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Determinants of financial performance and Islamic social reporting: Evidence from Indonesian Islamic banks

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This research examined the connections of efficiency, regulatory and good corporate governance (GCG) variables on the achievement or performance of financial aspects and social reporting from Indonesia's Shariah banks generally. Data and samples collected in this research include 34 Shariah banks, which are administered in the central bank, Bank of Indonesia for the year of 2009 until 2022. The financial achievement was determined with return on assets, and social reporting was determined with dummy 1 if the banks issue Islamic social reporting, and 0 otherwise. Regulation variables were measured with nonperforming financing (NPF), capital adequacy ratio (CAR), financial to deposit ratio (FDR), and net operating margin (NOM). Corporate governance variables were measured with firm age, board education, and board meeting. Efficiency variable was assessed with operating costs to revenue. The results show that regulation variables significantly impact financial achievement and social reporting, except NPF and CAR have nothing significant influence on Islamic social reporting. Efficiency variables significantly impact Islamic social reporting and financial achievement. Corporate governance variables significantly influence financial achievement and Islamic social reporting. Meanwhile firm age and board meetings have no remarkable influence on financial achievement.

1. Introduction

Indonesia has a good possibility to develop in Islamic finance and banking as proven by studies from worldwide financial agencies, this potential must be supported by the government, the business world and financial regulators (Bank Indonesia 2024; International Monetary Fund, 2023; Lukonga, 2023; World Bank, 2022; Asian Development Bank, 2018). Regulation, efficiency and governance are the concerns of researchers in conventional banking and also Islamic banking. Islamic banking regulation in Indonesia since its first year of establishment has always resulted from continuous consultation with all interested parties. The presence of the Indonesian Ulama Council since before the forming of Bank Muamalat Indonesia has initiated the presence of Islamic banking (Syafii, 2001; Karim, 2010; Ascarya & Yumanita, 2005). Efficiency in the banking area is important for banking expansion and economic growth. Chaffai & Hassan (2019) explained that there is inefficiency in Islamic banking caused by the suboptimal use of banking technology. Johnes & Papas (2012) stated that Islamic banking method is less efficient than conventional banking. The governance of Islamic banking began with questions from researchers regarding the contract between Islamic banking managers and Islamic bank customers in profit-loss sharing (PLS), in this case musyarakah and mudharabah. Karim (2010) stated that the PLS contract according to Islamic law must begin with trust that demands high honesty and upholds justice. Molah and Zaman (2015) revealed the good affections of GCG on the achievement of Shariah banks.

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In improving banking achievement to continue to provide stable value for Indonesia's economic growth, corporate governance with good policies is needed. Governance is a control over a company using a system. Corporate governance is able to create a sense of trust by stakeholders towards the assessment of company managers in managing company operations. The phenomenon of declining financial achievement of Islamic bankings in Indonesia is a picture of various factors that need to be identified to contribute to the problem, including those related to regulation, efficiency, and corporate governance. In addition to important issues related to financial achievement, Islamic banking cannot be separated from sustainability and social achievement. Banks express their involvement in ensuring sustainability in a report. Corporate reporting on sustainability as a system that helps companies or institutions set objectives, measure achievement, and manage revolutions towards a continuous world economy that integrates permanent and stable interests with environmental awareness and social responsibility (Global Report Initiative, 2018). Buallay and Azmi (2018) explain the importance of sustainability disclosure. Berger (2019) emphasizes that sustainability disclosure is the main communication tool used by companies to build image and reputation through actions in society.

Specifically, the research problems are 1) do regulation, efficiency and corporate governance affect financial achievement? and 2) Do regulation, efficiency and corporate governance affect Islamic social reporting?To investigate these questions, the authors analyzed data information of 34 Islamic banks, based on registered banks in Bank of Indonesia, for the year of 2009 until 2022. The findings indicate that regulation, measured and determined by independent variables as mentioned above, and net operating margin, significantly affect financial achievement. Efficiency, measured by operating cost to operating revenue, significantly affects financial achievement. Corporate governance, measured by board education, significantly affects financial achievement. Furthermore, financial to deposit ratio and net operating margin significantly affect islamic social aspects. Operating cost for operating revenue significantly affects islamic social reporting. Corporate governance, measured by firm age, board education, and board meetings, significantly affect Islamic social reporting.

