

## The Role of Green Banking Implementation in Sharia Banking Performance from an Islamic Perspective

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### ABSTRACT

The aim of this research is to determine the effect of implementing green banking on the profitability of Islamic commercial banks in Indonesia and the concept of green banking from an Islamic perspective. This research was conducted at Islamic commercial banks registered with the Financial Services Authority (OJK) for the 2016-2022 period. The population in this study consisted of 12 Islamic commercial banks. The sample selection used a non-probability sampling method with a purposive sampling technique and a sample of 8 Islamic commercial banks with 7 years of observation was obtained so that 56 research data were obtained. The hypothesis testing method in this research uses a panel data regression model with a Fixed Effect Model (FEM) approach using the EViews program. The urgency of this research is to see the impact of implementing green banking on Sharia banking performance, especially from an Islamic perspective. The research results show that Green Banking practices have a negative and insignificant effect on Sharia banking performance.

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## INTRODUCTION

Environmental issues have still been a hot topic of discussion for many groups in recent years. Various environmental problems such as degradation of energy resources, climate change, forest deforestation and massive exploitation of Natural Resources (SDA) caused by human activities have also contributed to the deterioration in the quality of environmental resources (Schumacher *et al.*, 2020). The government has made various efforts to prevent and overcome environmental pollution, but the transition to environmentally friendly economic development requires increased investment in low-carbon production, energy efficiency and infrastructure improvements (Nguyen *et al.*, 2021). To invest in environmentally sound projects, especially in energy efficiency and renewable energy, it is necessary to have an environmentally friendly banking system.

Banks as financial institutions are not included as high contributors to environmental pollution, but this does not mean that banks can be separated from the problem of environmental damage. Banks can directly and indirectly have a negative impact on the environment. Banks can directly have a negative impact on the environment through their carbon footprint and use of resources from operational activities, while banks can indirectly have a bad impact on the environment through bank financing for industries that damage the environment (Halimatussadiyah *et al.*, 2018). Through banking products and services, such as providing credit to finance development activities, banking has influenced the decline in environmental quality (Bilgin *et al.*, 2021). For this reason, the banking sector has shown its concern by implementing environmentally friendly investments by providing investments and loans to industries that have implemented environmentally friendly or green practices. In this way, sustainable finance can be achieved in a bank with efforts that can be implemented, namely implementing green banking program practices.

Green banking is defined as banking activities that support environmentally friendly practices through various banking activities (Ratnasari *et al.*, 2021). Green banking is a long-term business strategy which, apart from aiming for profit, also provides benefits for empowerment and sustainable environmental preservation (Hossain, 2020). The basic principle of green banking is an effort to strengthen bank risk management capabilities, especially those related to the environment and encourage banks to increase their environmentally friendly financing portfolio such as renewable energy, energy efficiency, organic farming, eco-tourism, environmentally friendly transportation, and various eco-label products. Basically, the green banking concept is not just about carrying out "Go Green" activities, but rather the implementation of the green banking concept will produce company output, competitive advantage, good corporate identity, and a strong brand image in achieving company targets (Fathihani, 2023). There are many ways to adopt green banking such as green finance, paperless banking, energy consciousness, mass transportation system, green building online banking, internet banking, green checking accounts, green loans, mobile banking, electronic banking

outlets and energy usage savings that contribute to the program environmental sustainability (Pradani *et al.*, 2023).

In the banking sector, profitability is used to measure the bank's performance. Profitability is the main defense in banks against unexpected losses, such as strengthening capital positions and increasing future profitability through investment of retained earnings. According to (Abyanta *et al.*, 2020) profitability is to show the company's success in generating profits. Potential investors will carefully analyze the smooth running of a company and its ability to earn profits. The better the profitability ratio, the better it describes the company's ability to generate high profits. The level of bank profitability can indirectly describe the health of a bank. One of them is the implementation of green banking which can affect the profitability of a bank. Banking profitability through green banking issues can be seen from the operational activities carried out by banks (Alonso-Conde & Rojo-Suárez, 2020). Banking operations in this research refer to the daily operations carried out by banks in their daily performance and changing their practices in a more environmentally friendly direction in accordance with the green banking concept. Banks that implement green banking in their work activities will take better advantage of technological advances which are currently developing rapidly so that banking activities that were previously based on paper become paperless. This is expected to reduce carbon footprint and carbon emissions.

