



Risk Governance Unlocks Islamic Banks' Dual Performance Goals

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Abstract

This study investigates the moderating effect of risk governance structures on the relationship between risk management—covering insolvency, financing, and operational risks—and the financial and social performance of Islamic banks in Indonesia. Using dynamic panel data regression, the analysis draws on annual report data from 11 Islamic commercial banks over the period from 2012 to 2021. The findings show that certain risk governance structures, such as the size and independence of the audit committee, the expertise of its members, the frequency of meetings, and the quality of external audits, significantly enhance the effectiveness of risk management in improving both financial and social outcomes. Moreover, unique Islamic banking structures, such as the size of the Shariah Supervisory Board and the frequency of its meetings, further strengthen these effects. These results highlight the importance of robust governance in optimizing risk management and improving the overall performance of Islamic banks, with implications for regulatory bodies and Islamic financial institutions aiming to improve governance frameworks.

Keywords: *Financial performance, Islamic bank, risk governance structure, risk management, social performance.*

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1. INTRODUCTION

The banking sector holds a pivotal position in propelling the national economy forward. Banks stimulate national economic growth through their intermediary function by facilitating the flow of funds to support production and consumption endeavors. This strategic role is fortified by implementing Shariah banking development policies outlined in the blueprint or Roadmap for Shariah banking development by regulatory authorities such as Bank Indonesia (BI) and the Financial Services Authority (OJK). Since 2008, the national banking industry has operated under a dual banking system following the enactment of Law Number 21 of 2008 concerning Shariah Banking (Shariah Banking Law).

Islamic banking has a strategic role in Indonesia's national economy, mainly as a financial intermediary supporting production and consumption activities. The Islamic banking sector continues to witness positive growth, which is evident from its total assets reaching IDR 802 trillion as of December 2022, capturing a market share of 6.63% of total national banking assets, an increase from 6.32% in the previous year. Per the Islamic Financial Services Industry Stability Report of 2022, Shariah banking in Indonesia has the highest growth rate across Southeast Asia. The escalation of Shariah banking assets in Indonesia reached 12.6% (yoy) by 2021, with financing distribution and third-party fund mobilization growing at 5.5% (yoy) and 12.3% (yoy), respectively, by the same period.

The OJK, acting as the regulatory body, has issued the Shariah Banking Development Roadmap 2020–2025 to sustain the momentum. This strategic framework entails (i) reinforcing the identity of Shariah banking, (ii) fostering synergy within the Shariah economic ecosystem, and (iii) enhancing licensing, regulation, and supervision. Islamic banking resilience is a crucial focus for OJK in its efforts to develop the industry. Strengthening capital and efficiency is essential for enhancing competitiveness and resilience amid economic uncertainties post-COVID-19. Managing risks is mandatory to ensure sustainability, and it requires identification, measurement, monitoring, and mitigation while adhering to Shariah principles. Key risks include financing and operational risks, alongside insolvency risks.

Islamic banking in Indonesia faces various challenges in improving its financial and social performance. One of the main challenges is how the risk governance structure can affect the effectiveness of risk management in improving economic and social performance. Effective risk management is essential to ensuring the sustainability of Islamic banking, which involves identifying, measuring, monitoring, and mitigating risks while complying with Shariah principles. The three main risks that Islamic banking faces include financing risk, operational risk, and bankruptcy risk. Research shows that a risk governance structure that includes the number of audit committee members, audit committee independence, committee member expertise, audit committee meeting frequency, and external audit quality can significantly improve the financial and social performance of Islamic banking. In addition, specific aspects of Islamic banking governance, such as the number of members of the Sharia Supervisory Board (DPS) and the frequency of DPS meetings, also play an essential role in improving the effectiveness of risk management.

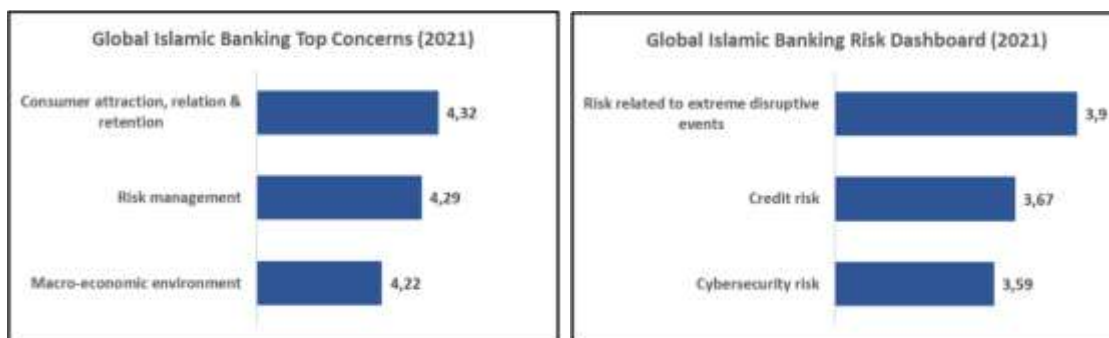


Figure 1. The result of the Survey on Global Islamic Bank's Concerns and Key Risks

Based on the survey conducted by the General Council for Islamic Banks and Financial Institutions in 2021, three main concerns have been highlighted for the global Islamic banking sector: 1. Consumer issues, 2. Risk management, and 3. Macroeconomic conditions. These findings resonate with the post-COVID-19 era, which has significantly impacted macroeconomic conditions and altered consumer behavior, necessitating effective risk management and corporate governance practices within the Islamic banking industry to ensure resilience and sustained growth. Furthermore, the survey outlines three primary risks concerning Islamic banking management worldwide: (1) Risks associated with extreme disruptive events, (2) Credit/financing risks, and (3) Cybersecurity risks.