This research assists the existing literature on bank achievement and corporate governance in several ways: First, to gain a comprehensive understanding and in-depth insights into the achievement of the investigated banks, this study employs two different achievements: financial achievement or Return on Assets (ROA) and Islamic social achievement or Islamic social reporting (ISR). Second, this research is based on a larger sample size and a longer observation period—476 observations from 2009 to 2022—compared to previous studies on the aspects of Shariah banks achievement in Indonesian context. Third, it contributes empirical confirmation to the modern literature of corporate governance by set all attention on civil law country in Indonesia, which presents a distinct legal, social, economic, and cultural environment compared to non-civil law countries (e.g. Malaysia) where the previous researches have predominantly been organized.

The outline of this research is arranged as follows: The subsequent part analyzes the published works and puts together the presumptions to be tested. Part three shows the analytical model with the variables included. Part four shows the data, the main descriptive statistics, empirical analysis, and discussion of the outcomes. Finally, part five determines the research and converse about its implications.

2. Literature review and hypothesis development

Researchers investigate all connections between Islamic bank regulations and financial performance or achievement. Regulations provide limits for activities to pay attention to risk as well as banking orientation and ultimately determine how financial achievement is. Elsod (2015) states that banking regulations aim to mitigate systemic risk resulting from bank failure, protect the interests of savers and maintain overall financial and economic health. Regulations affect the financial achievement of banks as healthy banks. Regulations function as part of the risk monitoring system and to support the banking system stability to achieve good financial achievement.

Capital is a significant indicator of the overall bank’s condition, for depositors, financial markets, and bank regulators. The safety function of bank capital has been seen not only as a whole warranty of depositors' returns once talking about liquidation but also as a contribution to maintaining financial competence by giving a protection when the bank threatened with losses. The elevated capital has resulted in the better potential of the Shariah banks to hold up the threat of any unsafe credit/productive assets. Research examining all consequences of capital on financial achievement of Islamic banking has yielded mixed results. Gul et al (2011) found that the capital adequacy ratio was not significant to performance / achievement. Meanwhile, Sebayang (2020) revealed that the capital adequacy ratio significantly affected bank achievement.

Islamic banks must maintain their asset quality or value to achieve the expected profit. With the increase in the expected asset value, the bank's achievement will also increase, especially in achieving profit. The decline in asset quality and value is the biggest source of loss for banks. Asset value is considered as a very important part of a bank's credit profile, because poor asset value has been shown to be the root cause of bank collapse, although the obvious cause may be insufficient liquidity or capital. The conclusion of the research showed that asset value as measured by NPF has a compelling negative effect on bank achievement (Usman & Lestari, 2019; Kadioglu *et al*., 2017; Lucky & Andrew, 2015).

Net operating margin affects bank productivity, based on signaling theory. A high net operating margin profit gives a good signal to shareholders and outsiders, accordingly uplifting confidence of shareholders and reputation of the bank. Referring to Santioso and Daryatno (2021) and Supriyono & Herdayinta (2019), net operating margin has good affection for elevating bank achievement.

Liquidity is one of a bank's capacity to attain its obligations to customers. Inability for fulfilling cash obligations appropriately and efficiently can have an adverse effect on the interests of stakeholders and customers or clients, acknowledged as liquidity risk (Mohiudin & Shafir, 2018). Liquidity management involves aspects of liquidity risk, market risk, trading risk, fundraising and capital, profit targets and growth plans. High liquidity has an impact on the choice of securities and profitable portfolios to drive achievement. Banks can manage and anticipate losses that arise due to low liquidity. The size of liquidity affects the bank's capability for expanding loans to make revenue. Excess liquidity can illustrate the weak support of infrastructure in the payment system and interbank money market. Nguyen & Mansi (2017), Saad & Samet (2017), and Udenwa, Suberu & Jacob (2023) show liquidity as determined by the financing to deposit ratio significantly affects financial achievement. Thus, the first hypothesis based on justification above, is as below

H_{1a}: *Capital adequacy ratio significantly influences financial achievement or performance.*

H_{1b}: *Non-performing financing significantly influences financial achievement or performance*.

