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QUANTITATIVE ANALYSIS OF THE CHARACTERISTICS OF THE SHARIA SUPERVISORY BOARD IN PROMOTING THE QUALITY OF SUSTAINABILITY REPORTING AT ISLAMIC COMMERCIAL BANKS IN INDONESIA

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ABSTRACT

Although POJK No. 51/POJK.03/2017 requires financial service institutions to prepare sustainability reports starting from the 2020 reporting year, the quality of ESG disclosure at Islamic commercial banks (BUS) in Indonesia still varies significantly. This study quantitatively analyzes the influence of Sharia Supervisory Board (SSB/DPS) characteristics encompassing board size, members' financial competence, and gender diversity on the quality of sustainability reporting of BUS, within the framework of Islamic Corporate Governance and Sustainability Reporting. Panel data from 12 OJK-registered BUS for the period 2020–2024 (45 observations) were analyzed using the Fixed Effect Model (FEM). Sustainability reporting quality was measured through content analysis based on GRI Standards 2021 (77 items), with the selection of GRI grounded in its alignment with the principles of transparency and accountability consistent with maqasid al-Shari'ah. The results show that SSB size, financial competence, and gender diversity each have a positive and significant effect on sustainability reporting quality, with financial competence showing the largest association coefficient ($\beta = 0.065$). These findings affirm the strategic role of the SSB as an Islamic Corporate Governance mechanism that fosters non-financial accountability, consistent with the values of amanah (trust) and khalifah (stewardship) in Islam.

Keywords: ESG, GRI Standards, Islamic Corporate Governance, Sharia Supervisory Board, Sustainability Reporting

INTRODUCTION

The global financial system has increasingly incorporated sustainability considerations into financial institutions' strategies, governance structures, and disclosure practices. In Islamic banking, this development is particularly relevant because sustainability is not limited to environmental and social considerations but is also connected to the broader objectives of Islamic finance. Recent studies have emphasized

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that Islamic Corporate Governance provides a distinctive framework for linking governance mechanisms with sustainability performance by integrating Shariah principles, stakeholder interests, and accountability into the management of Islamic financial institutions (Jan et al., 2021; Ammar et al., 2023).

In Indonesia, this development is reinforced by the regulatory framework for sustainable finance. Otoritas Jasa Keuangan (OJK, 2017) requires financial service institutions, including Islamic commercial banks, to prepare and publish sustainability reports as part of the implementation of sustainable finance. Nevertheless, regulatory compliance does not necessarily ensure comprehensive and substantive sustainability disclosure. Recent research on the Indonesian banking sector indicates that the quality and scope of sustainability disclosure remain uneven, particularly in relation to materiality and the comprehensiveness of information presented in sustainability reports (Maftuchah et al., 2023). This issue is also relevant to Islamic banking, where sustainability disclosure remains an important area for improvement despite the increasing institutionalization of sustainable finance.

This concern is particularly significant for Islamic commercial banks (BUS) because these institutions operate with a dual orientation: pursuing financial objectives while maintaining conformity with Islamic principles. As of May 2024, Indonesia had 14 Islamic commercial banks with total assets of IDR 870.22 trillion (OJK, 2024). The distinctive characteristics of Islamic banking create a broader accountability context in which sustainability reporting can communicate not only economic performance but also the institution's social, environmental, and ethical responsibilities. Recent research has shown that sustainability practices in Islamic banking can be examined through frameworks that integrate conventional sustainability dimensions with Islamic values and stakeholder considerations (Ammar et al., 2023).

From an Islamic perspective, sustainability reporting can also be related to the objectives of Maqasid al-Shari'ah. Contemporary research has expanded the application of Maqasid al-Shari'ah beyond traditional legal objectives toward broader dimensions of ethical, social, environmental, and economic well-being in Islamic banking (Mergaliyev et al., 2021; Ammar et al., 2023). Accordingly, sustainability disclosure can be understood as one mechanism through which Islamic banks communicate their accountability toward stakeholders and demonstrate how their activities contribute to broader social and environmental objectives. This perspective is consistent with the view that Islamic banking sustainability should incorporate stakeholder welfare and the broader objectives of Shariah rather than being restricted to financial performance alone.