The emergence of extreme disruptive events represents a new risk frontier alongside climate change. The recent COVID-19 pandemic poignantly illustrates this phenomenon, emphasizing its significance. Its intertwined nature with credit risk is evident, given its substantial impact on the real economy, which is pivotal for Islamic bank financing. Furthermore, operational risk, particularly cybersecurity, emerges as a paramount concern. As Islamic banking increasingly relies on digital platforms, the operational dependence on IT systems and infrastructure magnifies the urgency of addressing this risk.

The selection of these risks aligns with the findings of Nguyen & Dang (2022) and Jallali & Zoghلامي (2022), highlighting bankruptcy risk, financing risk, and operational risk as crucial aspects in measuring the implementation of bank risk management. Effective risk management implementation is closely tied to the governance structure. Nguyen & Dang (2022) identify several aspects of risk governance structure affecting risk management implementation, including (i) the number of audit committees, (ii) the independence of audit committees, (iii) the proportion of financial and audit experts on audit committees, (iv) frequency of audit committee meetings, (v) external audit quality, and (vi) risk governance effectiveness index. In the context of Islamic banking risk management, Jallali & Zoghلامي (2022) underscore the importance of (i) the number of Shariah Supervisory Boards and (ii) the frequency of Shariah Supervisory Board meetings as key governance structure aspects.



Figure 2. The Conceptual Transformation of Islamic Banks

Islamic banks in Indonesia operate under two primary mandates: commercial and social. Nugraheni (2018) identified four aspects of their social responsibility: economic growth, societal welfare, stakeholder engagement, and human resource development. Furthermore, enhancing risk management aligns with Indonesia's Islamic banking development roadmap (2020-2025), aiming for better performance and contribution to Sustainable Development Goals. Embracing the principle of Creating Shared Values embodies the essence of Maqashid Shariah in Shariah economics. Implementing Islamic banking risk management has become a significant concern for management and regulators in enhancing the performance of Islamic banks, both financially and socially. Tarazi & Abedifar (2022) literature review highlights that effective risk governance structures are crucial for improving risk management practices. However, agency problems persist, leading bank managers to prioritize short-term financial performance over risk considerations. The social performance of Islamic banks is often overlooked due to the associated costs, despite its importance. Furthermore, research on risk governance structures and their impact on bank stability and performance remains limited, especially within Islamic banking. Therefore, there is a need for further exploration in this area, mainly focusing on Islamic banks in Indonesia, considering the significant growth of the Islamic banking industry in Southeast Asia, as reported in the Islamic Financial Services Industry Stability 2022.

Effective corporate governance offers a viable solution to mitigate agency problems (Nguyen & Dang, 2022). The research findings by Zeineb & Mensi (2017) on 56 Islamic banks in the Middle East from 2004 to 2013 demonstrate a strong correlation between robust governance structures and the efficiency levels of Islamic banks. This serves as the driving force behind this study, aiming to explore the moderating influence of risk governance structures on risk management implementation and performance within Indonesian Islamic banks. Such insights can significantly aid bank management and regulators in fostering

the development of the national Islamic banking industry in alignment with the Roadmap for the Development of Islamic Banking in Indonesia 2020–2025.

Islamic banking has a strategic role in Indonesia's national economy, mainly as a financial intermediary supporting production and consumption activities. Since the enactment of Law No. 21/2008 on Islamic Banking, the Islamic banking industry in Indonesia has experienced significant positive growth. Total Islamic banking assets reached IDR 802 trillion in December 2022, with a market share of 6.63% of total national banking assets, an increase from 6.32% in the previous year. However, Islamic banking in Indonesia faces various challenges in improving its financial and social performance. One of the main challenges is how the risk governance structure can affect the effectiveness of risk management in improving financial and social performance. Effective risk management is essential to ensuring the sustainability of Islamic banking, which involves identifying, measuring, monitoring, and mitigating risks while complying with Sharia principles.

The three main risks that Islamic banking faces include financing risk, operational risk, and bankruptcy risk. Research shows that a risk governance structure that consists of the number of audit committee members, audit committee independence, committee member expertise, audit committee meeting frequency, and external audit quality can significantly improve the financial and social performance of Islamic banking. In addition, specific aspects of Islamic banking governance, such as the number of members of the Sharia Supervisory Board (DPS) and the frequency of DPS meetings, also play an essential role in improving the effectiveness of risk management.

A practical risk governance approach helps manage financial risks and supports achieving social objectives in Islamic banking, such as economic growth, community welfare, and human resource development. Therefore, this study explores the moderating influence of risk governance structure on risk management implementation and its impact on the financial and social performance of Islamic banking in Indonesia. Thus, it is essential for Islamic banking to continue to develop and strengthen its risk governance structure to ensure stable financial performance and better achievement of social goals based on the maqashid sharia principles that underpin Islamic economics.