H_{1c}: *Net operating margin significantly influences financial achievement or performance.*

H_{1d}: *Financing to deposit ratio significantly influences financial achievement or performance.*

Efficiency shows all comparisons of input and output used in the production process. In banking, efficiency describes one of the important indicators in assessing achievement. Banks with maximum efficiency achievement can implement the intermediation function optimally and are able to higher the achievement and value of the company (Dsouza, 2022). Banks should sustain the minimum cost and calculate the variance between the cost incurred by them to measure banking efficiency (Sparta, 2017). Bank efficiency assessment can also be measured from the costs incurred compared to the bank's operating income. The lower the percentage of operational cost divided by operational revenue; the bank will become more efficient. Sparta (2017) and Dsouza (2022) revealed, efficiency gives significant influences on the banks' financial achievement. From explanation above, second hypothesis is made as below:

H_2: *Operational cost to operational revenue ratio significantly influences financial achievement.*

Corporate governance is considered a concept to maximize the achievement of company goals by monitoring management achievement and ensuring liability to shareholders based on applicable regulations. Corporate governance is carried out to achieve transparency. If this concept is practiced optimally, it is hoped that the economy will continue to grow to provide benefits to all parties. Corporate governance consists of several synergies from the stakeholders involved. The practice of fine corporate governance is in accordance with the concepts of transparency, responsibility, accountability, fairness, and professionalism. In Islamic banking, there is also the concept of a fine corporate governance, namely obligation to carry out the principles of shidiq, tabligh, amanah and fathonah. Good corporate governance in the Islamic context is known as Islamic Corporate Governance which refers more to the Al-Quran and Al-Hadith (Amelinda and Rachmawati, 2021). Corporate governance can also be considered in the age of the firm, regularity of top-level management's discussion in certain time, and Shariah Supervisory Board educational level.

One of the potential variables for directing bank achievement. The more mature the bank is, the more banks will have to connect with many sides or parties. Isik and Ersoy (2022) and Rossi (2016) revealed that firm age has an important positive effect on bank achievement. Muslih and Marbun (2020) said that firm age does not affect bank achievement. High level education displays an intense knowledge of fundamental and well-defined know-how and is an indicator of standards of each person (Hambrick and Mason, 1984). High level education guides a good perception while a necessary condition is an obligation for a company for being excellent (Wiersema and Bantel, 1992). Qualification of education distinction takes dissimilar most important consideration according to goals of the company into high level discussion and settlement making (Harjoto *et al*., 2019). Capuano (2023) and Putri *et al.* (2021) identify that education of board of directors significantly affects bank financial achievement. A board meeting is a session where top-level management and parties gather to debate, dialogue and give any settlement conclusions while considering achievement and policy (Boadi et al., 2023). To make one board meeting successful, everyone must perform together to express and open out their same vision of the company's values, mission, and culture, also the suitable business operation they focus to achieve. Kyei *et al.* (2022) and Boadi *et al.* (2023) revealed that high level gathering discussions have a significant influence on bank achievement in Africa. Banks which performed more periodic board sessions had higher benefits and smaller Loan Loss Provision. The more frequent meetings, the more concerned about assessing and monitoring the bank. Meanwhile, Taluka *et al.* (2022) declared that board meetings have no influence on bank achievement in India. Then, the third hypothesis is made as below:

H_{3a}: *Firm age significantly influences financial achievement.*
H_{3b}: *Board education significantly influences financial achievement.*
H_{3c}: *Board meetings significantly influence financial achievement.*

In addition to important research issues related to financial achievement, Islamic banking cannot be separated from the issue of sustainability and social achievement. The company pours its involvement in ensuring sustainability into a report. Corporate reporting on sustainability as a system that helps companies or institutions set objectives, measure achievement, and manage revolutions towards a continuous world economy that integrates permanent and stable interests with environmental awareness and social responsibility (Global Report Initiative, 2018).

Investors as one of the stakeholders will see the financial achievement of a bank from the capital side. Measurement of financial achievement can be done through the capital ratio which is determined by CAR. CAR indicates a bank's capability to meet adequacy and capital maintenance, and the power of bank management for revealing, supervising and managing threats which can influence capital's quantity (Amalia & Purwanto, 2023). Reporting the financial achievement of a company is a way to satisfy stakeholders, so that stakeholders are supposed to supply more capital to the firm. While increasing the quantity or amount of capital available, the firm's opportunity to channel its funds in the shape of corporate social responsibility (CSR) programs will be higher. Amalia and Purwanto (2023) and Masrurroh and Mulazid (2017) found Capital Adequacy Ratio (CAR) did not significantly influence CSR.

