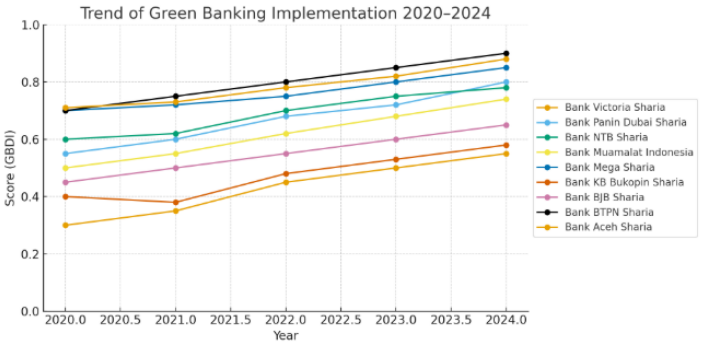

Figure 1. Green Banking Implementation Trends
Source : Annual and Sustainability Reports of Islamic Commercial Banks (2020–2024).

The results of the Green Banking Measurement show that there has been a consistent increase in 9 Islamic commercial banks in Indonesia for the 2020-2024 period, but the level of implementation is uneven between banks. Bank BTPN Syariah occupies the highest position with a GBDI value of 0.90 in 2024, followed by Bank Aceh and Bank Mega Syariah which also showed a significant increase to above 0.80. On the other hand, Bank Victoria Syariah, Bank KB Bukopin Syariah, and Bank BJB Syariah still have low scores below 0.60. These findings illustrate that although awareness of green banking is increasing, its implementation is not even and still depends on the internal capacity, profitability, and managerial policies of each bank.

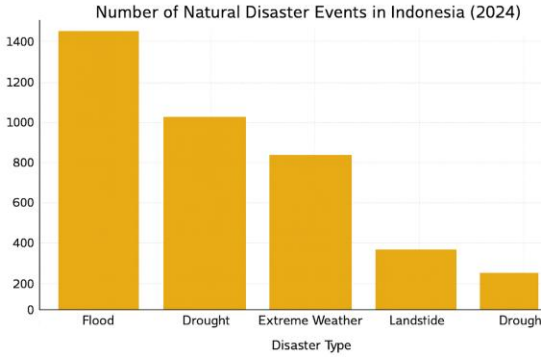

Figure 2. Natural Disaster Events in Indonesia (2024)
Source: National Disaster Management Agency (BNPB) (2024)
Indonesia Disaster Data Book 2024

The graph data for natural disaster events in Indonesia in 2024 is derived from the 2024 Disaster Data Book published by the National Disaster Management Agency (BNPB). The official report notes that throughout 2024 Indonesia will experience various types of disasters, with floods as the most dominant event with 1,420 cases, forest and land fires with 973 cases, extreme weather with 733 cases, landslides with 207 cases, and drought with 89 cases. Disaster data shows the high level of Indonesia's vulnerability to hydrometeorological disasters, thus providing a basis for analyzing the influences that affect sustainable policy formulation.

The Financial Services Authority (OJK) has established a series of policies to support the implementation of sustainable finance, including PBI No.8/21/PBI/2006, Circular Letter No.8/22/DPbS, and POJK No.51/POJK.03/2017. This policy is strengthened through cooperation with the Ministry of Environment, which emphasizes the importance of environmental impact analysis and the implementation of environmental, social, and governance (ESG) in bank financing

activities (*Bank Indonesia*). However, the effectiveness of this policy remains limited, particularly in terms of disclosure quality and the actual allocation of financing to green projects. Empirical evidence shows that green banking disclosure in Indonesian Islamic banks is still uneven and largely compliance-oriented, with average Green Banking Disclosure Index (GBDI) scores remaining below 0.70 for several banks, indicating limited substantive implementation rather than strategic integration (Rachmawati et al., 2023; Afifah & Hasymi, 2020). Research by Nurmalia (2021), shows that the 2016-2019 Sharia Bank Sustainability Report has not had a significant effect on profit growth due to suboptimal reporting and implementation.

Previous studies have shown inconsistent results regarding the influence of internal bank factors on the implementation of green banking. Research by Al Frijat, Al-Msiedeen, and Elamer (2025) found that the integration of green financing has a positive effect on the financial stability of banks (Chowdhury et al. 2025). It also adds that employees' motivation and green behavior can mediate the relationship between policies, Green Banking, and environmental performance. Instead, research by Afifah and Hasymi (2020) and Rachmawati et al. (2023) reports that disclosure of Green Banking has not had a significant impact on profitability because sustainability practices are still carried out only as a matter of compliance, not the company's core strategy. The inconsistency of the findings suggests that the implementation of Green Banking by Islamic banks is still influenced by many factors that are not fully understood.

Stakeholder Theory explains that organizations have a moral and strategic obligation to meet the interests of stakeholders. In this context, Islamic banking needs to implement green financing policies, transparent sustainability reporting, and environmentally friendly innovations to strengthen public legitimacy and trust. However, it remains unclear to what extent internal bank factors such as bank size, profitability, institutional ownership, and operational efficiency affect green banking disclosures, as well as how green financing can play a mediating mechanism in the relationship. The size of a bank reflects the capacity of assets, resources, and managerial ability to implement sustainability policies. Large banks face public pressure and stronger regulations to implement green practices (Gunawan et al., 2022; Firmansyah & Kartiko, 2024; Drempetic et al. (2020); Al Frijat et al., 2025). However, some studies such as Kontesa et al. (2023) and Farida and Purwanto (2021) indicate that bank size does not always have a significant influence on Green Disclosure, because some large banks are still profit-oriented and have not made sustainability the main strategy.

Profitability is also an important factor in determining the bank's ability to support green financing. Research by Akhter et al. (2021) and Anggraini and Fasa (2022) proves that profitability has a positive effect on the implementation of Green Banking because banks that are more profitable have the capacity to fund green innovations. Meanwhile, research by Zhang et al. (2022) and Al Frijat et al. (2025) confirms that ROA plays an important role in improving Green Financing and sustainability performance. However, research by Rachmawati et al. (2023) and Afifah and Hasymi (2020) concludes that the level of profitability does not affect disclosure of Green Banking, so the results are still inconsistent.

Institutional ownership plays a role in corporate governance and oversight of sustainability policies. Research by Sehen Issa et al. (2022) and Firmansyah and Kartiko (2024) shows that institutional ownership has a positive effect on Green Banking because pressure from institutional shareholders can increase accountability. However, research by Tambunan and Wahyuliza (2024) and Ulfah and Denta (2025) found that institutional ownership has no significant effect, so its effectiveness is highly dependent on investment orientation and internal governance. Operational efficiency is measured through the ratio of operating costs to operating income (BOPO), reflecting the bank's ability to manage costs optimally. Research Shehadeh et al. (2024); Wang and Fu (2025); Jain and Sharma (2023), proving that efficiency can drive optimal cost reduction. However,

research by Ramadhan (2024) indicates that operational efficiencies have not had a significant effect on disclosure in Green Banking. Research by Yanti and Fasa (2025) adds that efficiency has an impact when supported by digital transformation and paperless banking.