Within this context, the Sharia Supervisory Board (SSB/DPS) represents a distinctive governance mechanism in Islamic financial institutions. The SSB traditionally performs an important function in overseeing Shariah compliance (Grais & Pellegrini, 2006); however, recent literature increasingly examines the SSB as part of the broader governance structure that may influence social, environmental, and sustainability-related

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disclosure (Ullah et al., 2014). Wahyuni et al. (2022) demonstrate that characteristics of the SSB are relevant to social reporting by Islamic banks, while Nomran and Haron (2023) provide evidence that SSB characteristics, including SSB size, are associated with sustainability reporting among Islamic banks. More recent evidence also indicates that SSB characteristics can influence green banking disclosure, suggesting that the role of the SSB may extend beyond conventional product and Shariah compliance oversight toward broader sustainability-related governance (Ardianto et al., 2024).

Despite these developments, empirical evidence regarding the relationship between SSB characteristics and sustainability reporting quality in Indonesian Islamic commercial banks remains limited. Existing studies have examined SSB characteristics in relation to social reporting or sustainability reporting using international samples (Wahyuni et al., 2022; Nomran & Haron, 2023), while recent Indonesian research has also considered the relationship between governance structures and sustainability reporting in Islamic banking (Wijayanti & Setiawan, 2024). However, evidence specifically examining how SSB size, financial competence, and gender diversity relate to sustainability reporting quality among Indonesian BUS within the post-implementation period of OJK Regulation No. 51/POJK.03/2017 remains insufficient. This institutional and regulatory context provides an important basis for further empirical investigation.

Therefore, this study examines the association between the characteristics of the Sharia Supervisory Board and sustainability reporting quality among Islamic commercial banks in Indonesia. Specifically, the study investigates three SSB characteristics: board size, members' financial competence, and gender diversity. By focusing on Indonesian BUS during the post-implementation period of the sustainable finance regulation, this study contributes to the literature by connecting Shariah governance with sustainability reporting within an Indonesian institutional setting. The study also provides empirical evidence that may be relevant for understanding how the composition and characteristics of the SSB are associated with the quality of non-financial accountability in Islamic banking.

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1 Islamic Corporate Governance and Shariah Governance Theory

Islamic Corporate Governance (ICG) is a governance system that integrates the principles of Islamic Sharia into the management and oversight of Islamic financial institutions (Chapra & Ahmed, 2002). Unlike conventional governance, which primarily emphasizes shareholder interests, ICG is grounded in the concepts of *tawhid* (divinity as the source of accountability), *khalifah* (stewardship and human responsibility as trustees), and *'adalah* (justice for all stakeholders). Recent literature has developed Shariah Governance Theory as a specialized framework that extends beyond conventional ICG by positioning the Shariah Supervisory Board (SSB) not merely as a compliance-

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monitoring body but also as a governance actor concerned with sustainability, transparency, and non-financial accountability (Karbhari et al., 2024; Tumewang et al., 2025; Umar, 2024). Within Shariah governance, the concept of *amanah* represents a fiduciary responsibility toward stakeholders, while *khalifah* can be operationalized as responsible stewardship of social and environmental resources (Kamali, 2008).

Within this ICG framework, the accountability of the SSB is not only horizontal toward shareholders, regulators, and other stakeholders but also vertical, reflecting accountability to Allah. Islamic corporate governance literature conceptualizes accountability as encompassing both relationships with human stakeholders and ultimate responsibility before Allah (Abu-Tapanjeh, 2009; Al-Kahtani, 2014). The principle of *amanah* further emphasizes that governance responsibilities constitute a trust that must be fulfilled with integrity and responsibility toward stakeholders and society. Accordingly, an effective SSB may encourage management to consider the disclosure of social and environmental impacts as part of the broader realization of *maqasid al-Shari'ah*. This perspective can be related to *hifz al-nafs* (protection of life) and *hifz al-mal* (preservation of wealth), while contemporary maqasid scholarship increasingly discusses *hifz al-bi'ah* (environmental preservation) as an expanded dimension of maqasid relevant to ecological sustainability (Khuluq & Asmuni, 2025; Munggarani Basri, 2026).