One of the groups who must understand the level of asset quality of a bank is the investor. The finer the bank's achievement, the greater the assurance of safety for invested funds. The financial ratio that can be used to see the asset quality of a banking company is by using non-performing financing (NPF). Amalia & Purwanto (2023) explained that high NPF will increase costs, both productive asset reserve costs and other costs, so that it will affect the bank's health level. When the NPL value is high, the bank will focus on resolving credit problems first. Thus, the allocation used to carry out CSR is not a priority. Amalia & Purwanto (2023) found that asset quality significantly affects CSR. Meanwhile, Masrurroh and Mulazid (2017) said that asset quality does not affect CSR.

Profitability is the capability of an organization producing profit and shows the connection between sales and expenses (Sirait et al., 2022). Thus, the degree of profitability is straight comparable to the costs incurred for the company's social activities. Organizations that have a high degree of profitability also show high profit income. Thus, the organization can overcome the costs of disclosing social responsibility and is able to increase and disclose its social responsibility more widely in the statements' financial. In inclusion, high profitability means that organizations can implement more social programs. Gu (2023) said that financial achievement significantly affects CSR.

To measure liquidity that determines the total of funds distributed by banks in the term of credit is financing to deposit ratio. The funds accumulated are funds obtained from third parties, such as public fund investors. Then the funds are channeled back to parties who need credit. Amalia & Purwanto (2023) explain that the higher the company's LDR, the riskier the company's liquidity condition, but if the LDR is low, it indicates a shortage of capability of the bank in distributing credit. Assume, if a bank can distribute credit in an efficient way, then LDR is at the standard set by Bank Indonesia, so that the bank can increase profits which automatically increases its financial achievement. In this condition, banks are expected to be able to carry out various CSR programs. Amalia & Purwanto (2023) found that liquidity significantly affects CSR. Meanwhile, Masrurroh and Mulazid (2017) said that liquidity does not affect CSR. From the explanation above, the fourth hypothesis is formed as below:

H_{4a}: *Capital adequacy ratio significantly influences Islamic social reporting.*
H_{4b}: *Non-performing financing significantly influences Islamic social reporting.*
H_{4c}: *Net operating margin significantly influences Islamic social reporting.*
H_{4d}: *Financing to deposit ratio significantly influences Islamic social reporting.*

Efficiency is one of the achievement measures that theoretically supports the whole achievement of a company. The expected achievement measure is the potential to gain higher output with existing input. When a company is more efficient with its resources, the company will tend to be a profitable company. Previous studies have shown that efficiency significantly affects the financial achievement of a company (Sparta, 2017; Dsouza *et al.*, 2022). Furthermore, a study by Cho and Lee (2019) revealed that managerial efficiency gives significant influence on social achievement of a company. Said (2009) said business efficiency has a significant positive influence on sustainable environmental development. From the elaboration above, the fifth hypothesis is formed as below:

H_5: *Operating cost to operating revenue ratio significantly influences Islamic social reporting.*

Michelon and Parbonetti (2012) explained the connection between sustainability disclosure and corporate governance. Sustainability disclosure reduces information asymmetry to protect the interests of stakeholders. Hu & Loh (2018) revealed that the formation and configuration of high-level members can improve sustainability disclosure's quality. Htay (2012) explained that good corporate governance influences the disclosures of social and environmental information. Corporate governance mechanisms such as Firm age (Fadilah *et al.*, 2022), board meetings (Ahmad *et al.*, 2017), and board education (Harjoto *et al.*, 2019) can also affect social achievement disclosure.

Firm age can affect sustainability reporting. Long-standing companies tend to have more experience compared to newly established companies and have been shown to gain community legitimacy. The longer the company stands tends to improve the quality in doing reporting such as in conducting environmental social activities in sustainability reporting. Fadilah et al.

(2022) and Shamil et al. (2015) informed that firm age significantly influences social responsibility. However, Indriyani & Yuliandhari (2020) argued that firm age had no significant influence on social responsibility.