Moreover, Green financing serves as an important means for banks to channel funds to environmentally friendly projects such as renewable energy and waste management. Research by Zhang et al. (2022), Al Frijat et al. (2025), and Sutrisno et al. (2024) indicates that Green Financing can mediate the influence of the bank's internal factors on disclosure Green Banking. However, research by Guang-Wen and Siddik (2023) and Mirza et al. (2023) explains that the effectiveness of Green Financing depends on the readiness of the digital and risk management of the bank. Green banking is used to assess the extent to which banks disclose sustainability policies and practices in their official reports. Research by Rachmawati et al. (2023) shows that GBDI disclosure in Indonesian Islamic banks is still variable and tends to be less optimal.

Despite the growing regulatory emphasis on sustainable finance in Indonesia, empirical evidence on the internal determinants of green banking implementation remains inconclusive. Prior studies report mixed findings regarding the roles of bank size, profitability, institutional ownership, and operational efficiency, with some suggesting positive influences on sustainability practices, while others indicate that green banking disclosure is largely compliance-driven and not strategically embedded. These inconsistencies imply limitations in models that rely solely on direct relationships between internal bank characteristics and sustainability outcomes. Grounded in stakeholder theory, banks' responses to regulatory, social, and environmental pressures should be manifested through concrete operational mechanisms. However, the role of green financing as a strategic transmission channel linking internal bank capacity to green banking implementation has received limited empirical attention, particularly in the context of Islamic banking in Indonesia during the post-pandemic and post–POJK 51/2017 period. Accordingly, this study seeks to address this gap by examining green financing as a mediating mechanism between internal bank characteristics and green banking implementation.

This study aims to examine the determinants of green banking implementation in Islamic commercial banks in Indonesia by incorporating green financing as a mediating mechanism. Specifically, it seeks to analyze the effects of bank size, profitability, institutional ownership, and operational efficiency on green financing, to assess the direct influence of these internal bank characteristics on green banking implementation, and to evaluate the impact of green financing on green banking practices. Furthermore, this study tests whether green financing mediates the relationship between internal bank characteristics and green banking implementation, thereby extending stakeholder theory by explaining how internal organizational capacities are translated into sustainability-oriented banking practices.

This study contributes to theory by extending stakeholder theory through the empirical integration of green financing as a mediating mechanism that explains how internal bank characteristics are translated into green banking implementation in Islamic banking. It contributes to practice by providing evidence-based insights for regulators and bank management, highlighting the importance of strengthening green financing capacity, particularly in large and profitable banks, to enhance the effectiveness of sustainable finance policies and green banking practices in Indonesia.

Based on the highlighted theoretical and empirical gaps, this work aims to address several related Research questions. In particular, it examines how internal bank attributes, such as bank size, Profitability, institutional ownership, and operational efficiency, impact green financing in Indonesia's Islamic commercial banks. Additionally, the study looks into how these internal bank characteristics directly affect the adoption of green banking practices. It also examines how green finance helps improve the adoption of green banking. To understand how internal organisational

capability is translated into sustainability-oriented banking practices, this study concludes by examining whether green financing serves as a mediating mechanism linking internal bank features to the implementation of green banking.

LITERATURE REVIEW

Theoretical Foundation: Stakeholder Theory

Stakeholder theory posits that organizations are accountable not only to shareholders but also to a broader set of stakeholders, including regulators, communities, customers, and the environment. In the banking sector, this theory provides a strong foundation for explaining sustainability-oriented practices such as green banking and green financing, as banks are expected to respond to increasing environmental and social pressures. Within this framework, green banking represents a strategic response to stakeholder expectations, while green financing serves as an operational instrument through which banks demonstrate accountability and legitimacy. Stakeholder theory, therefore offers a relevant lens for understanding how internal bank characteristics influence sustainability practices. This view is reinforced by research by Anggraini and Fasa (2022), which emphasizes the importance of social responsibility towards external parties. Green Banking and Green Financing. It is a form of bank accountability to increase transparency, strengthen public trust, and encourage financial sustainability.

Conceptual Foundation of Green Banking and Green Financing

Green banking refers to the integration of environmental considerations into banking operations, policies, products, and disclosure practices, including sustainability reporting and environmentally responsible lending decisions (Gunawan et al., 2022; Zhang et al., 2022). Green financing represents a core operational dimension of green banking, focusing on the allocation of funds to environmentally friendly projects such as renewable energy, energy efficiency, and waste management (Zhang et al., 2022; Sutrisno et al., 2024). While green banking reflects institutional commitment and transparency, green financing captures the substantive financial support for sustainable development. Prior research suggests that effective green financing not only improves environmental performance but also enhances banks' reputational legitimacy and long-term financial resilience (Al Frijat et al., 2025). Previous research (Al Frijat et al., 2025; Zhang et al., 2022; Gunawan et al., 2022) indicates that Green Banking has a positive effect on the bank's financial performance and stability.

By stakeholder theory, the success of a bank is not only measured by profits, but also by its ability to meet the expectations of stakeholders such as the government, society, investors, and the environment. Application Green Banking is a manifestation of the bank's social responsibility through green policies, reporting transparency, and environmentally friendly digital innovations. Thus, a good relationship with Squirrel creates a competitive advantage, strengthens social legitimacy, and improves sustainable financial performance, where Green Financing acts as a link between environmentally friendly policies and the bank's financial performance.

Green Financing

Green financing is financing focused on environmentally friendly projects and distributes funds to the renewable energy, energy efficiency, and waste management sectors (Zhang et al., 2022; Firmansyah & Kartiko, 2024). In banking practice, banks apply Green Financing as a form of policy implementation, Green Banking, taking into account the social and ecological impact of the debtor. Various studies show that Green Financing mediates the relationship between green practices and environmental performance, as well as improves the stability and reputation of the bank. Forms of green financing include Green Loan, Green Bond, and Green Sukuk, which channel

capital into sustainable projects while reducing environmental and reputational risks.

Role of Green Financing as a Mediating Mechanism

Green financing is increasingly viewed as a critical mechanism linking internal bank characteristics to green banking implementation. Rather than influencing sustainability disclosure directly, internal factors such as bank size, profitability, and ownership structure may first determine a bank's capacity to allocate funds to green projects, which subsequently enhances green banking practices. Empirical studies provide growing evidence that green financing mediates the relationship between internal bank characteristics and sustainability outcomes, although such evidence remains limited in Islamic banking contexts (Zhang et al., 2022; Sutrisno et al., 2024; Al Frijat et al., 2025). This gap highlights the need for further empirical investigation, particularly in emerging markets.