Several studies reveal the factors that encourage banks to implement green banking practices. Research conducted by (Bose *et al.*, 2018) in examining banks in Bangladesh found that the green banking regulatory guidelines issued by the central bank had a positive impact on the level of green banking disclosure. Furthermore, (Handajani *et al.*, 2019) in their research argued that one form of green banking is making more use of online banking than building branch banking. According to (Singh Tandon & Setia, 2017) the implementation of green banking not only provides benefits to the environment but also makes banking activities more efficient. The research states that there are 3 benefits obtained when banks implement green banking. First, with green banking, all transactions are carried out using online banking so they are more paperless. Second, increase awareness among business people of the importance of environmentally friendly business practices. Third, banks develop policies for providing loans to environmentally friendly business activities and this will indirectly make business people change their businesses to be more environmentally friendly.

Research regarding the influence of green banking on the performance of sharia banking in banks is still a new issue and has not been carried out much in Indonesia, so this research needs to be carried out to be able to provide results in the form of knowledge regarding the benefits of implementing green banking, both for society in general, banking itself, especially the impact on profitability, or for the government.

## **LITERATURE REVIEW**

### **Maqashid Al-syariah theory**

The legal basis for the Maqashid Al-Syariah concept originates from the objectives of sharia which is a pillar of religion for the benefit of Muslims throughout the world. Referring to the definition of Maqashid Al-Syariah, Maqashid Al-Syariah is an important foundation in upholding the pillars of religion with these two main points of benefit which break down the results of these benefits into five benefits to be protected. The legal provisions in Maqashid Al-Syariah are determined with several Illat' or reasons that are useful for resolving existing benefits. Maqashid Al-Syariah has an important role in the legal process (Ghoniya & Hartono, 2020).

### **Legitimasi Theory**

According to Dowling and Pleltelr (Azhgaliyelva et al., 2020), companies need to gain legitimacy from all stakeholders because there are boundaries created and emphasized by social norms and values, and reactions to these boundaries encourage the importance of analyzing organizational behavior. by showing the environment. Legitimacy theory focuses on the obligations of companies to ensure that they operate within appropriate frames and norms in the community environment where the company is established, where the company ensures that the activities carried out are accepted as legitimate (Tafsir, 2021).

### **Stakeholder Theory**

Stakeholder theory is a term for the concept of strategic management, the aim of which is to help corporations strengthen relationships with external groups and develop competitive advantages (Kazak et al., 2023). Stakeholder theory says that a company is not an entity that only operates for its own interests but must provide benefits to its stakeholders (Salman & Nawaz, 2018). Thus, the existence of a company is greatly influenced by the support provided by stakeholders to the company. The more powerful the stakeholder, the greater the company's efforts to adapt. Social disclosure is considered part of the dialogue between the company and its stakeholders.

### **Banking Financial Performance**

To measure banking performance, it can be done by measuring profitability, namely the ratio to assess the bank's ability to make a profit. Profitability can also be used to assess the level of effectiveness of a company's management. Profitability is an important factor in running a business because a company must be in a profitable condition to survive (Lel Thi Kim et al., 2021). High profitability indicates good bank performance because bank prosperity increases with higher profitability (Rulhiyat & Mulrwaningsari, 2019). One method for measuring profitability is the return on assets (ROA) ratio, which is a measure of a bank's ability to generate profits from all the assets it owns. ROA shows how much assets the bank has in obtaining net profit. A high ROA shows that a bank has good profitability in terms of asset utilization.