2. LITERATURE REVIEW

Insolvency Risk

Based on the available research, bankruptcy risk is commonly measured using the Z-Score. According to Srairi *et al.* (2022), the Z-Score is also a measure to assess banking risk-taking behavior. The Z-Score indicator estimates that banks maintain resilience and are far from bankruptcy. This indicator combines bank capital or equity with the bank's ability to generate profits while considering existing risks (Nguyen, 2020). The Z-Score is calculated using the formula:

$$Z - score = \frac{ROA + ETA}{sd(ROA)} \quad (1)$$

Understanding financial ratios such as Return on Asset (ROA), Equity to Asset (ETA) ratio, and SD (ROA) is essential in assessing the financial health and viability of banks. The Z-Score formula clarifies that as the Z-Score increases, the likelihood of a bank going bankrupt decreases, and vice versa. Therefore, Z-Score serves as an indicator of a bank's resilience or ability to withstand financial distress. Additionally, capitalization plays a crucial role in determining bankruptcy risk.

According to Alsharif (2021), a solid capital base reduces the likelihood of bankruptcy. This underscores the pivotal role of capitalization in shaping bank profitability. Research by Srairi *et al.* (2022) confirmed that Z-Score is an effective tool for assessing bankruptcy risk in the banking industry. They stated that using Z-Score reflects current financial health and provides insight into the bank's ability to deal with unstable financial conditions. In addition, research by Alsharif (2021) reinforces the importance of adequate capital in maintaining bank stability. Substantial capital provides a buffer against losses and increases stakeholders' confidence in the bank's ability to meet its financial obligations.

The use of Z-Score in assessing bank stability and insolvency probability has been the subject of various studies. Matey (2019) discusses the application of Z-Score in measuring bank risk and bankruptcy distance. Additionally, Mairani & Patrisia (2021) mention that Z-Score is widely used to measure bank risk from the bankruptcy distance. Moreover, Widarjono & Misanam (2023) emphasize that banks with high Z-scores represent a high level of stability, while low Z-scores indicate banks with low stability.

In our opinion, Z-Score is a very comprehensive tool for measuring bankruptcy risk as it covers various critical financial aspects such as ROA and ETA. Using Z-Score allows banks to monitor their financial health continuously and take corrective actions before reaching the tipping point of insolvency. In addition, maintaining a solid capital base is a critical strategy banks should implement to reduce the risk of bankruptcy and improve long-term stability.

Credit Risk

As defined by Jorion (2011), credit risk represents the economic hazard arising from the inability of another party or debtor to meet its contractual obligations. This risk entails comprehensive data on the likelihood of default, the extent of economic losses upon default, and the magnitude of credit exposure prone to default. Credit risk encompasses instances where debtors fail to meet obligations in the future and during ongoing transactions. Additionally, settlement risk must be considered. Essentially, the distribution of credit risk comprises a blend of multiple variables:

1. Default occurs when another party fails to make payments as agreed, and it is typically reflected in the probability of default (PD).
2. Credit exposure (CE) represents the economic value or benefit extended to another party, often called exposure at default (EAD) when default occurs.
3. Loss-given default (LGD) reflects the portion of value lost when a default transpires.

Assessing credit risk involves two primary methodologies: the actuarial method and the market-price method. The actuarial method objectively evaluates default risk by analyzing historical data on previous default occurrences. In contrast, the market-price method relies on market data such as debt prices, equity values, and credit derivatives risk-neutral pricing to gauge credit risk. Within the Islamic banking sector, credit risk is typically gauged using the Non-Performing Financing (NPF) ratio, which measures the proportion of outstanding financing balances considered non-performing against the total disbursed financing balances.

According to Hanggraeni (2019), credit risk is an inherent part of any credit allocation endeavor. As intermediaries, Islamic banks are exposed to credit or financing risks as they engage in their primary function of disbursing financing. For instance, when engaging in profit-sharing financing arrangements such as Mudharabah or Musyarakah, there exists the risk, as highlighted by Hanggraeni (2019), that the financing may incur losses due to the customer's business downturn, resulting in the inability of the customer to reimburse the principal amount along with the agreed profit share, or failing to provide the stipulated profit share level.

Specifically, Shariah-compliant banks employ Qardh financing, which involves providing loans (interest-free) to eligible customers (mustard) in need. Customers must repay the principal amount borrowed within the mutually agreed timeframe, either in whole or through installment payments. This arrangement is governed by Fatwa DSN MUI No.19/DSNMUI/IV/2000 regarding Qardh. Qardh financing carries financing risks similar to other financing arrangements. Islamic banks often utilize Qardh financing for social purposes as it does not involve any expected profits from the financing disbursement.

Research by Jorion (2011) and Hanggraeni (2019) confirms that credit risk is critical in banking risk management. According to Jorion, it is essential to measure credit risk thoroughly to ensure banks can anticipate and manage potential losses from debtors' failure to fulfill their obligations. Hanggraeni (2019) underscores the added complexities of credit risk in Islamic financing due to the need to adhere to Sharia principles, which emphasize fairness and equality in financial transactions.

Various studies further support the importance of credit risk management in the banking sector. For instance, Chen & Ma (2022) research emphasizes that measuring credit risk is central to banks' entire credit risk management process. Additionally, Iqbal et al. (2023) discuss the relationship between Musharakah, credit risk, and profitability in Islamic banks, highlighting the significance of a comprehensive risk assessment framework for effective credit risk management. This aligns with the findings of Misman & Bhatti (2020), who suggest that financing quality significantly impacts credit risk in Islamic banks.

Understanding credit risk and how it is measured is crucial to ensure the stability and sustainability of banking operations, especially in Islamic banking. The actuarial method provides a historical data-driven approach for a more accurate prediction of the likelihood of default. In contrast, the market price method provides real-time insights based on market conditions. Using the NPF ratio in Islamic banking also helps identify non-performing financing and enables management to take corrective actions promptly. Qardh arrangements also demonstrate Islamic banks' commitment to supporting social welfare without pursuing profit, an essential aspect of long-term sustainability.