Hypothesis Development

Effect of Bank Size on Green Financing

Company size (Firm Size) reflects the capacity of the bank's assets and resources to support sustainable policies. Large-scale banks have wider access to funding, better risk management, and higher levels of public pressure to operate responsibly. By Stakeholder Theory, large banks have greater social and environmental responsibility, so that firm size becomes an important factor in the implementation of Green Banking and Green Financing. Research by Al Frijat et al. (2025) and Chang et al. (2024) shows that firm size has a positive effect on Green Credit Policy and Green Finance. The findings are in line with research by Drempetic et al. (2020), which found that large companies had disclosure scores for Green Financing higher. Based on these theories and empirical evidence, the hypothesis can be formulated as follows:

H1 : The size of the bank has a positive effect on green financing.

Influence of Profitability on Green Financing

Profitability (ROA) reflects the ability of banks to generate profits from the total assets they own, so it becomes an indicator of financial efficiency and stability. Banks with high profitability have greater flexibility to fund environmental and sustainable projects through Green Financing schemes without interfering with their financial performance. By Stakeholder Theory, more profitable banks have a greater social and environmental responsibility to maintain public legitimacy and trust through support for green projects. Research by Zhang et al. (2022) and Al Frijat et al. (2025), shows a positive influence of profitability on Green Credit Policy and environmental performance. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H2: Profitability (ROA) has a positive effect on green financing

Influence of Institutional Ownership on Green Financing

Institutional ownership reflects the portion of shares held by financial institutions such as pension funds, insurance, and investment banks that play a role in overseeing a company's social and environmental policies. Institutional ownership has social and environmental responsibility, encouraging bank management to distribute green financing as a form of commitment to sustainability and efforts to maintain public integrity. Research by Khamilia and Nor (2022) and Alzoubi and Obeidat (2020) shows that institutional ownership has a positive effect on the implementation of Green Banking because it increases transparency and the push for green financing. Findings Tambunan and Wahyuliza (2024), reinforcing evidence that institutional ownership has a positive effect on Green Financing through supervision that encourages

distribution to the environmentally friendly sector. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:
H3 : Institutional Ownership has a Positive Effect on Green Financing

Effect of Operational Efficiency on Green Financing

Operational efficiency reflects the bank's ability to optimally manage resources at minimal cost through the ratio of operating costs to operating income. If the BOPO value is low, it indicates high efficiency. Banks that efficiency has greater financial space to innovate and fund green projects. Operational efficiency shows the bank's responsibility in ensuring that business activities are not only profit-oriented, but also contribute to social and environmental value. Efficiency supported by digitalization and innovation has been proven to increase productivity and environmentally friendly financing capacity. Research by Shehadeh et al. (2024) and Jain and Sharma (2023), shows that efficiency supported by digitalization and innovation has a positive effect, increasing productivity and environmentally friendly financing capabilities. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:
H4: Operational efficiency has a positive effect on green financing

Effect of Bank Size on Green Banking

Company size (Firm Size) reflects the capacity of resources and operational strength to implement policies and practices Green Banking Effectively. By stakeholder theory emphasizing that the larger the size of the bank, the higher the pressure from stakeholders to adopt sustainability principles to encourage a more proactive response to environmental issues. Research Firmansyah and Kartiko (2024); Gunawan et al. (2022) indicate that large banks are more proactive in implementing green practices due to regulatory and reputational pressures. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:
H5 : Bank size has a positive effect on green banking

Influence of Profitability on Green Banking

Profitability (ROA) reflects a bank's ability to generate a profit from the total assets it owns Squirrel. The relationship between profitability and Green Banking shows the Bank's efforts to balance economic goals with social responsibility, where the allocation of profits for environmentally friendly activities can strengthen the legitimacy, reputation, and sustainability of the institution. Research by Nasution and Agustina (2023) indicates that Green Banking can increase profitability through efficiency, risk management, and a positive reputation. Indicating that profitability has a significant positive effect on disclosure in Green Banking. This means that the higher the profitability, the greater the tendency to report sustainability practices. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:
H6: Profitability has a positive effect on green banking.

Influence of Institutional Ownership on Green Banking

Institutional ownership shows the extent to which the investor's institution emphasizes sustainability, reputation, and good governance, thus encouraging banks to implement and disclose green banking practices. By Stakeholder Theory, the success of a company is determined by its ability to meet the social and environmental expectations of its stakeholders. Research by Bose et al. (2018), Gunawan et al. (2022), and Sehen Issa et al. (2022) shows that institutional ownership has a positive effect on the practice of Green Banking. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:
H7 : Institutional ownership has a positive effect on green banking

Effect of Operational Efficiency on Green Banking

Operational efficiency (BOPO) shows the bank's ability to optimally manage operating costs and revenue. Operational efficiency can reflect the bank's responsibility for the economic and sustainable use of resources, as well as efforts to meet the social and environmental expectations of stakeholders. Research by Shehadeh et al. (2024) and Wang and Fu (2025), shows that efficiency has a positive effect on practice Green Banking if supported by technological innovation and digitalization. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H8 : Operational efficiency (BOPO) has a positive effect on green banking

Effect of Green Financing on Green Banking

Green financing is an important instrument in supporting the implementation of sustainability principles, as banks channel funds to environmentally friendly projects such as renewable energy, energy efficiency, and waste management. The higher the proportion of green financing, the greater the incentive for banks to increase the disclosure of practices in sustainability reports. In line with Stakeholder Theory, banks have a responsibility to meet stakeholder expectations related to transparency and social and environmental accountability. Banks have a responsibility to meet expectations regarding transparency and environmental and social responsibility.

Research by Zhang et al. (2022), Sutrisno et al. (2024), and Al Frijat et al. (2025) indicates that Green Financing has a positive effect on green banking disclosure because banks that are active in green financing tend to have a higher commitment to sustainability and reporting. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H9: Green Financing has a positive effect on green banking.

Influence of Bank Size on Green Banking Through Green Financing

Bank size (firm size) reflects the bank's resource capacity, financial stability, and managerial ability to execute a sustainable strategy. Large banks have wider access to funding, more complex organizational structures, and better risk management. The larger the size of the bank, the greater the social and environmental responsibility that must be fulfilled due to stakeholder expectations. In the context of green banking, bank size is important because it allows banks to allocate funds for Green Financing, such as renewable and green energy financing (Sutrisno et al., 2024; Zhang et al., 2022). Research by Al Frijat et al. (2025) indicates that bank size has a positive effect on green credit policy and financial performance. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H10: Firm size has a positive effect on green banking through green financing.