Directors utilize their inaccuracy responsibilities mostly in the event of high level or committee meetings. Members of high level who actively interact and communicate are unlikely to have appearance issues (Siregar et al., 2024, Buchdadi et al., 2023). Not being present frequently in high level or committee gathering can be an indication of a less standard and poor aspect of monitoring. When the board has plans to firmly observe the managers of a corporation, the power of board meetings becomes stronger (Adams & Ferreira, 2012). Board meetings are demanding for an achievement of the company (Vafeas, 1999). Yeh et al. (2017) argued that regularity of top-level management's gathering significantly influences CSR ratings, involving that top level management's hard work is very important to observing management to perform higher social objectives. From the elaboration above, the sixth hypothesis is made as follows:

H_{6a}: *Firm age significantly influences Islamic social reporting.*
H_{6b}: *Board education significantly influences Islamic social reporting/*
H_{6c}: *Board meeting significantly influences Islamic social reporting.*

3. Methods of Research

3.1. Sample

This research utilized a purposive sampling method registered in Bank of Indonesia from 2009 to 2022 that contained sufficient data, yielding 34 Islamic banks (see Table 1).

Table 1
Sampling Procedure

No.	Sample generation procedures	No
1	Islamic banks registered in Bank of Indonesia by 2022	34
2	(-) Banks with incomplete data required for this study	(0)
3	Sample	34
4	Firm-year observations	476

3.2. The measurement variables

3.2.1. Output variables

The output variables of this research were financial achievement and Islamic social reporting. This research utilized all measures of financial achievement and Islamic social reporting by referring to studies by Dalimunthe & Sabila (2023), Sabila & Shadiq (2023), Zakaria & Mardiyati (2022), Murdayanti (2020), and Daly & Frikha (2015), also Iyer & Lulseged (2013). Financial achievement is described with the appearance of proportion of net income to total assets (ROA). Social reporting is explained as a dummy variable labeled as SR, marked as 1 if the banks issue islamic social reporting, and 0 otherwise.

3.2.2. Predictor variables

The predictor variables of this research were regulation,efficiency, and corporate governance mechanism. Regulation variables (Ahmad& Hassan, 2007; Abou-El-Sood, 2016; Verawati et al., 2023) include NPF, CAR, FDR and NOM. Efficiencyvariable covers operating cost to operating revenue (OCOR) (Asmild et al.,2018). Corporate governance variables (Mollah & Zaman, 2015; Bae et al.,2018; Nomran & Haron, 2020; Oktafiani & Kurnianti, 2023) consists of age (FA), board education (BE), andboard meeting (BM). The variabledefinitions are shown in the table below.

Table 2
Variable Definition

No	Variables	Definition	Formula	Data
1	CAR	Capital adequacy ratio	The proportion of bank capital to risk-weighted assets	Perpetual
2	ISR	Islamic social reporting	Marked as 1 if the bank issues Islamic social reporting, and 0 otherwise	Individual
3	ROA	Return on assets	Net Income/Total Asset	Perpetual
4	FDR	Financing to deposit ratio	The proportion of current assets to current liabilities	Perpetual
5	NPF	Non performing financing	The proportion of non performing loans to total loans	Perpetual
6	OCOR	Operating cost to operating revenue	The proportion of operating cost to operating revenue	Perpetual
7	NOM	Net operating margin	The proportion of operating income to revenue	Perpetual
8	FA	Firm age	How long it has been since the company was founded until the observed research period	Individual
9	BE	Board education	The proportion of board supervisory member with degree of Master or PhD to total members on the supervisory board	Perpetual
10	BM	Board meeting	Board meetings in one year	Individual

Source: *Otoritas Jasa Keuangan* (OJK)

3.3. Regression models

Two regression of analysis models were identified to assess the relation between output variables and predictor variables, as below:

$$ROA_{i,t} = \alpha + \beta_1 CAR_{i,t} + \beta_2 NPF_{i,t} + \beta_3 NOM_{i,t} + \beta_4 FDR_{i,t} + \beta_5 OCOR_{i,t} + \beta_6 FA_{i,t} + \beta_7 BE_{i,t} + \beta_8 BM_{i,t} + \varepsilon_{i,t} \quad (1)$$
$$ISR_{i,t} = \alpha + \beta_1 CAR_{i,t} + \beta_2 NPF_{i,t} + \beta_3 NOM_{i,t} + \beta_4 FDR_{i,t} + \beta_5 OCOR_{i,t} + \beta_6 FA_{i,t} + \beta_7 BE_{i,t} + \beta_8 BM_{i,t} + \varepsilon_{i,t} \quad (2)$$

Subscript i and t denotes company and time (year).