## **Green Banking**

Green banking means banking that carries out its business based on sustainable principles (sustainability development) (Schoelnmakelr, 2019). Green banking means that banking corporations no longer only focus on financial responsibility, namely managing their business as best as possible to generate maximum profits for shareholders, but must also focus their responsibilities on efforts to preserve the environment and nature. universal (planet) as well as improving social welfare for society (people) (Khouly et al., 2021). Green banking combines the four elements of life, namely nature, human welfare, economy, and society into economic principles that care about the safety of human life and the environment (Lavrinelngo, 2019).

In practice, green banking is applied primarily to bank operational activities, namely through the effective and efficient use of resources and energy. The green banking concept also carries out strict due diligence and audits to ensure that financing is provided to environmentally friendly projects. This effort is a form of the Bank's awareness of the risk of possible environmental problems occurring in the projects it finances which may have a negative impact in the form of decreasing credit quality and the reputation of the bank concerned. This shows that banks can participate in minimizing environmental damage.

## **Previous Research**

Literature studies are carried out by researchers to compare previous research with the research to be conducted. Several studies reveal the factors that encourage banks to implement green banking practices. Research conducted by (Bose et al., 2018) in testing banks in Bangladesh found that the implementation of green banking had a positive influence on banking performance. Furthermore, (Handajani *et al.*, 2019) in his research argued that one form of green banking is making more use of online banking which has a positive influence on banking performance and can increase banking profits. According to (Singh Tandon & Setia, 2017) the implementation of green banking is not only providing benefits to the environment but also to more efficient banking activities. The research states that there are 3 benefits obtained when banks implement green banking, first with green banking, all 2 transactions are carried out using online banking so they are more paperless. Second, increase awareness among business people of the importance of environmentally friendly business practices. Third, banks develop policies for providing loans to environmentally friendly business activities and this will indirectly make business people change their businesses to be more environmentally friendly. However, research conducted by.

Research regarding the influence of green banking on the performance of sharia banking in banks is still a new issue and has not been carried out much in Indonesia, so this research needs to be carried out to be able to provide results in the form of knowledge regarding the benefits of implementing green banking, both for society in general, banking itself, especially the impact on

profitability, or for the government. Apart from that, this research tries to fill existing gaps in research (Mustika et al., 2023), (Hoque et al., 2022), (Dewi et al., 2023). Researchers conducted different research by creating a different model from previous research, namely by adding the concept of green banking to an Islamic perspective.

This research is in line with the university's strategic plan, which is to improve the research and publication culture and to increase the relevance of research to the quality of learning and community needs according to scientific fields.

### Research Hypothesis

Green banking practices are one of the many efforts that banks can make to carry out their social responsibility towards the environment. Even though banks are not directly classified as contributors to environmental pollution, providing loans to their customers can be a factor in polluting the environment (Acahrya & Locke, 2016). Therefore, banks need to make policies related to assessing the feasibility of businesses for project financing, providing credit or company funding to see the impact of these activities on the environment. When daily banking operations practice green banking, banking activities will be more environmentally friendly, increase the efficiency of bank activities, minimize manual errors, and avoid acts of fraud (Raluca & Popescu, 2019). Banking will also receive positive assessments from the public, thereby increasing the company's reputation. Apart from that, the application of this concept will increase the bank's positive image in the eyes of investors and the public so that it can increase the number of investors and gain profits (Hossain, 2020). Conducted by (Ratnasari et al., 2021) said that companies that implement green banking have lower financial performance than those that do not implement green banking.

This research is in line with the research conducted by (Mulstika et al., 2023), (Abdo, 2021), (and Jan et al., 2019) showing that green banking practices have a positive and significant influence on bank financial performance. This can happen because when a bank applies the green banking concept, it allows the bank to build an image of banking as a good company, and attract the sympathy of investors to invest capital in banking.