Effect of Profitability on Green Banking Through Green Financing

Profitability reflects the bank's ability to generate profits, so it is an indicator of financial strength and long-term investment capacity. More profitable banks have a greater social and environmental responsibility to maintain legitimacy and public trust through the support of green projects. Banks with high profitability are better able to fund green policies and channel Green Financing like Green Credit or Sustainable Project Lending, Al Frijat et al. (2025), and Sutrisno et al. (2024). In addition, the research by Zhang et al. (2022), found that Green Financing mediates the relationship between profitability and sustainability performance. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H11 : Profitability has a positive effect on green banking through green financing

Influence of Institutional Ownership on Green Banking Through Green Financing

Institutional ownership refers to the portion of shares held by institutions such as pension funds, insurance companies, and other institutional investors that have a high supervisory capacity over management behavior. Institutional investors have stronger expectations of transparency, sustainability, and environmental accountability, so they encourage banks to improve their practices in Green Banking. Institutional shareholders tend to pressure management to channel Green Financing as a form of social responsibility and reputational risk reduction strategy. Research by Bose et al. (2018), Gunawan et al. (2022), and Sehen Issa et al. (2022) shows that institutional ownership has a positive effect on the implementation of green policies and sustainability reporting. In addition, the research by Tambunan and Wahyuliza (2024) proves that Green Financing mediates the relationship between institutional ownership and sustainability performance. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H12 : Institutional Ownership has a positive effect on green banking through green financing

Operational Efficiency Has a Significant Effect on Green Banking Through Green Financing

Operational efficiency reflects the bank's ability to optimally manage resources at low costs. Banks with low BOPO ratios have greater capacity to innovate and support Green Financing, such as renewable energy financing and environmental projects. Operational efficiency is a form of bank responsibility to stakeholders to ensure that business activities are not only profit-oriented but also provide social and environmental value. Research by Shehadeh et al. (2024), Jain and Sharma (2023), and Mirza et al. (2023), shows that efficiency supported by digitalization and technological innovation can increase productivity, reduce operational costs, and strengthen banks' ability to distribute green financing. Based on the theoretical study and empirical findings, the hypothesis is formulated as follows:

H13 : Operational efficiency has a positive effect on green banking through green financing.

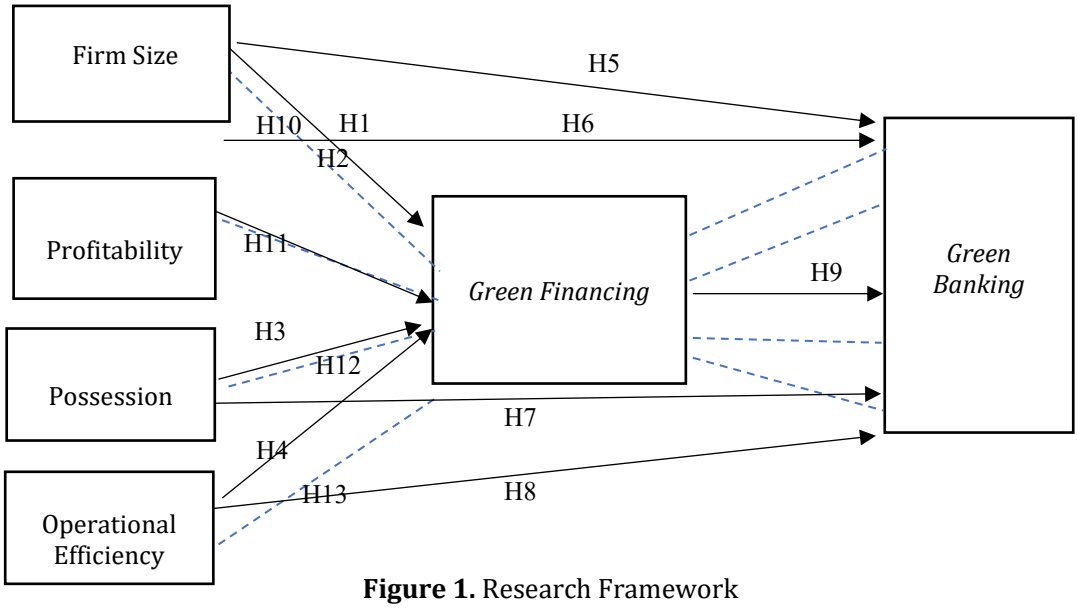

Figure 1. Research Framework

RESEARCH METHOD

This study uses a quantitative approach with secondary data that is explanatory in nature. Data was obtained through a documentation study of the annual reports and sustainability reports of Sharia Commercial Banks registered with the Financial Services Authority (OJK) for the 2020-

2024 period. The population of this study includes Sharia Commercial Banks in Indonesia, with a sample selected through purposive sampling as many as 9 Sharia Commercial Banks in Indonesia that meet the criteria, as follows:

Table 1 Sample Criteria

No	Criterion	Sum
1	Registered with the OJK consistently 2020–2024	11
2	Sharia Commercial Banks do not have a complete annual report	(1)
3	Sharia Commercial Banks do not have a complete ongoing report	(1)
	Final sample count	9
	Number of research samples (9 × 5)	45

Based on the sample criteria in the table, 45 observational data points can be used as research samples. The independent variables in this study consisted of bank size, profitability, institutional ownership, and operational efficiency. The dependent variable used is green banking, while green financing acts as a mediation variable.

Table 2. Operational Definitions and Variable Measurements

Yes	Variable	Variable Definition	Measurement	Reference Source
1	Green Banking Implementation	The level of implementation of banking policies, products, and activities oriented towards environmental sustainability and resource efficiency, including the integration of environmental aspects in the bank's financing and operational strategies.	Green Banking Disclosure Indexes (GBDI) – Based on 21 items of disclosure of green banking practices. Dichotomous approach method (1 = disclosed, 0 = not disclosed)	Al et al. (2025); Zhang et al. (2022); Gunawan et al. (2021); Bose et al. (2017)
2	Green Financing	The channelling of funds by banks to sectors or projects that support sustainable development and climate change mitigation goals, such as renewable energy, environmental conservation, and energy efficiency.	Green financing disclosures were measured using 86 indicator items based on the GRI 100, GRI 300, and GRI 400 standards. Dichotomous approach method (1 = disclosed, 0 = not disclosed)	Zhang et al. (2022); Sutrisno et al. (2024)
3	Profitability	Return on Assets indicates	ROA = Net Profit :	Al et al. (2025);

		the bank's level of efficiency in utilizing assets to generate profits	Total Assets x 100%	Sutrisno et al. (2024)
4	Firm Size	The size of the bank with the natural logarithm of total assets. It reflects the large scale of the bank's operations and financial capacity.	Bank size = ln (Total Assets)	Al et al. (2025); Firmansyah & Kartiko (2024); Zhang et al. (2022)
5	Institutional Ownership (Institutional Ownership)	The proportion of shares owned by institutional investors such as key institutions, the government or investment managers. Measured in percentage institutional ownership.	Institutional Ownership = Number of institutional shares: total shares x 100%	Bose et al. (2017); Alzoubi & Obeidat (2020)
6	Operational Efficiency	Operational efficiency measures the ability of banks to optimally manage costs and revenues to maximize profits. Measured using the ratio of operating costs to operating income (BOPO)	BOPO = Operating Cost : Operating Income x 100%	Khamilia & Nor (2022); Shehadeh et al. (2024); Jain & Sharma (2023)

Coding Procedure and Operationalization of Disclosure Indices

The measurement of green banking and green financing in this study was conducted using a structured content analysis of secondary data obtained from annual reports and sustainability reports published by Islamic commercial banks and officially disclosed on the Financial Services Authority (OJK) website. Content analysis was selected because it is a widely accepted method for systematically quantifying sustainability disclosure practices based on publicly verifiable documents.