Operational Risk

According to Jorion (2011) in his work "Operational Risk with Excel and VBA: Applied Statistical Methods for Risk Management, operational risk is characterized as any risk originating outside the scope of market and credit risks." Hanggraeni (2019) offers another perspective, defining operational risk as assessing the connection between a company's business operations and the diverse results they yield. Operational risk centers on the disparity between a company's overall performance and its operational functions concerning revenue generation. It encompasses various operational facets or business activities influencing a company's financial prowess.

Hanggraeni (2019) suggests that efficient capital allocation is one advantage of managing risks within operational processes. By identifying and addressing potential risks, organizations can allocate their financial resources more effectively, ensuring that capital is utilized to maximize returns and minimize unnecessary expenditures.

Operational risks can be managed through various approaches:

1. Managing operational risks can be done through several approaches, including Developing corporate governance guidelines. These guidelines have been widely adopted to establish standard operating procedures for companies and suggest the need for risk identification, assessment, monitoring, and reporting processes. Effective implementation of corporate governance guidelines requires clear objectives and accurate and reliable measurement of operational risks.
2. Implementing operational control mechanisms is necessary to ensure accurate measurement. Measurements based on cause-and-effect relationships and appropriate actions or interventions are essential to successfully managing operational risks.
3. Establishing operational risk metrics measurement is a prerequisite for effective operational risk management to understand the relationship between fluctuations in company performance and business or operational activities. Data or information from measurements can be used to estimate the level of risk and uncertainty in the company's revenue acquisition.

Research by Jorion (2011) and Hanggraeni (2019) shows that operational risk is essential to enterprise risk management. According to Jorion, operational risk encompasses various aspects unrelated to market and credit risk, which require a different and focused management approach. Hanggraeni adds that managing operational risk improves operational efficiency and enables better capital allocation, ultimately improving the company's financial performance.

Effective operational risk management involves practices such as risk monitoring, control, training, and reporting, which have been demonstrated to impact financial performance positively (Alain et al., 2020). By implementing robust operational risk management strategies, companies can optimize their financial activities, including credit, liquidity, and operational risks, to enhance profitability (Widiastuti & Sulistyandari, 2023). Additionally, operational risk management is crucial for public-private partnership infrastructure projects, where selecting appropriate risk management strategies is vital for effective risk management (Jiang et al., 2022).

Operational risk management is essential in ensuring business operations' continuity and stability. Developing solid corporate governance guidelines can help set clear standards and ensure that all operational processes follow established procedures. In addition, implementing effective operational control mechanisms enables companies to identify and address risks proactively, thereby reducing the possibility of unforeseen losses. Measurement of operational risk through appropriate metrics is also critical to understanding and managing fluctuations in company performance, enabling companies to respond quickly and effectively to changing operational conditions.

Risk Governance Structure

The study conducted by Nguyen (2020), examining 104 commercial banks across 10 ASEAN countries from 2002 to 2019, revealed the components comprising the risk governance structure of banks:

1. The number of audit committees
2. Independence of audit committees
3. The quantity of financial and audit experts within audit committees
4. Frequency of audit committee meetings
5. The existence of risk committees
6. The quality of external audits positively correlates with banks' operational scope and monitoring.

When correlating the risk governance structure with the implementation of risk management, based on the principles of the Indonesian National Standard (SNI) ISO 31000, the risk management framework must be fully integrated into the corporate

governance structure, thereby positioning risk management at the core of organizational management.

Research by Nguyen (2020) confirms that these components are critical to ensuring effective risk governance within banks. Nguyen showed that a substantial risk governance structure can improve the effectiveness of risk management, improving banks' operational and financial performance. Other research also supports these findings. For example, a study by McConnell & Blacker (2019) shows that solid audits and risk committees can reduce the likelihood of significant risk incidents.

Moreover, research by Abiola (2023) and Aziza & Aviola (2024) underscores the significance of strong corporate governance practices in enhancing risk management and boosting banks' financial performance. These studies suggest that independent board oversight, transparent risk management frameworks, and robust internal controls are pivotal in reducing credit defaults and non-performing loans and improving financial outcomes. Banks can optimize their operations and improve performance by focusing on risk governance mechanisms. Additionally, the study by Jallali & Zoghalmi (2022) highlights the pivotal role of risk governance mechanisms in enhancing corporate governance and risk management effectiveness, further emphasizing the positive impact of robust risk governance practices on bank performance.

An effective risk governance structure is the foundation of successful risk management. The number and independence of audit committees are critical as they provide the necessary oversight and control to ensure that all risks are identified and managed effectively. In addition, the frequency of audit committee meetings allows for more real-time monitoring and rapid adaptation to changing risk conditions. The presence of a dedicated risk committee and high-quality external audit also provide an additional layer of oversight and assurance that the risk policies implemented are in line with standards and best practices.