**H1: Green Banking has a positive effect on banking performance**

### Conceptual Framework

The following is a conceptual framework to explain the flow of thinking in this research.

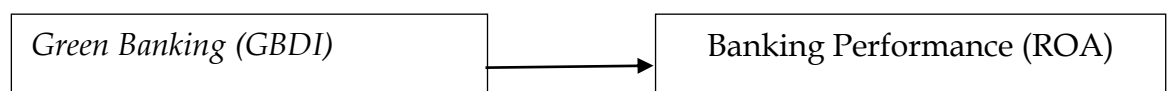


Figure 1. Conceptual Framework

## METHODOLOGY

### Research Design

The approach used in this research is a type of quantitative research. The type of data in this research is secondary data sourced from Sharia banking financial report data listed on the IDX 2016-2022.

### Operational Definition of Variables

Table 1. Operational Definition of Variables

Variable	Information	Formula	Scale
Variable Dependent			
<i>Return on Asset</i>	Banking's ability to generate profits by comparing net profit with total assets owned	$ROA = \frac{\text{Laba Bersih}}{\text{Total Aset}}$	Rasio
Independent Variable			
Green Banking	Disclosure of the implementation of green finance in banking	$GDB = \sum_{i=1}^n di$	Rasio

### Population and Sample

The population in this study includes all Sharia Commercial Banks listed on the Indonesia Stock Exchange (BEI) for the 2016-2022 period. Purposive sampling technique was used in this research to select the sample to be used. The data used in this research is secondary data obtained from the annual reports and sustainability reports of each sharia banking period 2016-2022. Determination of samples using criteria can be seen in Table 2 as follows:

Table 2. Criteria for Determining Research Samples

No	Description	Amount
1	Sharia Banking listed on the IDX for the 2016-2022 period	14
2	Banks that have not practiced the green banking concept since 2016	(4)
3	Banking that does not present complete information	(2)
	Total	8

The following are the name of Sharia banks that were sampled in this research:

Table 3. Research Sample

No	Kode	Bank Umum Syariah
1	BSI X BSM	PT Bank Syariah Mandiri
2	BSI ex BRIS	PT Bank BRI Syariah
3	BSI ex BNIS	PT Bank BNI Syariah
4	BSM	PT Bank Mega Syariah
5	BMI	PT Bank Muamalat Indonesia
6	BCAS	PT Bank BCA Syariah
7	BACS	PT Bank Aceh Syariah
8	BPDS	PT Bank Panin Dubai Syariah

### Data Analysis Methods

The analytical methods used in this research are descriptive analysis and panel data regression analysis. The panel data regression model is used because this research aims to test eight samples over seven years or consists of cross-section and time series data. Before carrying out panel data regression analysis, it is necessary to select the most appropriate estimation model between the Common Effect Model, Fixed Effect Model, and Random Effect Model. This model selection was carried out using the Chow Test, Hausman Test, and Lagrange Multiplier Test. After obtaining the best estimation model, it is necessary to test the classical assumptions consisting of the Autocorrelation Test and normality test. Next, to determine the effect of the independent variable on the dependent variable, a hypothesis test will be carried out consisting of the t test and the coefficient of determination.

## RESULTS AND DISCUSSION

### Data Processing

#### 1. Classic assumption test

##### a. Normality Test

The normality test is used to test data that has a normal or non-normal distribution. According to Ghozali (2013), a good regression model is accompanied by data that is normally distributed or close to normal. The normality test in the research used the Skewness Kurtosis test with the Eviews program as data processing. Data is said to be normally distributed if it has a probability above or equal to 0.05. Normality test results can be shown as follows:

Table 5. Normality Test Results with Kurtosis Skewness Test

	Statistic	Prob.
Skewness	-0.482561	0.758832
Skewness 3/5	3.341372	0.000616
Kurtosis	1.184668	0.119278
Normality	1.801629	0.416533

Source: Output Eviews 11, 2024

Based on table 5, the results of the normality test using the Skewness Kurtosis test method show that the Probability Skewness value is 0.758832, the Kurtosis probability value is 0.119278, so the Normality value obtained is 0.4162533. From the results obtained, it can be decided that the Probability Skewness and Kurtosis values are  $> \alpha 0.05$ , so it can be said that the residuals in this research model are normally distributed.