Coding Criteria and Scoring Procedure

Disclosure items for green banking and green financing were operationalized using dichotomous indicators. Each disclosure item was scored 1 if the relevant information was explicitly disclosed in the report and 0 if the information was absent. An item was considered disclosed only when qualitative or quantitative statements clearly referred to the relevant environmental policy, practice, or financing activity; vague or generic statements without substantive content were not scored. The disclosure index for each variable was calculated by dividing the total score obtained by the maximum possible score, ensuring comparability across banks and reporting years.

Coding Process and Objectivity

The coding process was conducted manually following a predefined coding manual derived from prior empirical studies and established disclosure frameworks. Before formal coding, the coders were trained using a pilot sample of reports to ensure consistent interpretation of disclosure items and reduce subjective bias. Ambiguous cases were discussed jointly to reach consensus, and coding decisions were documented to maintain transparency and replicability. This procedure helped ensure objectivity and consistency in the application of coding criteria across all

observations.

Justification for the Use of Secondary Disclosure Data

Secondary reporting was selected as the most appropriate instrument for measuring green banking and green financing because sustainability disclosure reflects the formal and accountable communication of banks' environmental commitments to stakeholders. Annual and sustainability reports are legally regulated, publicly accessible, and subject to regulatory oversight, making them reliable sources for assessing green banking implementation. Moreover, the use of secondary disclosure data minimizes respondent bias and allows for longitudinal comparison across institutions and time periods, which is particularly important in evaluating sustainability practices in the post-POJK 51/2017 regulatory environment.

FINDINGS AND DISCUSSION

Descriptive Static Test

Table 3. Descriptive Statistics

Descriptive statistic					
	N	**Minimum**	**Maximum**	**Mean**	**Std.Deviation**
Bank size	45	28,14	31,84	30,2633	0,86485
Profitability	45	-10,98	8,43	0,5849	3,39222
Institutional ownership	45	3,61	100,00	76,1291	32,50900
Operational Efficiency	45	58,12	206,19	92,3722	30,41942
Green Banking	45	0,33	0,90	0,6251	0,14613
Green Financing	45	0,49	0,84	0,6336	0,11784
VALID N(Listwise)	45				

Source: data processed, 2025

Descriptive statistics describe the characteristics of the research data through the maximum, minimum, average, and standard deviation values of each variable. Based on Table 3, there are 45 observations from 9 Islamic commercial banks in Indonesia during the 2020–2024 period, which include variables of bank size, profitability, institutional ownership, operational efficiency, green banking, and green financing. The bank size has an average of 30.2633 with a standard deviation of 0.86475, indicating that the scale of interbank assets is relatively homogeneous. Profitability (ROA) has an average of 0.5849 and a standard deviation of 3.39922, which reflects the variation in the bank's ability to generate profits. Institutional ownership has an average of 76.1291% with a standard deviation of 32.50900, which indicates a difference in the influence of institutional shareholders between banks. Operational efficiency (BOPO) has an average of 92.3722 with a standard deviation of 30.41942, indicating that the level of interbank efficiency still varies. The green banking variable has an average of 0.651 and a standard deviation of 0.14613, which describes the level of disclosure of sustainable practices that are relatively moderate but not even. The green financing has an average of 0.6336 with a standard deviation of 0.11784, which shows that the implementation of green financing is quite stable even though it is not optimal in all banks.

Coefficient of Determination Test (R2)

The Determination Coefficient (R^2) test is a value that describes the proportion or percentage of the influence of all independent variables together on the change in the dependent variable. This value is used to assess the strength of the regression model, whether the model is

good at explaining the phenomenon being studied or not. The results of the determination coefficient (R2) test at regression 1 showed that the value of R-squared was 0.577 and the Adjusted R-squared was 0.535. This means that 57.7% of the variation in green financing can be explained by the variables of bank size, profitability, institutional ownership, and operational efficiency. The model's explainer ability remained strong at 53.5%.

In regression 2, it shows the value of R-squared of 0.827 and the Adjusted R-squared of 0.805. This means 82.7% variation in Green Banking is explained by the independent variable. This shows that the second regression model has a stronger predictive ability than the first model. Overall, the bank's internal variables are better able to explain changes in green banking than green financing, thus supporting the role of Green Financing as a mediating variable in the research.

Table 4. Determination Coefficient Test Results (R2)

Mode	Regression 1 (Green Financing)		Regression 2 (Green Banking)	
	R Square	Adjusted R Square	R Square	Adjusted R Square
1	577	535	827	805

Test F

The F test is a statistical test in regression analysis that is used to find out whether independent variables together (simultaneously) have a significant effect on dependent variables. This test assesses the feasibility of the overall regression model, so as to determine whether the model used is feasible to explain the relationship between variables. This study shows that the F test in Regression 1 produces an F of 13,644 with a significance of <0.001, which proves the simultaneous influence of the variables of bank size, profitability, institutional ownership, and operational efficiency on green financing in Sharia Commercial Banks for the 2020-2024 period. Meanwhile, the results of the F test in Regression 2 produced an F of 37.249 with a significance value of <0.001 which confirms that all independent variables have a significant effect on green banking in this research model.

Table 5. F Test Results

Mode	Regression 1 (Green Financing)		Regression 2 (Green Banking)	
	F	**Sig.**	**F**	**Sig.**
1	**13,644**	**<0.001**	**37,249**	**<0.001**

Hypothesis Test

The hypothesis test of this study was carried out using the path equation test (Path Analysis) to test the causal relationships between variables in a structural model. According to Ghozali (2018), the path equation test is carried out by estimating the path coefficient (Path Coefficient) as well as significant values and R2 values in each regression submodel. The model is declared good if the relationship between significant variables, high R2 values, and the classical assumptions of normality, multicollinearity, and heteroscedasticity have been met.