Theoretical Framework

The agency theory explains the divergence of interests between owners and managers of a company. Owners expect high performance despite significant risks, while managers avoid taking substantial risks. This highlights agency problems that reduce the effectiveness of risk management (Nguyen & Dang, 2022). The study also indicates that aspects of bank risk management, including operational and credit risks and the effectiveness of risk governance, significantly influence bank financial performance. Consistent with this, the findings of Laeven & Levine (2009) suggest that the risk-taking behavior of bank managers is significantly related to the influence of bank owners within the framework of each bank's governance structure. According to the research by Jallali & Zoghalmi (2022), the risk governance structure plays a significant role in enhancing corporate governance, risk management effectiveness, and bank financial performance. In the context of Islamic bank governance, research conducted by Nugraheni (2018) reveals that the number of *Shariah* Supervisory Board (SSB) members and the reputation of SSB significantly influence the social performance of Islamic banks. Tashkandi (2022) suggests that *Shariah* supervision and corporate governance aspects significantly affect the performance of Islamic banks.

Based on the explanation above, it is known that an effective corporate governance structure can enhance the implementation of risk management and the performance of Islamic banks. Therefore, this research sets the following hypotheses:

H1a: The number of audit committees strengthens the implementation of risk management in Islamic banks' financial performance.

Research by Aslam & Haron (2020) shows that the number of audit committee members is positively related to the financial performance of Islamic banks through increased supervisory effectiveness. In addition, Alhammadi et al. (2020) found that a larger audit committee can assist in managing risk and increasing transparency, which impacts financial performance. Nugraheni (2018) also stated that an influential audit committee is crucial in supervising Islamic bank activities, ultimately affecting financial performance.

H1b: The number of audit committees strengthens the implementation of risk management in Islamic banks' social performance.

According to Nugraheni (2018), the number of audit committee members affects the social performance of Islamic banks through increased trust and sharia compliance. Alhammadi et al. (2020) asserted that audit committees are essential in ensuring transparent policies that affect social perceptions. Tashkandi (2022) highlighted the importance of oversight by audit committees in promoting ethical and Sharia-compliant practices, which impacts the social performance of Islamic banks.

H2a: The independence of the audit committee strengthens the implementation of risk management in Islamic banks' financial performance.

Aslam & Haron (2020) found that audit committee independence is essential in preventing conflicts of interest and improving the financial performance of banks. Alhammadi et al. (2020) showed that an independent audit committee can reduce the risks of unwise management decisions. Jallali & Zoghalmi (2022) also revealed that audit committee independence contributes to improved supervision and risk control in financial institutions, thus affecting the financial

performance of Islamic banks.

H2b: The audit committee's independence strengthens the risk management implementation in Islamic banks' social performance.

Nugraheni (2018) noted that audit committee independence correlates with increased transparency and social performance of Islamic banks. This aligns with the findings of Alhammadi et al. (2020), who stated that an independent audit committee can improve social perceptions and public trust in banks. In addition, Tashkandi (2022) found that independence in Islamic supervision can improve compliance with ethical and moral principles in Islamic banks, positively impacting social performance.

H3a: The proportion of expert members in the audit committee strengthens the implementation of risk management in Islamic banks' financial performance.

According to Aslam & Haron (2020), the proportion of audit committee members with expertise in finance and banking increases the effectiveness of supervision. Alhammadi et al. (2020) also emphasized the importance of audit committee members with specialized expertise in managing complex risks. Nugraheni (2018) adds that expert audit committee members contribute to better analysis and prudent decision-making, ultimately improving Islamic banks' financial performance.

H3b: The proportion of expert members in the audit committee strengthens the implementation of risk management in Islamic banks' social performance.

Nugraheni (2018) noted that expert audit committee members contribute to more effective supervision of social practices and sharia compliance. This is supported by Alhammadi et al. (2020), who found that expertise in the audit committee can improve the social perception of Islamic banks through more ethical decisions. In addition, Tashkandi (2022) highlighted that audit committee members with sharia backgrounds can improve social performance by ensuring strict adherence to sharia principles.

H4a: The frequency of audit committee meetings strengthens the implementation of risk management in Islamic banks' financial performance.

Aslam & Haron (2020) showed that a higher frequency of audit committee meetings is associated with improved supervision and risk control. Alhammadi et al. (2020) added that frequent meetings allow more timely oversight of pressing financial issues. Jallali & Zoghلامي (2022) revealed that regular audit committee meetings are essential for continuously assessing Islamic banks' financial performance, which positively impacts financial performance.

H4b: The frequency of audit committee meetings strengthens the implementation of risk management in Islamic banks' social performance.

Nugraheni (2018) noted that more frequent audit committee meetings contribute to better oversight of social and ethical issues. Alhammadi et al. (2020) showed that a higher frequency of meetings can help identify and address social issues more effectively. Tashkandi (2022) emphasized that regular meetings can ensure that social policies are constantly monitored and improved, thus positively impacting the social performance of Islamic banks.

H5a: The number of *Shariah* Supervisory Board members strengthens the implementation of risk management in Islamic banks' financial performance.

Nugraheni (2018) showed that the number of Sharia Supervisory Board (DPS) members correlates with better supervision of Sharia compliance, which impacts financial performance. Aslam & Haron (2020) found that a more significant DPS can strengthen sharia supervision and increase investor confidence. In addition, Jallali & Zoghلامي (2022) emphasized the importance of adequate DPS in ensuring the correct application of Sharia principles, affecting Islamic banks' financial performance.

H5b: The number of *Shariah* Supervisory Board members strengthens the implementation of risk management in Islamic banks' social performance.

Nugraheni (2018) noted that a more significant number of DPS can improve the supervision of the social performance of Islamic banks. Alhammadi et al. (2020) showed that a more significant DPS can increase compliance with ethical and social standards in Islamic banks. Tashkandi (2022) highlighted the importance of DPS in ensuring that Islamic banks adhere to social and ethical principles, thus positively impacting the social performance of banks.