## 2. Autocorrelation Test

The autocorrelation test is used to test whether when using a linear regression model there is a correlation between the residual error in the current period and the error in the previous period. The autocorrelation test uses the Durbin-Watson (D-W) method. So in identifying whether there is an autocorrelation test or not, it can be seen from the size of the Durbin-Watson value. Autocorrelation test results are as follows.

Table 6. Autocorrelation Test Results

Durbin-Watson stat
2.115742

Source: *Output Eviews 11, 2024*

Based on table 6, the results of the autocorrelation test using the Durbin-Watson (D-W) method show a value of 2.115742, located between dU of 1.8124 and 4-dU of 2.1876. So it is concluded that the panel data regression model is free from autocorrelation interference.

## 3. Model Estimation Test

After conducting panel data regression analysis using three methods, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), then the best regression model is selected that is suitable for the data used by conducting a chow test and Hausman test.

### a. Test Chow

Table 7. Chow Test Result

Effect Test	statistic	Probabilitas
Cross-section F	14. 655819	0.003428
Cross-section Chi- square	58.657136	0.003781

Source : *Output Eviews 11, 2024*

Based on the output results above, where the chi-square value is smaller than alpha 0.05, the correlation model limits the fixed Effect Model (FEIM).

### b. Hausman test

The Hausman test is a test used to select one of the panel data regression models by comparing the output results between the Fixed Effect Model (FEM) and the Random Effect Model (REM). If the Probability Cross-section Random

value is  $> \alpha$  0.05 then the Random Effect Model (REM) model is selected and used for further testing. On the other hand, if the Chi-square probability is less than 0.05 then the model that should be used is Fixed Effect.

Table 8. Hausman Test Results

Test Summary	Chi-Squar Statistic	Probabilitas
Cross-section F	16.736524	0.004685

Source : *Output Eviews 11, 2024*

Based on the results of the Hausman test, the Probability Cross-section Random value was 0.0000. From these results, a decision can be made that the Probability Cross-section Random value is  $0.004685 < \alpha$  0.05. So the appropriate approach to use is the Fixed Effect Model (FEM). From the results of the Hausman test it can be concluded that the best model to use in this research is the Fixed Effect model so there is no need to carry out Lagrange Multiplier testing.

c. Hypothesis Testing

Table 9. Simple Regression Test

Model	Unstandardized		Standardized		t	Sig.
	Coefficients	Std. Error	Coefficients	B		
(Constant)	0,092	0,005			18,762	0.654 4
X_GB	-0,107	0,006	-0,983		-16,025	0.985 4

Source: *Output Eviews 11, 2024*

Based on the data results in Table 7, it shows that the hypothesis is reliable, green banking has a negative, insignificant effect on banking performance.

d. Coefficient of Determination

Table 10. Coefficient of Determination Test (R-Square)

Model	R Square	Adjusted R-Square	Std. Error of the Estimate
1	0,318a	0,101	0,85

Source: *Output Eviews 11, 2024*

Based on the results of the determinant coefficient calculation, it shows that the adjusted R<sup>2</sup> is 0.085 or 8.5%. Meanwhile, the R<sup>2</sup> is 0.101 or 10.1%. Thus, it can be concluded that the green banking variables can explain banking performance by 10.1%, and the remaining 89.1% is explained by variables not examined in this research