Based on the results of the path equation test in Table 9, it can be explained that the variables of bank size, profitability, institutional ownership, and operational efficiency to Green Financing. The results of the analysis showed that the bank size had a coefficient value of 0.052 and

a t-count of 3,603, and significance. <0.001 means that the size of the bank has a positive effect on Green Financing. So that the higher the size of the bank, the higher the application of the principle of green financing. While profitability has a coefficient value of 0.026, the value of t-count is 3,982, and the significance. <0.001, meaning that profitability has a positive effect on green financing. So that the higher the bank's profitability, the higher the bank's ability and willingness to apply the principle of green financing. Meanwhile, institutional ownership and operational efficiency do not affect Green Financing

Table 6. Results of the Path Equation Test Against Green Financing

Independent Variables	(Unstandardized Coefficient)	t-value	Sig.	Interpretation
	B			
Bank size	52	3,603	<0.001	Positive influence
Profitability (ROA)	26	4,380	<0.001	Positive influence
Institutional ownership	1	1,450	155	Has no effect
Operational efficiency (BOPO)	1	1,242	222	Has no effect

Source: Data processed, 2025

Based on the results of the path equation test in Table 10. It can be explained that the variables of bank size, profitability, institutional ownership, and operational efficiency are related to green banking. The results of the analysis showed that the size of the bank had a coefficient value of 0.058 with a t-calculation of 4.298 sig. <0.001, so that the size of the bank had a positive effect on green banking. This means that banks with larger sizes have higher capacity and public pressure to apply sustainability principles. The green financing variable has a coefficient value of 0.875 with a t-calculation of 6.823 sig. <0.001, meaning that the greater the proportion of green financing distributed by banks, the higher the level of disclosure of green banking practices. Meanwhile, profitability, institutional ownership, and operational efficiency do not affect green banking.

Table 7. Results of the Path Equation Test Against Green Banking

Independent Variables	(Unstandardized Coefficient)	t-value	Sig.	Interpretation
	B			
Bank size	58	4,298	<0.001	Positive influence
Profitability (ROA)	2	303	764	Has no effect
Institutional ownership	-1	-1,607	116	Has no effect
Operational efficiency (BOPO)	0	508	614	Has no effect
Green Financing	875	6,823	<0.001	Positive influence

Source: Data processing, 2025

Sobel Test

Basic formula of sobel test:

$$Z = \frac{axb}{\sqrt{(b^2xSa^2) + (a^2Sb^2)}}$$

Information:

a = path coefficient of the independent variable -> mediator (from the ESG model)
Sa = Standard error of a
b = path coefficient of mediating variable (ESG) -> dependent (from GBDI model)
Sb = standard error of b
t table = 2.016692 (α = 0.05; n = 45)

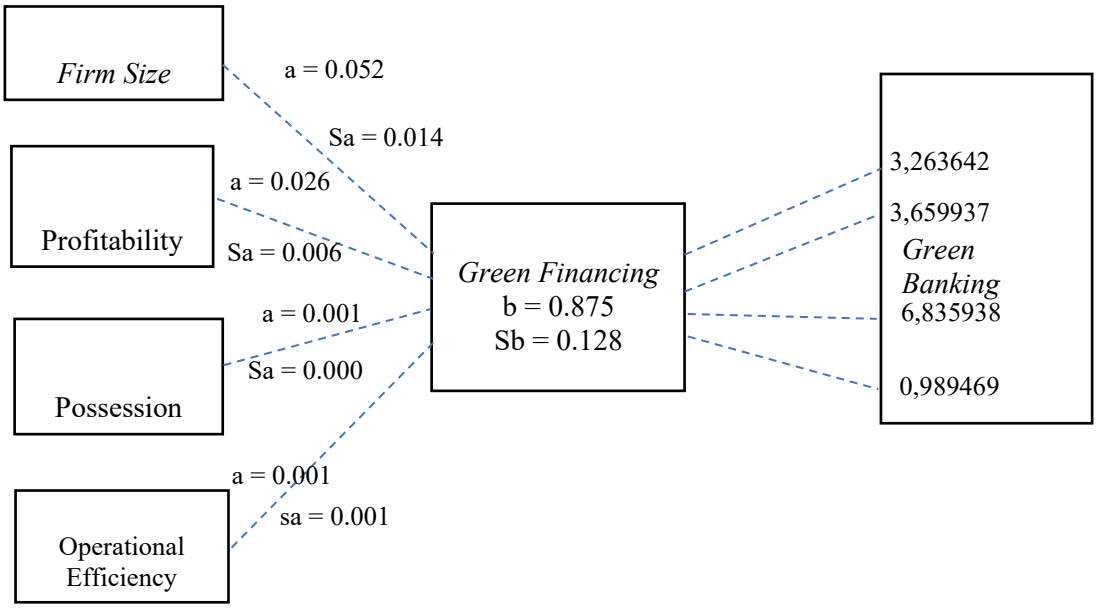

Figure 2. Sobel Test Results

The results of the Sobel test show that three independent variables affect Green Banking through green financing as a mediation variable. The size of the bank has a t-count value of 3.263642 > t-table 2.016692, so the size of the bank has a significant effect on green banking through green financing. Profitability (ROA) also has a t-count of 3.659937 > 2.016692, which means profitability can strengthen green banking disclosure through green financing. Institutional ownership has a t-count of 6.835938 > 2.016692, so that institutional ownership has a significant effect on green banking through green financing. On the other hand, Operational Efficiency (BOPO) has a t-count of 0.989469 < 2.016692, so it does not have a significant effect on green banking through green financing mediation. Thus, green financing has proven to be an important mediator in the first three variables, but it does not mediate the influence of operational efficiency on green banking.

Based on the results of the study, H1 was accepted. Bank size has been proven to have a positive and significant effect on Green Financing. The larger the size of the bank, the stronger its ability and commitment to implementing green financing. Banks with large asset scales have more adequate financial and managerial resources to support environmentally oriented projects, such as renewable energy financing or energy efficiency.

This study reinforces the results of Drempetic et al. (2020) and Susanto (2024), which state that the size of a company has a significant impact on sustainability performance because the larger the business entity, the higher the pressure from the public and regulators to operate responsibly. The size of companies in Indonesia's banking sector has an impact on the implementation of Green Financing because the large scale of operations demands higher transparency. Based on stakeholder theory, large organizations have a broader responsibility to meet social and environmental expectations, so that the implementation of Green Financing is a tangible form of the bank's commitment to sustainability and social legitimacy.

Based on the results of hypothesis 2 (H2), this study proves that profitability has a positive effect on Green Financing. Banks with the ability to generate high profits tend to be able to allocate greater resources for green financing, social responsibility, and green product development. This research supports the findings of Anggraini and Fasa (2022) and Leony et al. (2024), which state that profitability strengthens the implementation of Green Financing and encourages sustainable investment. Akhter et al. (2021) state that banks with high profit performance in Bangladesh are more active in Green Lending activities and environmental risk management. Thus, the results of this study show that profitability is not only an indicator of financial efficiency, but also a reflection of the bank's social responsibility.

The results of this study show that institutional ownership does not affect green financing, as indicated by a significance value of 0.155 (> 0.05) and a t-count of 1.450 < t-table of 2.016692. This research indicates that a large proportion of institutional ownership has not been able to encourage bank management to increase the distribution of green financing. Although the direction of the relationship is positive, the influence is not strong enough to create a change in financing strategy that is more environmentally oriented.