2.2 Monitoring Theory and Stewardship Theory

Monitoring Theory, as proposed by Fama and Jensen (1983), emphasizes the role of boards as mechanisms for monitoring managerial decision-making and accountability. Within this perspective, board characteristics such as competence, independence, and diversity can contribute to the effectiveness of oversight and reporting processes. Unlike the classical Agency Theory perspective, which emphasizes potential conflicts of interest between principals and agents (Jensen & Meckling, 1976), Monitoring Theory highlights the board's role as an active mechanism for controlling and monitoring managerial actions. Complementing this perspective, Stewardship Theory (Davis et al., 1997) suggests that individuals within organizations may act as stewards whose interests are aligned with organizational objectives rather than being driven solely by self-interest. In the context of Islamic governance, SSB members who internalize Islamic values may therefore encourage management to disclose social and environmental impacts not solely in response to external pressure, but also as part of their commitment to stewardship, accountability, and responsible governance.

2.3 Legitimacy Theory

Legitimacy Theory (Suchman, 1995) argues that organizations actively seek to acquire and maintain legitimacy from society. For Islamic banks, legitimacy does not derive solely from regulatory compliance, but also from the recognition by the Muslim public that the bank's operations are genuinely aligned with Islamic values. High-quality

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sustainability reporting is a key strategy for building this dual legitimacy. The SSB is capable of encouraging management to engage in disclosure that demonstrates the operational legitimacy of the bank in the public sphere, while also protecting the institution from accusations of greenwashing.

2.4 Resource Dependence Theory

Resource Dependence Theory, as developed by Pfeffer and Salancik (1978), views the board as a mechanism for accessing and securing critical organizational resources, including knowledge, networks, information, and legitimacy. In the context of gender diversity on the SSB, this theory suggests that female SSB members may contribute distinct perspectives, experiences, and cognitive resources to the governance process. Existing governance literature indicates that greater female representation on boards can be associated with increased attention to ESG-related issues and stakeholder considerations (Anisykurlillah et al., 2025; Harjoto et al., 2015; Ma et al., 2024; Wijayanti & Setiawan, 2024). Gender diversity within the SSB can therefore be conceptualized as a governance characteristic that potentially broadens the board's perspectives and resources, thereby supporting its capacity to oversee and promote the quality of ESG disclosure.

2.5 Hypothesis Development

H1: SSB Size and Sustainability Reporting Quality. The larger the SSB membership, the more diverse the expertise and perspectives of the board, resulting in more comprehensive oversight capacity. Nomran & Haron (2023), in a study of 136 global Islamic banks (2018–2021), found that SSB size had a significant positive effect on sustainability reporting. Mollah & Zaman (2015) demonstrated that a larger SSB is correlated with better governance. Consistent with Monitoring Theory, a larger SSB produces a stronger monitoring mechanism.

H1: SSB size is positively and significantly associated with the quality of sustainability reporting at Islamic commercial banks.

H2: SSB Financial Competence and Sustainability Reporting Quality. SSB members with backgrounds in finance and accounting are capable of identifying material ESG items, evaluating the adequacy of sustainability performance measurement, and challenging management on inadequate disclosures. Wahyuni et al. (2022) found that the individual competence of SSB members had a positive effect on Islamic social reporting. Drawing on Legitimacy Theory, a financially competent SSB is better positioned to direct the bank toward disclosures that build substantive legitimacy in the eyes of stakeholders who are critical of greenwashing.

H2: The financial competence of SSB members is positively and significantly associated with the quality of sustainability reporting at Islamic commercial banks.