4. Outcomes

4.1. Descriptive statistics

Table 3 shows the descriptive statistical outcomes for the variables under study. This research incorporates two output variables, namely return on assets (ROA) and islamic social reporting (ISC). Specifically, the ROA averages at 1.95% and the SR averages at 0.93. Furthermore, the predictor variable concerning capital adequacy ratio (CAR) indicates that, on average, companies have a capital comprising 25.24%. As for non performing financing (NPF), the mean is 8.59%. Other significant predictor variable, which are operational cost to operational revenue (OCOR) has a mean of 80.43%, net operating margin (NOM) has a mean of 5.80%, financing to deposit ratio (FDR) has a mean of 84.97%, firm age (FA) has a mean of 16.37 years, board education (BE) has a mean of 0.65, and board meeting (BM) has a mean of 0.93.

Table 3
Descriptive Statistics

Variables	Obs	Mean	Std. dev.	Min	Max
ROA	476	1.954	2.523	-20.130	13.580
ISR	476	0.939	0.239	0.000	1.000
CAR	476	25.243	32.192	0.000	390.500
NPF	476	8.593	127.795	0.000	43.990
NOM	476	5.805	4.826	-27.840	33.290
FDR	476	84.977	27.253	0.000	289.200
OCOR	476	80.439	32.246	0.000	428.400
FA	476	16.376	13.909	0.000	63.000
BE	476	0.657	0.475	0.000	1.000
BM	476	0.932	0.250	0.000	1.000

4.2. Analysis of correlation

Table 4 displays connections among predictor or independent variables employed in approximations. None of independent variables exhibit connection values exceeding 0.80, thereby indicating an absence of strong correlations that could potentially introduce multicollinearity issues and distort the outcomes of the regression analyses. This finding supports the assumption that the variables can be considered sufficiently independent for the purposes of this analysis, thus enhancing the reliability of the statistical results. Moreover, the low to moderate correlations suggest that each independent variable contributes uniquely to the model, providing distinct informational value to the study.

Table 4
Correlation Matrix

	CAR	NPF	NOM	FDR	FA	BE	OCOR	BM
CAR	1							
NPF	-0.004	1						
NOM	-0.029	-0.237	1					
FDR	0.138	0.129	0.093	1				
FA	0.037	0.055	-0.244	0.115	1			
BE	0.043	0.145	-0.070	0.241	-0.055	1		
OCOR	0.434	0.310	-0.269	0.190	0.169	0.118	1	
BM	0.095	0.120	-0.038	0.298	0.176	0.159	0.272	1

4.3. Analysis

The panel regression analysis in this research, presented in Tables 5 and 6, was conducted to explore the dynamics between independent variables—specifically, financing to deposit ratio (FDR), capital adequacy ratio (CAR), non performing financing (NPF), net operating margin (NOM), operating cost to operating revenue (OCOR), firm age (FA), board education (BE), and board meeting (BM)—and dependent variables (return on assets and islamic social reporting). This investigation scrutinized the relationship of these regulation, efficiency and corporate governance variables with two dependent variables: financial achievement estimated with return on assets (ROA) and islamic social reporting (ISR).

The study initial hypotheses, H1a, stated that capital adequacy ratio significantly influences financial achievement, H1b, stated that non performing financing significantly influences financial achievement, H1c, stated that net operating margin significantly influences financial achievement, and H1d, stated that financing to deposit ratio significantly influences financial achievement. Table 5 shows that regulation variables, as measured by NPF, CAR, NOM and FDR, had a significant influence on financial achievement (ROA) with coefficient values of $\beta = 0.011$ with t-stat = 3.551 ($p < 0.01$), $\beta = -0.294$ with t-stat = -12.152 ($p < 0.01$), $\beta = 0.082$ with t-stat = 3.900 ($p < 0.01$), and $\beta = 0.010$ with t-stat = 3.018 ($p < 0.01$), respectively.

Moving to hypothesis H2, which aimed to establish a connection between operating cost to operating revenue and financial achievement. Table 5 reveals that efficiency variable, as measured with operating cost to operating revenue (OCOR), had a significant influence on financial achievement with coefficient value of $\beta = -0.034$ with t-stat = -12.197 ($p < 0.01$).

Hypotheses H3a, H3b, and H3c suggested that corporate governance variables, as measured with firm age, board education and board meeting, might be significantly linked to financial achievement. Table 5 discloses that corporate governance variables, as measured with firm age (FA) and board meeting (BM), had no significant influence on financial achievement with coefficient values of $\beta = -0.031$ with t-stat = -1.648 and $\beta = -0.122$ with t-stat = -0.369. However, corporate governance variables measured with board education (BE) had a significant impact on financial achievement with $\beta = 4.059$ with t-stat = 5.392 ($p < 0.01$).