Institutional ownership generally still prioritizes profit stability and short-term returns, so it does not exert sufficient pressure on management to expand green financing. Green financing, which has higher risk characteristics and longer return periods, tends to be less attractive to investors who assess performance based on short-term financial indicators.

In the context of governance, institutional shareholders should play a role in encouraging management to balance economic objectives with environmental responsibility, as explained in stakeholder theory, which states that stakeholder groups have the capacity to influence the direction of organizational policies. However, this study shows that pressure from investors has not been directed toward the sustainability agenda. This research is in line with Tambunan and Wahyuliza (2024) and Hendrawan (2021), who show that institutional ownership in Indonesia is not yet optimal in encouraging sustainability practices.

The results of this study show that operational efficiency (BOPO) does not affect green financing; therefore, the fourth hypothesis is rejected. The significance value is 0.222 > 0.05, and the t-count is 1.242 < t-table of 2.016692. This finding indicates that banks' ability to reduce operational costs has not been able to encourage management to increase the distribution of green financing. Although the direction of the relationship is positive, it is not statistically significant enough to demonstrate a real contribution of operational efficiency to environmentally oriented financing policies.

Operational efficiencies achieved by banks are generally focused on controlling internal costs and improving short-term financial performance. The characteristics of green financing, which involve higher risks and longer payback periods, mean that funds generated from efficiency are not automatically allocated to environmentally friendly projects. This condition causes operational efficiency to exert no strategic pressure on management to expand the green financing portfolio, so cost-saving efforts have not yet been integrated into sustainable financing strategies in Islamic banking.

From a governance perspective, a sustainability-oriented bank should be able to balance economic efficiency with environmental commitment, as explained in stakeholder theory, which states that organizations have a responsibility to meet stakeholders' expectations regarding social and environmental performance. However, this study shows that operational efficiency in Islamic banks has not been directed to support the sustainability agenda, resulting in its insignificant influence on green financing. This finding is consistent with Ramadhan (2024) and Sari et al. (2024), which state that operational efficiency will only impact sustainability policies if accompanied by a commitment to environmentally friendly investment. Thus, efficiency without the integration of sustainability values has not been able to encourage an increase in green financing in Islamic banking.

Based on this study, hypothesis 5 (H5) is accepted, indicating that bank size has a positive effect on the implementation of Green Banking. Therefore, the larger the size of the company, the broader the disclosure of sustainability activities. Banks with large asset scales have more adequate financial, technological, and human resources to support the consistent implementation of Green Banking. In addition, large banks generally have stronger reporting and supervision systems, enabling them to increase transparency in social and environmental activities. This research is in line with Kontesa et al. (2023) and Farida and Purwanto (2021), showing that bank size affects the extent of environmental disclosure due to the ability of large companies to comply with regulations such as POJK No. 51/POJK.03/2017 on sustainable finance.

From the perspective of stakeholder theory, these results indicate that large banks have greater responsibility toward stakeholders, including governments, investors, customers, and the public. The implementation of Green Banking in large banks not only serves as regulatory compliance but also as a strategy to maintain social legitimacy and strengthen the company's reputation. Thus, bank size is one of the important factors in encouraging transparency, accountability, and sustainability in banking activities in Indonesia.

Profitability (ROA) does not affect green banking

The results of the study show that profitability does not affect Green Banking. This study has a significance value of 0.764 > 0.05 and a t-count of 0.303 < t-table of 2.016692. This finding indicates that high profits earned by banks do not automatically encourage increased disclosure practices in green banking. While profitability reflects good financial performance, it is not statistically strong enough to encourage banks to expand sustainability reporting practices. This research is in line with Rachmawati et al. (2023) and Afifah and Hasymi (2020), which state that reporting is more influenced by external pressures and company reputation rather than the level of profit.

In practice, bank assets and profits are generally allocated to activities that are considered safer and provide direct returns, such as the expansion of consumptive financing, low-risk corporate financing, the placement of funds in liquid instruments, as well as the fulfillment of operational needs and capital strengthening. This focus on asset allocation makes investing in sustainability initiatives or green projects less of a priority, as green projects often have higher risk, more complex valuation processes, and longer payback periods.

In this context, according to stakeholder theory, the increase in green banking disclosure is more influenced by the expectations of external parties such as regulators, investors, and the public than by the bank's internal profitability. Because pressure from these stakeholders is not strong enough, banks tend to allocate their assets to more profitable sectors in the short term, so green banking practices have not received significant attention. Therefore, the results of this study show that profitability is not the main driver in increasing the implementation of green banking in Islamic banks.

The results of this study show that institutional ownership does not have a significant effect on green banking. This study has a significance value of 0.116 > 0.05 and a t-count of -1.607 < 2.016692, indicating that a large proportion of ownership by institutions has not been able to encourage Islamic banks to increase transparency in sustainability practices. This condition shows that institutional investors have not put enough pressure on bank management to expand green banking reporting, as their investment orientation focuses more on short-term financial returns than on environmental and social commitments.

The results of this study reflect that institutional ownership has not been directed toward driving the integration of sustainability values in banks' reporting practices. The bank's policy direction in increasing green disclosure is still largely influenced by regulatory compliance, the need to maintain reputation, and other external pressures. This research strengthens the findings of Ulfah et al. (2025) and Krissana (2023), which state that the effect of institutional ownership on sustainability transparency is only significant when accompanied by strong management practices. Based on stakeholder theory (Freeman, 1984), these results reflect that pressure from institutional shareholders on sustainability disclosure is still weak, so the push to integrate sustainability principles into bank policies and reporting is not yet optimal.

The results of this study show that operational efficiency has no effect on Green Banking. This study has a significance value of 0.614 (> 0.05) and a t-count of 0.508 < t-table of 2.016692, indicating that banks' ability to reduce or manage operational costs has not been able to encourage increased transparency in sustainability practices. This condition confirms that the focus of efficiency in Islamic banks is still on strengthening internal financial performance and has not been directed toward expanding green banking reporting that reflects environmental and social commitments.

This research illustrates that operational efficiency cannot be a strategic driver for improving sustainability reporting. Banks that manage to reduce operational costs generally continue to allocate resources to activities that are safe, fast-growing, and support financial stability, rather than green investments that require long-term commitments. This research supports Ramadhan (2024) and Sari et al. (2024), who state that operational efficiency only has an impact on disclosure when accompanied by green investments.

Based on the results of hypothesis 9 (H9), this study shows that Green Financing has a positive effect on green banking. Therefore, the higher the level of green financing carried out by banks, the greater the bank's commitment to the disclosure of sustainability practices through the Green Banking Disclosure Index (GBDI). This research confirms that green financing plays an important role as a means of implementing social and environmental responsibility in banking activities.