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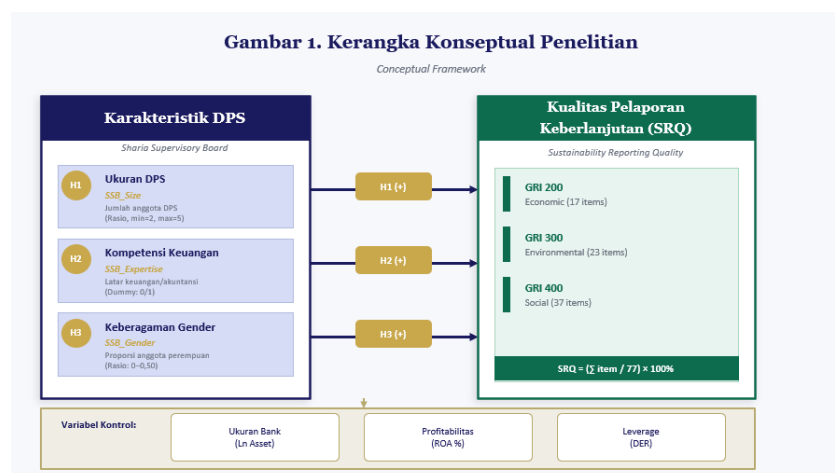
H3: SSB Gender Diversity and Sustainability Reporting Quality. Based on Resource Dependence Theory, female SSB members bring unique perspectives that enrich the board's capacity to respond to stakeholder demands for ESG disclosure. Anisykurlillah et al. (2025) demonstrated a significant positive influence of female directors on ESG disclosure. Al-Shaer & Zaman (2016) confirmed that gender diversity improves sustainability reporting quality. In the spirit of Islam, this reflects the principle of 'adalah (justice) and inclusivity in the governance of Islamic institutions.

H3: Gender diversity among SSB members is positively and significantly associated with the quality of sustainability reporting at Islamic commercial banks.

2.6 Conceptual Framework

Figure 1 presents the conceptual framework of the research, illustrating the relationships among SSB characteristics, control variables, and sustainability reporting quality, grounded in four theories: Monitoring Theory, Stewardship Theory, Legitimacy Theory, and Resource Dependence Theory within the Shariah Governance framework.

Figure 1. Research Conceptual Framework



Control Variables: Bank Size | ROA | DER | Theoretical Basis: Monitoring Theory | Stewardship Theory | Legitimacy Theory | Resource Dependence Theory | Shariah Governance Theory

Source: Prepared by authors (2026)

METHODS

3.1 Research Design

This study employs a quantitative approach with an explanatory research design through panel data regression analysis. As an observational study, it examines associations between SSB characteristics and sustainability reporting quality without claiming direct causality. This approach was chosen for its ability to control for unobserved heterogeneity across banks, which is particularly relevant given the significant differences in institutional characteristics among BUS in Indonesia. Data were

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sourced from annual reports and sustainability reports officially published on the OJK website and the official websites of the respective banks.

3.2 Population, Sample, and Research Period

The population consists of all Islamic Commercial Banks registered and supervised by OJK in Indonesia. From the 14 BUS operating as of 2024, the sample was selected using purposive sampling with the following criteria: (1) BUS that consistently published annual reports during 2020–2024; (2) BUS with complete SSB composition data throughout the entire period; and (3) BUS not undergoing liquidation, merger, or spin-off. Based on these criteria, 12 BUS entities were obtained with a total of 45 observations (unbalanced panel: 10 entities × 5 years and 2 entities × 4 years), representing more than 85% of total national Islamic banking assets.

3.3 Operational Definition of Variables

Table 1 presents a summary of the operational definitions of all research variables.