Table 5

Analysis of Data Regression with Predictor Variables to clarify the Outcome Variable Financial Achievement (ROA)

	Coefficient	Std. Error	t-Statistic	Prob.
CAR	0.011	0.003	3.551	0.000***
NPF	-0.294	0.024	-12.152	0.000***
NOM	0.082	0.021	3.900	0.000***
FDR	0.010	0.003	3.018	0.002***
OCOR	-0.034	0.002	-12.197	0.000***
FA	-0.031	0.019	-1.648	0.100
BE	4.059	0.752	5.392	0.000***
BM	-0.122	0.331	-0.369	0.711
Cons.	1.845	0.448	4.116	0.000***

Observations	476
Number of Firms	34
Adj. R-Square	0.704
Model	Fixed Effect

***p < 0.01 shows statistical significance at the 1% (two-tailed).

Hypotheses H4a, H4b, H4c and H4d posited that NPF, CAR, FDR, and NOM, significantly impact Islamic social reporting. Table 6 shows that regulation variables, as measured with FDR and NOM, had a significant impact on social reporting with coefficient values of $\beta = 0.006$ with t-stat = 2.542 ($p < 0.05$) and $\beta = 0.001$ with t-stat = 3.169 ($p < 0.01$). However, regulation variables measured with NPF and CAR had no effect on social reporting with coefficient values of $\beta = 0.000$ with t-stat = 0.947 and $\beta = -0.000$ with t-stat = -0.045.

Hypotheses H5 suggested that efficiency variable, as measured with operating cost to operating revenue, is significantly related to islamic social reporting. Table 6 reveals that efficiency variable, as measured with operating cost to operating revenue (OCOR), had a significant effect on social reporting with coefficient value of $\beta = 0.001$ with t-stat = 3.206 ($p < 0.01$).

Table 6

Analysis of Data Regression with Predictor Variables to Clarify the Outcome Variable Islamic Social Reporting (ISR)

	Coefficient	Std. Error	t-Statistic	Prob.
CAR	0.000	0.000	0.947	0.344
NPF	-0.000	0.002	-0.045	0.963
NOM	0.006	0.002	2.542	0.011**
FDR	0.001	0.000	3.169	0.001***
OCOR	0.001	0.000	3.206	0.001***
FA	0.006	0.002	2.997	0.002***
BE	0.525	0.091	5.730	0.000***
BM	0.167	0.040	4.136	0.000***
Cons.	0.076	0.054	1.393	0.164

Observations	476
Number of Firms	34
Adj. R-Square	0.511
Model	Fixed Effect

***p < 0.01 and **p < 0.05 indicate statistical significance at the 1% and 5% (two-tailed).

Hypotheses H6a, H6b, and H6c suggested that corporate governance variables, as measured with firm age, board education and board meeting, might be significantly related to islamic social reporting. Table 6 reveals that corporate governance variables, as measured with firm age (FA), board education (BE), and board meeting (BM), had a significant impact on social reporting where $\beta = 0.006$ with t-stat = 2.997 ($p < 0.01$), $\beta = 0.525$ with t-stat = 5.730 ($p < 0.01$), and $\beta = 0.167$ with t-stat = 4.163 ($p < 0.01$), respectively.

4.4. Discussion

This research was accomplished by conducting multiple linear regression tests using balanced panel data to observe the affect of regulation, efficiency and corporate governance variables on financial achievement and social reporting of Indonesia's Shariah banks. The regulation variables used NPF, CAR, FDR, and NOM. Efficiency variable used operating cost to operating revenue. Corporate governance variables used firm age, board education and board meeting. The dependent variables employed financial achievement (return on assets) and islamic social reporting. This research utilized sample of 34 Indonesia's Sharia banks (476 observations) from 2009-2022.

In Table 5, significant results were obtained regarding the influence of NPF, CAR, FDR, and NOM on financial achievement at a significant level of 1%. It could be concluded that H1a, H1b, H1c and H1d, namely that regulation variables has a significant effect on financial achievement, were accepted. These findings supported previous findings by Naceur & Omran (2011), Gul et al. (2011), and Elsood (2015). Elsod (2015) states that banking regulation aims to mitigate systemic risks resulting from bank failures, protect the interests of savers, and maintain overall financial and economic health.