Based on stakeholder theory, banks have a moral and strategic obligation to meet stakeholders' expectations regarding transparency and sustainability. Banks that channel funds to green projects demonstrate a commitment to environmental responsibility. This research is in line with Zhang et al. (2022), Sutrisno et al. (2024), and Al Frijat et al. (2025), which state that Green Financing has a positive effect on Green Banking Disclosure. Green financing can drive improvements in environmental, social, and governance (ESG) reporting performance in the banking sector.

Based on the results of hypothesis 10 (H10), this study shows that Green Financing significantly mediates the relationship between bank size and Green Banking disclosure. This confirms that large-scale banks not only have stronger financial capacity but also a greater ability to channel green financing, which ultimately drives increased transparency and sustainability reporting.

This research is in line with Sutrisno et al. (2024) and Zhang et al. (2022), which state that Green Financing acts as a mediating mechanism in strengthening the relationship between bank size and the implementation of green banking. Al Frijat et al. (2025) also state that bank size has a positive effect on green credit policies and sustainable financial performance.

Based on the results of the study, it is shown that green financing significantly mediates the relationship between profitability and green banking disclosure. This means that banks with high levels of profitability have a greater ability to channel green financing, which can drive increased transparency and sustainability reporting.

This research is in line with Zhang et al. (2022) and Al Frijat et al. (2025), which state that profitability has a positive effect on green financing and sustainability performance, where banks with high profits tend to be more active in distributing green financing to support environmentally friendly investments. Sutrisno et al. (2024) state that Green Financing is able to mediate the relationship between financial performance and green financing disclosure.

Based on the results of the study, it is shown that green financing significantly mediates the relationship between institutional ownership and green banking disclosure. This suggests that pressure and support from institutional investors can encourage banks to channel green financing, which ultimately increases the transparency of sustainability practices.

Through the mediating role of green financing, institutional ownership not only serves as an investment controller but also as a catalyst in ensuring that banks consistently carry out their social and environmental responsibilities, thereby increasing legitimacy and public trust in financial institutions. This research is in line with Sehen Issa et al. (2022) and Firmansyah and Kartiko (2024), which state that pressure from institutional investors has a positive effect on sustainability policies and the implementation of green banking.

The results of this study show that green financing is not able to mediate the relationship between operational efficiency and green banking disclosure. This study has a significance value of 0.155 (> 0.05) and a t-count of 1.450 < t-table of 2.016692, confirming that operational efficiency has not been able to affect green banking through green financing channels. This condition shows that Islamic banks still prioritize internal financial efficiency, such as cost control and increased profitability, rather than allocating resources to green investments that have social and environmental impacts. As a result, the efficiencies achieved do not translate into increased green financing capacity and thus do not strengthen sustainability disclosure.

This research shows that operational efficiency has not been directed toward strategies aligned with the sustainability agenda. Efficiency that focuses only on internal savings does not result in changes in the bank's commitment to green banking practices, as fund allocation is not directed toward green projects that require specialized financing. This research is in line with Ramadhan (2024), which states that operational efficiency has not affected Green Banking Disclosure because banks still treat efficiency as an internal strategy without a sustainability orientation.

From an organizational governance perspective, according to stakeholder theory, efficiency will only support green banking practices if it is directed toward meeting stakeholders' expectations related to social and environmental responsibility. However, the results of this study reflect that efficiency orientation in Islamic banks has not been aligned with these demands, so green financing cannot function as an intermediary linking operational efficiency with increased sustainability disclosure. Thus, integrating sustainability values into efficiency strategies is an important requirement for green financing to act as an effective mediating mechanism.

This study finds that profitability, institutional ownership, and operational efficiency do not directly and significantly affect the adoption of green banking in Islamic commercial banks, despite stakeholder theory suggesting that internal financial strength, governance structure, and

operational efficiency should promote sustainability-oriented practices. This finding suggests that, rather than being strategically integrated, green banking practices in Indonesia remain primarily compliance-driven. Because banks prioritize short-term financial returns and low-risk asset allocation over long-term green initiatives, high profitability does not always translate into broader sustainability disclosure. Institutional investors in Indonesian Islamic banking still prioritize financial performance over environmental responsibility, as evidenced by the lack of pressure on management to improve green banking practices. Additionally, rather than being reinvested in sustainability projects, most operational efficiency gains are directed toward internal cost control and financial stability. From the perspective of stakeholder theory, these results suggest that stakeholder pressure related to environmental responsibility remains weak or indirect, thereby limiting the capacity of profitability, ownership structure, and efficiency to act as independent drivers of green banking. The role of green financing as a vital conduit between internal bank capacity and sustainability disclosure is further supported by the fact that its influence becomes effective only when translated into tangible operational mechanisms.

CONCLUSIONS

This study contributes to stakeholder theory by demonstrating that the implementation of green banking in Islamic banks is driven more strongly by institutional capacity, particularly bank size and profitability, than by governance variables such as institutional ownership, thereby refining the theory's emphasis on how banks respond to stakeholder pressure in emerging market contexts. The findings further show that green financing functions as a critical operational channel through which internal capacity is translated into sustainability outcomes. Practically, the results suggest that bank management should strengthen ESG reporting systems, set internal green financing targets, enhance organizational capacity through sustainability training, and adopt digital tools for green risk assessment. For regulators, particularly the Financial Services Authority (OJK), the study highlights the importance of establishing clearer green financing benchmarks, strengthening incentive-based sustainable finance policies, and supporting capacity-building initiatives to ensure that green banking implementation moves beyond compliance toward substantive sustainability integration.

The novelty of this study lies in its theoretical and empirical integration of green financing as a strategic transmission mechanism linking internal bank characteristics to green banking implementation in the context of Islamic commercial banks in Indonesia. While prior studies predominantly examine direct relationships between bank characteristics and green banking disclosure, this study demonstrates that internal factors, such as Profitability and institutional ownership, do not, in and of themselves, drive green banking practices unless they are translated into concrete financing activities. By empirically confirming the mediating role of green financing, this study advances stakeholder theory by showing that stakeholder pressure becomes effective only when internal bank capacity is operationalised through allocative mechanisms rather than remaining at the level of financial performance or governance structure.

LIMITATION & FURTHER RESEARCH

This research has several limitations that need to be considered. First, the study is limited by its use of secondary data sources derived solely from companies' annual reports, which prevents it from capturing qualitative aspects such as management perspectives or stakeholder perceptions. Furthermore, time-related limitations arise because the data are restricted to a specific period and therefore do not fully reflect the most recent developments. Finally, methodological limitations exist, as the use of quantitative analysis does not allow for an in-depth exploration of banking motivations and thus lacks a qualitative perspective.

Based on these limitations, future researchers are encouraged to expand the methodology by combining quantitative and qualitative approaches to produce more comprehensive findings. Research can also be extended across countries or sectors to enhance the generalizability of the results. In addition, future studies should utilize more recent data over a longer observation period to better capture evolving sustainability trends. Finally, adopting a multidisciplinary approach that integrates economic, social, and environmental perspectives will enrich the analysis and contribute more significantly to the development of sustainability theory and practice.

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