Table 1. Operational Definitions of Research Variables

Type	Variable	Definition & Measurement	Formula / Scale	Reference
Dependent	SRQ (Sustainability Reporting Quality)	Sustainability disclosure quality index based on GRI Standards 2021 (77 items); measured via content analysis of annual/sustainability reports. Each item: 1 if disclosed, 0 if not.	$SRQ = (\sum \text{items} / 77) \times 100\%$ Scale: 0–100%	(GRI, 2021; Nomran & Haron, 2023)
Independent	SSB_Size (Board Size)	Total number of members listed in SSB composition as per annual report in the current year.	Number of members (integer) Scale: ratio	Mollah & Zaman (2015); Nomran & Haron (2023)
Independent	SSB_Expertise (Financial Competence)	Dummy: 1 if at least one SSB member holds an educational degree (bachelor's/master's/doctoral) in finance/accounting/banking or has ≥5 years of professional experience in the financial industry; 0 otherwise.	Dummy variable (0/1) Scale: nominal	Wahyuni et al. (2022); Farook et al. (2011)
Independent	SSB_Gender (Gender Diversity)	Proportion of female SSB members to total SSB members in the current year, based on the annual report.	$SSB_Gender = \frac{\sum \text{female}}{\sum \text{total SSB}}$ Scale: ratio (0–1)	Anisykurlillah et al. (2025); Boshnak (2021)
Control	Size (Bank Size)	Natural logarithm of the bank's total assets at the end of the period. Larger banks face greater stakeholder pressure, driving broader disclosure.	$Size = \ln(\text{Total Assets})$ Scale: ratio	Farook et al. (2011)

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Control	ROA (Profitability)	Ratio of net income to average total assets. More profitable banks have greater resources to invest in sustainability reporting systems.	ROA = Net Income / Total Assets × 100% Scale: ratio (%)	Wahyuni et al. (2022)
Control	DER (Leverage)	Ratio of total debt to equity. High leverage may encourage broader disclosure as a signal to creditors, or conversely constrain reporting resources.	DER = Total Debt / Total Equity Scale: ratio	Nomran & Haron (2023)

Source: Adapted from various literature (see Reference column).

3.4 Justification for Using GRI Standards for Islamic Banks

The selection of the GRI Standards 2021 is based on three considerations. First, GRI is among the most widely adopted sustainability reporting standards globally, with a reported adoption rate of 68% among the largest companies in the Asia-Pacific region, thereby supporting cross-institutional comparability (KPMG International, 2022). Second, although POJK No. 51/POJK.03/2017 does not explicitly require the use of GRI Standards, GRI has been widely recognized as an established framework for sustainability reporting and has been adopted by organizations in Indonesia. Third, and most importantly, the principles underlying GRI reporting, including transparency, accountability, completeness, and materiality, can be conceptually related to Islamic accountability principles that emphasize responsibility, transparency, and disclosure toward stakeholders (Kamali, 2008). From this perspective, the GRI Standards can serve as a reporting framework that is compatible with the broader concept of Islamic accountability because of their common emphasis on transparency, accountability, and responsible disclosure (Umar et al., 2024).

3.5 Econometric Model

The panel data regression model used in this study is:

$$SRQ_{it} = \beta_0 + \beta_1(SSB_Size_{it}) + \beta_2(SSB_Expertise_{it}) + \beta_3(SSB_Gender_{it}) + \beta_4(Size_{it}) + \beta_5(ROA_{it}) + \beta_6(DER_{it}) + \varepsilon_{it}$$

Where: SRQ = Sustainability Reporting Quality Index (%); i = bank unit (i = 1,...,12); t = year (t = 2020,...,2024); β_0 = intercept; β_1 – β_6 = regression coefficients; ε = error term.

3.6 Data Analysis Technique

Model selection was conducted in three stages: (1) the Chow Test to choose between the Common Effect Model and the Fixed Effect Model; (2) the Lagrange Multiplier Breusch-Pagan Test to choose between the Common Effect Model and the Random Effect Model; and (3) the Hausman Test to choose between the Fixed Effect Model and the Random Effect Model. Classical assumption tests included: (a)

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Multicollinearity Test via Variance Inflation Factor ($VIF < 10$); (b) Heteroscedasticity Test using the White test; (c) Autocorrelation Test using the Durbin-Watson statistic; and (d) Residual Normality Test using the Jarque-Bera test. All analyses were conducted using EViews 12.

RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 2 presents descriptive statistics for all research variables based on 45 observations obtained from 12 BUS entities for the period 2020–2024.

Table 2. Descriptive Statistics of Research Variables (n = 45)

Variable	N	Mean	Std. Dev.	Min	Max	Unit	Exp. Sign
SRQ	45	24.3578	13.5310	0.0000	41.5584	Index (0–100)	Dependent
SSB_Size	45	2.3556	0.7121	2	5	Persons	+
SSB_Expertise	45	0.3556	0.4841	0	1	Dummy	+
SSB_Gender	45	0.0518	0.1368	0.0000	0.5000	Proportion	+
Size (Ln Assets)	45	30.8102	1.1238	28.4057	33.6438	Ln(IDR)	+
ROA	45	1.5469	3.6502	−10.8500	11.4300	%	+
DER	45	5.2155	3.0923	0.4146	12.3942	Ratio	±

Source: Data processed from BUS annual reports and sustainability reports (2020–2024). Content analysis based on GRI Standards 2021 (77 items).

The mean sustainability reporting quality index (SRQ) of 24.36% indicates that on average, Indonesian BUS have disclosed approximately 24 out of 77 GRI Standards 2021 items. This figure is lower than global findings (35%–55%) reported in Wahyuni et al. (2022) and Farook et al. (2011), reflecting the early stage of GRI-based reporting implementation in Indonesian Islamic banking post-POJK 51/2017. The relatively large standard deviation (13.53) indicates significant heterogeneity in disclosure quality across BUS with a very wide range from 0% to 41.56%—reinforcing the relevance of this study in identifying its determinants.

The average SSB size of 2.36 members, with a minimum of 2 and a maximum of 5, reflects a relatively lean structure that is consistent with the minimum regulatory requirement established by Otoritas Jasa Keuangan (OJK, 2015) under POJK No. 24/POJK.03/2015. Only 35.18% of observations had at least one SSB member with a financial or business management background, indicating the predominance of members with backgrounds in Islamic or Sharia studies. Meanwhile, the proportion of female SSB members averaged only 5.18%, with a maximum of 50%. Only two entities in the sample had female SSB members: BSM in 2020, represented by Dra. Hj. Siti Ma'rifah, M.M.,

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M.H., M.A., and Bank Muamalat, represented by Siti Haniatunnisa, L.L.B., M.H., throughout 2020–2024. This highly skewed distribution of SSB_Gender warrants careful consideration when interpreting the findings of H3.

4.2 Model Selection and Classical Assumption Tests

Based on the Chow Test (F-statistic = 3.8214; prob. = 0.0000) and the Hausman Test (Chi-Square = 16.3782; prob. = 0.0114), the Fixed Effect Model (FEM) was selected as the most appropriate estimation model. Classical assumption tests revealed no multicollinearity problem (VIF for all variables < 5), residuals were free from heteroscedasticity (Prob. White test = 0.2041), and the Durbin-Watson value of 1.947 approaches 2, indicating no serious autocorrelation. The classical assumption tests showed no serious violations of the assumptions tested. It is noted that the panel data used is unbalanced (N = 45 from 12 entities); however, EViews 12 automatically accommodates unbalanced panels in FEM estimation.

4.3 Panel Data Regression Results

Table 3. Fixed Effect Model Estimation Results (Dependent Variable: SRQ)

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Note
SSB_Size (H1)	0.0423	0.0187	2.2620	0.0271	**
SSB_Expertise (H2)	0.0651	0.0243	2.6790	0.0094	***
SSB_Gender (H3)	0.1872	0.0914	2.0482	0.0447	**
Size (Control)	0.0312	0.0145	2.1517	0.0352	**
ROA (Control)	0.0118	0.0087	1.3563	0.1802	ns
DER (Control)	−0.0089	0.0061	−1.4590	0.1496	ns
Constant	0.1243	0.0876	1.4189	0.1611	ns
R-squared: 0.7284	Adj. R-squared: 0.6917	Obs.: 45			
F-statistic: 19.8312	Prob. (F): 0.0000	Model: FEM			

Note: *** p<0.01 ** p<0.05 * p<0.10 ns = not significant. Dependent variable: SRQ (%). N=45, unbalanced panel. Coefficient values are the estimation results from research data (2020–2024).