Hypothesis 2, the effect of operating cost to operating revenue on financial achievement, was accepted. Table 5 shows that the impact of efficiency on financial achievement was at a significant level of 1%. These findings supported previous findings by Doyran (2013), Hardianto & Wulandari (2016), and Abid & Goaied (2016). Abid & Goaied (2016) stated the influence of efficiency on achievement. The bank's ability to optimize resources while ensuring that the banking service system operates at high quality standards will encourage increased achievement. Efficiency lowers costs and ultimately increases revenue.

Hypothesis H3b, the affect of board education on financial achievement, was accepted. Table 5 shows that the influece of board education on financial achievement was at a significant level of 1%. These findings supported previous findings by Shahrier et al (2020). Education assist directors to make effective decisions that can improve company achievement (Suherman et al., 2023). Directors with suitable education, awareness and skill might be a reference of diligent benefit and finally can improve the company achievement (Ahmad et al., 2022; Kumala et al., 2024).

In Table 6, results were acquired regarding the impact of FDR and NOM on islamic social reporting at a significant level of 5% and 1%, respectively. It could be concluded that H4c and H4d were accepted. These findings supported previous findings by Nguyen et al. (2017) and Saad & Samet (2017). Hypothesis 5, effect of operating cost to operating revenue on social reporting, was accepted. Table 6 shows that the influence of operating cost to operating revenue on islamic social reporting was at a significant level of 1%. These findings supported previous findings by Said et al. (2009). The higher the business efficiency, the more willing the company is to allocate financial resources to sustainable environmental development (Said et al., 2009).

Hypotheses H6a, H6b and H6c, the impact of firm age, board education and board meeting on Islamic social reporting, were accepted. Table 6 shows that the impact of firm age, high level committee education and high level committee meeting on social reporting were at a significant level of 1%. These findings supported previous findings by Hussain et al. (2021) and Htay et al. (2012). Banking governance plays an important role in ensuring sustainability (Hussain et al., 2021). Efforts to encourage sustainability disclosure as a corporate responsibility require the support of a board that understands the company's position in ethical construction and environmental and human ethics. Banking has the ability to translate social and economic environmental conditions into a reporting system to ensure sustainability through an effective banking governance system (Hussain et al., 2021).

5. Conclusion

This research investigates the impact of regulation, efficiency and good corporate governance variables on finansial achievement and social reporting of Shariah banks in Indonesia for period 2009 to 2022. Regulation variables use non performing financing, capital adequacy ratio, financing to deposit ratio, and net operating margin. Efficiency variable uses operating cost to operating revenue. Corporate governance variables use firm age, board education and board meeting. Financial achievement uses return on assets. Islamic social reporting marks 1 if the bank issues islamic social reporting, and 0 otherwise. The research model utilizes the multiple regressions.

Regulation variables significantly impact financial achievement and social reporting, except NPF and CAR have no significant impact on Islamic social reporting. Efficiency variable significantly impact financial achievement and Islamic social reporting. Corporate governance variables significantly impact financial achievement and Islamic social reporting, except firm age and board meeting have nothing significantly impacted on financial achievement.

Outcomes of this research and study complement the conclussion from previous studies that regulation, efficiency and corporate governance variables not only improve financial achievement, but also improve Islamic social achievement (social reporting). Furthermore, this study extends the previous studies by showing evidence of significant effect of regulation, efficiency and corporate governance variables on financial achievement and islamic social reporting.

This research has entanglement for policymakers and companies. It is notable for the firm to adopt the regulation, efficiency and corporate governance mechanisms that can enhance bank achievement and islamic social reporting. Directors can classify the adequate regulation, efficiency and corporate governance mechanisms that increase firm achievement and islamic social reporting. The policymakers should appraise the strong management when pointing to increase good governance practices in the Islamic banking industry. Especially, policymakers should give due importance to regulation, efficiency, and corporate governance variables in enhancing the achievement and social reporting of all Shariah banks in Indonesia.

Some recommendations for future studies may include further exploration by comparing the effect of regulation, efficiency, also corporate governance variables on financial achievement and social reporting in different ownership (state-owned vs. privately owned). Additionally, future research can consider year-fixed effect, employ other proxies for financial achievement (e.g. return on equity and Tobin's Q), and run endogeneity tests, such as the difference-in-differences and instrumental variable.

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