H6a: The frequency of *Shariah* Supervisory Board meetings strengthens the implementation of risk management in Islamic banks' financial performance.

Aslam & Haron (2020) found that a higher frequency of DPS meetings can assist in monitoring Sharia compliance and improve the financial stability of banks. Nugraheni (2018) stated that more frequent meetings allow DPS to provide timely input on bank policies. Jallali & Zoghلامي (2022) emphasized the importance of regular meetings to ensure that financial policies comply with Sharia principles, contributing to Islamic banks' financial performance.

- H6b: The frequency of *Shariah* Supervisory Board meetings strengthens the implementation of risk management in Islamic banks' social performance.
Nugraheni (2018) showed that more frequent DPS meetings correlate with tighter supervision of the bank's social performance. Alhammadi et al. (2020) stated that regular DPS meetings are essential to proactively address social and ethical issues. Tashkandi (2022) emphasized that more frequent meetings can help ensure Islamic banks adhere to high social standards, positively impacting social performance.
- H7a: The quality of external audits strengthens the implementation of risk management in Islamic banks' financial performance.
Aslam & Haron (2020) highlighted that external audit quality is essential in assessing and improving the financial performance of Islamic banks. Alhammadi et al. (2020) found that a quality external audit can identify weaknesses in the financial system and provide recommendations for improvement. Nugraheni (2018) stated that quality external audits are essential in maintaining the transparency and integrity of banks' financial statements, positively impacting financial performance.
- H7b: The quality of external audits strengthens the implementation of risk management in Islamic banks' social performance.
Nugraheni (2018) emphasizes that a quality external audit can help ensure compliance with social and ethical standards. Alhammadi et al. (2020) showed that an excellent external audit can increase public trust in Islamic banks through close supervision of the bank's social practices. Tashkandi (2022) revealed that quality external audits can minimize reputational risk and improve social performance through compliance with established standards.
- H8a: Risk governance's effectiveness strengthens risk management implementation in Islamic banks' financial performance.
Aslam & Haron (2020) found that effective risk governance is essential for improving financial performance through better risk management. Alhammadi et al. (2020) showed that enhanced risk governance can reduce potential financial losses and improve the financial stability of banks. Jallali & Zoghلامي (2022) revealed that good risk management can minimize operational and credit risk impact, contributing to better financial performance.
- H8b: Risk governance's effectiveness strengthens risk management implementation in Islamic banks' social performance.
Nugraheni (2018) emphasized that good risk governance also contributes to the fulfillment of the social responsibility of Islamic banks. Alhammadi et al. (2020) showed that effective risk governance can increase public trust in Islamic banks through ethical and transparent risk management. Tashkandi (2022) emphasized that good risk governance is essential to ensure that the bank's business practices comply with sharia and ethical principles, which impact the bank's social performance.

These studies provide a strong foundation to support the proposed hypothesis and can help strengthen the argument in your journal.