4.4 Discussion

4.4.1 Effect of SSB Size on Sustainability Reporting Quality (H1 Supported)

SSB size is positively and significantly associated with SRQ ($\beta = 0.042$; $p = 0.027$), supporting H1. Each additional SSB member is associated with an average increase in the reporting quality index of 4.23 percentage points, ceteris paribus. This finding is consistent with Nomran & Haron (2023) and Mollah & Zaman (2015), and

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aligns with Monitoring Theory, which predicts a stronger monitoring mechanism for larger boards.

However, this finding must be interpreted with critical nuance. Adding SSB members does not always correlate linearly with improvements in effectiveness. In practice, an excessively large SSB can give rise to coordination problems and free-rider dynamics, where individual members reduce their active engagement because they assume others will take the initiative (Lipton & Lorsch, 1992). In the Indonesian context, a large SSB size does not necessarily reflect board activeness it needs to be combined with variables such as SSB meeting frequency for a more comprehensive picture of effectiveness, a dimension that constitutes an agenda for future research.

4.4.2 Effect of SSB Financial Competence on Sustainability Reporting Quality (H2 Supported)

SSB financial competence shows the largest association coefficient in this model ($\beta = 0.0651$; $p = 0.009$; significant at $\alpha = 1\%$), supporting H2. The presence of at least one SSB member with a finance/accounting background is associated with an average increase in SRQ of 6.51 percentage points. This finding reinforces the arguments of Wahyuni et al. (2022) and Farook et al. (2011) that technical competence is a prerequisite for oversight effectiveness.

From a critical perspective, measuring financial competence using a dichotomous dummy variable fails to capture gradations of competence for instance, the difference between an SSB member holding a bachelor's degree in accounting and one with two decades of experience as a bank CEO. Furthermore, consideration should be given to whether financial competence also encompasses ESG literacy and sustainability reporting knowledge a competence distinct from mastery of conventional accounting. This limitation presents an opportunity for improvement in future research, for example by developing a more granular SSB competence index.

4.4.3 Effect of SSB Gender Diversity on Sustainability Reporting Quality (H3 Supported)

SSB gender diversity is positively and significantly associated with SRQ ($\beta = 0.187$; $p = 0.0447$), supporting H3. This finding is consistent with Anisykurlillah et al. (2025) and Al-Shaer & Zaman (2016), and can be explained through Resource Dependence Theory: the presence of female SSB members in the governance literature is often associated with greater attention to ESG issues and stakeholder engagement, enriching the board's capacity to promote more comprehensive ESG disclosure (Anisykurlillah et al., 2025; Wijayanti & Setiawan, 2024).

Nevertheless, the interpretation of this finding must be approached with considerable caution, given that the average proportion of female SSB members is only 5.18% with a standard deviation of 0.1368 a distribution highly skewed toward zero. With the majority of observations having zero female SSB members, the estimated coefficient

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is highly sensitive to outliers and may be driven by a handful of banks with higher female representation. This phenomenon raises a critical question: does the detected effect reflect the genuine influence of gender diversity, or is it a statistical artifact of an uneven distribution? There is also the risk of tokenism where the presence of one or two female members functions more as a symbol of legitimacy (symbolic governance) than as a substantive influence on board decisions. Future research should examine whether this effect persists when applying a critical mass threshold (at least 30% female members), as suggested by Yarram & Adapa (2021).

Overall, the FEM model is capable of explaining variation in the sustainability reporting quality of BUS (F-statistic = 19.831; $p = 0.0000$). This indicates that SSB characteristics collectively constitute a strong determinant of sustainability disclosure quality. The bank size control variable is also significant, consistent with Legitimacy Theory: larger banks face greater legitimacy pressures. In contrast, ROA and DER show no significant effect, indicating that sustainability reporting quality among BUS is more strongly determined by governance factors particularly SSB characteristics than by financial indicators in explaining SRQ variation across BUS.