#### A. The Influence of Green Banking on Sharia Banking Performance

Banking has an important role in meeting business financing needs. Banks' efforts in distributing funding are carried out by selecting prospective debtors regarding the application of the interest rates provided. The interest rate on loans provided will be higher in line with the higher impact of environmental damage resulting from bank-funded operational activities (Dikau & Volz, 2019). By enforcing these provisions, banks are taking part in efforts to realize 'sustainability'. However, the implementation of this interest rate mechanism affects the profit sharing income obtained by banks from their loan distribution activities. The greater the green banking practices, the lower the bank's profitability. This is because the higher the bank's concern for the environment which is implemented in monitoring the implementation of company project funding, the higher the costs incurred by the bank, and this can lead to a reduction in banking profits. This is in accordance with the findings of (Mohamed Buallay *et al.*, 2023) and (Karyani & Obrien, 2020) which state that the paradigm of environmental regulations implemented around companies to make environmental improvements will require large costs.

This research is also in line with Legitimacy theory and Stakeholder Theory. Where these two theories are the basis on which this research is based. Legitimacy theory reveals that companies must emphasize social norms and values, and encourages the importance of analyzing organizational behavior by paying attention to the environment, while Stakeholder Theory reveals that it is a theory that discusses matters related to the interests of various parties. Where companies do not only operate for their own interests, but must pay attention to the benefits for stakeholders or society.

The results of this research are supported by several previous research results conducted by (Ratnasari *et al.*, 2021) which state that companies that implement green banking have lower financial performance than those that do not implement green banking. The study conducted (by Mulstika *et al.*, 2023) found that there was no effect of green banking on financial performance. Likewise, the results of the study (Halimatulssadiah *et al.*, 2018) show that no relationship was found between green banking practices and profitability. The results of the study (Kwelelswara & Irawan, 2023) show that green banking practices have a negative and insignificant effect on ROA. Furthermore, the study (Nulrmalia, 2021) concluded that green banking practices did not affect bank profit growth.

Even though the results of this research show that the implementation of green banking has a negative and insignificant effect on Banking Performance (ROA), this does not mean that Islamic banks do not need to implement green

banking. However, implementing green banking requires quite a long time to increase banking profitability.

#### B. Implementation of Green Banking in Sharia Banking from an Islamic Perspective

From an Islamic perspective, green banking activities have become a real rule before the concept of green banking existed. Sharia banks should be at the forefront of implementing green banking. Especially in terms of funding or financing, Islamic banks are quite selective in providing financing so that it is right on target and of course does not damage the environment. In sharia bank financing policies and operational procedures, the financing and investment screening mechanism determines the negative list of haram businesses such as alcohol, weapons, gambling, businesses that have an impact on destroying morality, as well as real business activities that have an impact on threatening the sustainability of the environment. This is also supported by the Al-Maqashid al-Syariah theory which reveals the benefits of servants, both in this world and in the afterlife. This means that the aim of the green banking concept is to realize the benefit of people by participating in protecting the environment and nature in the corporate or business sector. Apart from that, green banking does not only protect nature, but the five core elements, namely protecting religion from prohibitions, protecting the souls of many people, protecting human minds from bad deeds, protecting the treasures on earth, and protecting descendants so that they You can also enjoy the natural riches.

### **CONCLUSIONS AND RECOMMENDATIONS**

Based on the test results and discussions that have been carried out, the researchers draw several conclusions as follows:

1. Green banking has a negative, insignificant effect on banking performance
2. Based on an Islamic perspective supported by the Al-Maqashid al-Syariah theory, the green banking concept aims to realize the benefit of servants by participating in protecting the environment and nature in the corporate or business sector.

Based on the conclusions above, the researcher provides suggestions to several parties as follows:

1. For banks to pay more attention to implementing green banking practices. Even though the implementation of green banking can cause additional costs, it can benefit the bank in the long term.
2. Future researchers are expected to use other indicators that can better explain the implementation of green banking and add other variables and increase the research time span in order to produce better findings.

## FURTHER RESEARCH

This research still has limitations so further research needs to be done on this topic "The Role of Green Banking Implementation in Sharia Banking Performance from an Islamic Perspective".

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