CONCLUSION, IMPLICATIONS, AND LIMITATIONS

5.1 Conclusion

This study provides empirical evidence that the characteristics of the Sharia Supervisory Board board size (H1), members' financial competence (H2), and gender diversity (H3) are positively and significantly associated with the quality of sustainability reporting at Indonesian Islamic commercial banks for the period 2020-2024. SSB financial competence shows the strongest statistical significance ($\beta = 0.065$; $p = 0.009$), while gender diversity has the largest estimated coefficient ($\beta = 0.187$; $p = 0.045$), and board size is also positively and significantly associated ($\beta = 0.042$; $p = 0.027$). These findings affirm that the SSB is not merely a formal Sharia compliance organ, but rather an Islamic Corporate Governance mechanism that plays a role in strengthening non-financial accountability, consistent with the principles of stewardship and accountability evolving in the Shariah governance literature (Karbhari et al., 2024; Umar, 2024).

5.2 Implications

Theoretical implications. This study contributes to the Islamic Corporate Governance literature by offering an empirical synthesis of Monitoring Theory, Stewardship Theory, Legitimacy Theory, and Resource Dependence Theory within the Shariah Governance Theory framework to explain the role of the SSB in promoting sustainability reporting quality among Indonesian BUS post-POJK 51/2017. This synthesis extends the existing literature, which has frequently drawn on Agency Theory to explain the governance role of the SSB and the monitoring of Islamic banks (Nomran & Haron, 2020). Although Agency Theory provides an important foundation for

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understanding monitoring and principal–agent relationships, relying on it alone may not fully capture the broader Shariah-specific dimensions of Islamic governance, including accountability to multiple stakeholders, Shariah compliance, and the distinctive governance role of the SSB (Muneeza & Hassan, 2011; Safieddine, 2009). By integrating complementary theoretical perspectives, this study provides a broader framework for understanding how SSB characteristics may contribute to sustainability reporting quality in Islamic banking.

Policy implications. First, OJK should refine regulations on SSB composition by establishing more specific minimum financial competence requirements not merely requiring Sharia expertise, but also ESG literacy and sustainability reporting knowledge. Second, OJK can promote sustainability governance certification programs for SSB members as part of developing Sharia governance capacity. Third, integrating sustainability reporting quality assessments into OJK's Sharia compliance evaluation framework has the potential to create structural incentives for banks to improve the quality of ESG disclosure.

Practical implications. For Islamic banks, this study provides concrete considerations in designing SSB composition: selecting members with finance/accounting and ESG backgrounds, and encouraging increased female participation in the SSB so that their contribution to the decision-making process can be evaluated more comprehensively (Wijayanti & Setiawan, 2024). For investors and stakeholders, the quality of SSB governance can serve as a relevant indicator in assessing the non-financial accountability quality of Islamic banks.

5.3 Limitations and Future Research Agenda

This study has several limitations that should be acknowledged. First, the measurement of SRQ uses binary scoring (0/1), which treats a single-sentence disclosure and a full chapter identically; future research is advised to use a tiered scoring of 0–3 (0 = absent, 1 = mentioned, 2 = qualitatively explained, 3 = quantitative with targets) or the Islamic Social Reporting Index as a robustness check. Second, although the Durbin-Watson value of 1.947 approaches 2 and does not indicate serious autocorrelation, future research is still advised to apply the Wooldridge Test for autocorrelation in panel data and to use Newey-West standard errors where necessary. Third, this study has not tested for endogeneity (reverse causality): does a quality SSB drive high SRQ, or do banks with a strong disclosure reputation recruit quality SSB members? A system-GMM or instrumental variable approach should be considered. Fourth, the SSB variables used are structural and do not capture behavioral dimensions such as SSB meeting frequency or the activeness of providing recommendations. Fifth, the sample coverage is limited to Indonesian BUS; replication with ASEAN or GCC regional samples is needed to improve the generalizability of findings.

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