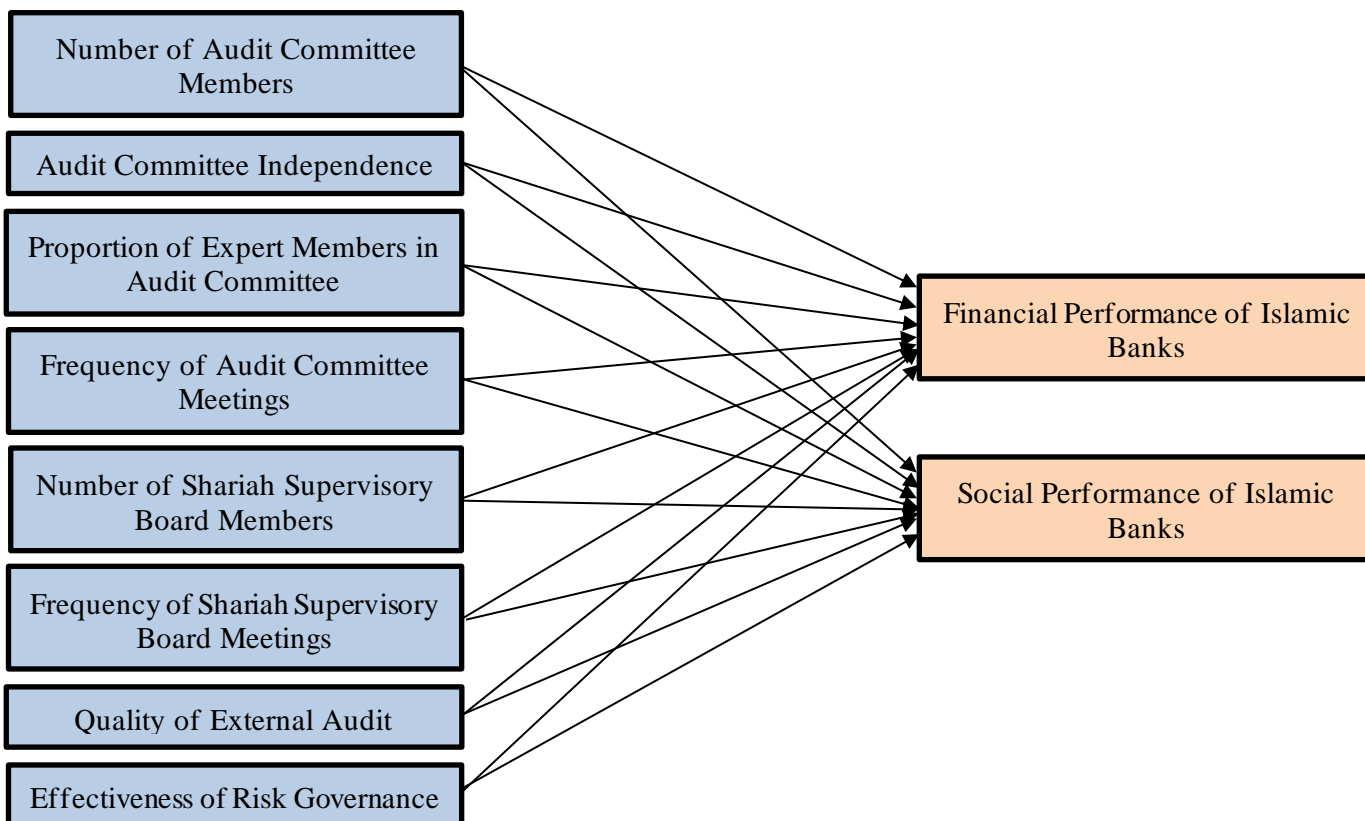


Figure 3. The Conceptual Framework

In the visualization of the conceptual framework in Figure 2, the independent variables are various governance-related factors (such as the number of audit committees, independence, expertise, meeting frequency, audit quality, and risk governance effectiveness). In contrast, the dependent variables are Islamic banks' financial and social performance. This diagram shows the relationship between the independent variables (such as the number of audit committee members, audit committee independence, etc.) and the dependent variable (financial and social performance of Islamic banks). Each relationship between the independent and dependent variables is represented by an arrow indicating the direct or indirect effect hypothesized in this study.

3. RESEARCH METHOD

This research will employ a quantitative approach utilizing panel data regression to examine the moderating effect of risk governance structure on implementing risk management in Islamic banks' financial and social performance. The study utilizes a sample comprising Islamic banks that have operated based on *Shariah* principles for at least one year as of December 31, 2021, and have presented annual reports from 2012 to 2021. Thus, the sample consists of 11 Islamic banks out of the 13 existing ones, with 91 observations.

According to Nugraheni (2018) research findings, the Social Performance Index (SPI) can be measured using the following approach:

1. Contribution to economic growth, measured by:

The ratio of profit-sharing modes of financing to total financing (MMR):

$$MMR = \frac{Mudharabah + Musharakah}{Total\ financing} \quad (2)$$

With the following criteria:

Score 5 if $MMR > 50\%$,

Score 4 if $40\% < MMR \leq 50\%$,

Score 3 if $30\% < MMR \leq 40\%$,

Score 2 if $20\% < MMR \leq 30\%$,

Score 1 if $MMR \leq 20\%$

The ratio of the intensity of agency roles of Islamic banking (IAR):

$$IAR = \frac{Mudharabah\ Deposit}{Total\ Funding} \quad (3)$$

With the following criteria:

Score 5 if $IAR > 90\%$,

Score 4 if $80\% < IAR \leq 90\%$,

Score 3 if $70\% < IAR \leq 80\%$,

Score 2 if $60\% < IAR \leq 70\%$,

Score 1 if $IAR \leq 60\%$

2. Contribution to society, measured by:

The ratio of *Qardh* financing (QR)

$$QR = \frac{\text{Qardh Financing}}{\text{Total Financing}} \quad (4)$$

With the following criteria:

Score 5 if $QR > 5\%$,

Score 4 if $3\% < QR \leq 5\%$,

Score 3 if $2\% < QR \leq 3\%$,

Score 2 if $1\% < QR \leq 2\%$,

Score 1 if $QR \leq 1\%$

The ratio of zakah performance (ZR)

$$ZR = \frac{\text{Zakah Distribution}}{\text{Profit Before Tax}} \quad (5)$$

With the following criteria:

Score 5 if $ZR > 2,5\%$,

Score 4 if $2\% < ZR \leq 2,5\%$,

Score 3 if $1,5\% < ZR \leq 2\%$,

Score 2 if $1\% < ZR \leq 1,5\%$,

Score 1 if $ZR \leq 1\%$

3. Contribution to stakeholders, measured by:

The contribution of the mudhorib (CM)

$$CM = \frac{\text{Wages Expenses and Other Welfares}}{\text{Operational Revenue}} \quad (6)$$

With the following criteria:

Score 5 if $CM > 15\%$,

Score 4 if $12\% < CM \leq 15\%$,

Score 3 if $9\% < CM \leq 12\%$,

Score 2 if $6\% < CM \leq 9\%$,

Score 1 if $CM \leq 6\%$

The contribution of *Mudharabah* deposits (CUH)

$$CUH = \frac{\text{Revenue Sharing Distribution}}{\text{Tota Mudharabah Mutiaqah Investment}} \quad (7)$$

With the following criteria:

Score 5 if $CUH > 15\%$,

Score 4 if $12\% < CUH \leq 15\%$,

Score 3 if $9\% < CUH \leq 12\%$,

Score 2 if $6\% < \text{CUH} \leq 9\%$,

Score 1 if $\text{CUH} \leq 6\%$

4. Contribution to the development of human resource capacity measured using the Contribution of Human Resources Development (CHRD).

$$\text{CHRD} = \frac{\text{Education and Training Expenses}}{\text{Profit After Tax}} \quad (8)$$

With the following criteria:

Score 5 if $\text{CHRD} > 15\%$,

Score 4 if $12\% < \text{CHRD} \leq 15\%$,

Score 3 if $9\% < \text{CHRD} \leq 12\%$,

Score 2 if $6\% < \text{CHRD} \leq 9\%$,

Score 1 if $\text{CHRD} \leq 6\%$

After that, the SPI is measured using the following formula:

$$\text{SPI} = \frac{\text{Total value}}{35} \times 100\%$$

Nguyen and Dang (2022) developed an index to measure the effectiveness of risk governance (RGEI). RGEI is measured using the following formula:

$$\text{RGEI} = \text{BOSDEX} + \text{BIDDEX} + \text{ACSDEX} + \text{ACIDEX} + \text{FAMDEX} + \text{AMFDEX} + \text{BIG4DEX} \quad (9)$$

With the following criteria:

BOSDEX, score 1 if the board size is less than the median of board size in the specified period and score 0 if vice versa;

BIDDEX, score 1 if the proportion of independent board members is more than the median of the proportion of independent board in the specified period and score 0 if vice versa;

ACSDEX, score 1 if the audit committee size is less than the median of audit committee size in the specified period and score 0 if vice versa;

ACIDEX, score 1 if the proportion of independent audit committee members is more than the median of the proportion of independent audit committee in the specified period and score 0 if vice versa;

FAMDEX, score 1 if the proportion of finance and audit experts in the audit committee is more than the median of the independent board member in the specified period, and score 0 if vice versa;

AMFDEX, score 1 if the frequency of audit committee meetings is more than the median of the frequency of audit committee meetings, and score 0 if vice versa;

BIG4DEX, score 1 if the world Big Four audit company audits the bank, and score 0 if vice versa.

An empirical model is constructed to analyze the moderating effect of risk governance structure on the implementation of risk management on the performance of Islamic banks. These variables are utilized to formulate a regression model with the general form as follows:

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{ROA}_{it-1} + \beta_j \sum_{j=2}^4 \text{RISK}_{it} + \beta_k \sum_{j=5}^{12} \text{RISK}_{it} * \text{RGS}_{it} + \beta_l \sum_{j=13}^{14} \text{CONT}_{it} + \varepsilon_{it} \quad (10)$$

$$\text{SPI}_{it} = \beta_0 + \beta_1 \text{SPI}_{it-1} + \beta_j \sum_{j=2}^4 \text{RISK}_{it} + \beta_k \sum_{j=5}^{12} \text{RISK}_{it} * \text{RGS}_{it} + \beta_l \sum_{j=13}^{14} \text{CONT}_{it} + \varepsilon_{it} \quad (11)$$

The data analysis method used is panel data regression analysis with a generalized method of moments (system GMM) approach using Microsoft Excel and RStudio. Microsoft Excel is utilized to process the data from content analysis on Islamic banks' annual reports and publication reports, while RStudio is employed to conduct panel data regression. The RStudio package used is plm (Linear Models for Panel Data). The data collected in Microsoft Excel will then be used as input data in RStudio.

4. RESULTS AND DISCUSSION

4.1 RESULTS

The Moderating Effect of Audit Committee Membership

Panel data processing using the System GMM method has been conducted to test hypotheses 1a and 1b. Table 1. illustrates the estimation results of regressions (1) and (2). Both regression results are considered to have valid and consistent instruments, reflected in the Sargan test p-values > 5%, which are 0.953 and 0.999, respectively, and the second autocorrelation test p-values > 5%, which are 0.950 and 0.922, respectively.

Based on the regression results (1), there is no support for hypothesis 1a as there is no significance in the moderating effect of audit committee membership on the implementation of risk management towards the financial performance of Islamic banks. However, there is support for hypothesis 1b as the results obtained in regression (2) show significance, indicating that the number of audit committee members strengthens the effectiveness of risk management on the social performance of Islamic banks. The outcomes of regressions 1 and 2 are presented in Table 1:

Table 1 / Estimation Results of Regressions (1) and (2)

Risk Governance Structure Var: ASIZE					
Regression (1)			Regression (2)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
Lag (ROA)	-0.020	0.929	Lag (SPI)	0.709	1.44e-05***
Zscore	0.015	0.490	Zscore	0.055	0.215
NPF	-2.088	0.649	NPF	-0.818	0.907
DROA	-6.940	0.463	DROA	-39.344	0.005**
Zscore* ASIZE	-0.002	0.732	Zscore* ASIZE	-0.019	0.095.
NPF* ASIZE	0.496	0.647	NPF* ASIZE	-0.098	0.955
DROA* ASIZE	1.288	0.628	DROA* ASIZE	12.305	0.001**
Ln(BAAG)	-0.009	0.089	Ln(BAAG)	0.010	0.720
Ln(BASI)	0.001	0.309	Ln(BASI)	0.024	0.016*
Sargan test (p-value)		0.953	Sargan test (p-value)		0.999
AR2 test (p-value)		0.950	AR2 test (p-value)		0.922
Remarks: “.”: significant at 10% confidence level “*”: significant at 5% confidence level “**”: significant at 1% confidence level “***”: significant at 0.1% confidence level					

Source: Data Processed (2023)

The Moderating Effect of Audit Committee Members' Independence

The System GMM method was employed to process panel data, aiming to evaluate hypotheses 2a and 2b. The outcomes of regressions 3 and 4 are presented in Table 2:

Table 2 / Estimation Results of Regressions (3) and (4)

Risk Governance Structure Var: ACIN					
Regression (3)			Regression (4)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
Lag (ROA)	-0.038	0.797	Lag (SPI)	-0.276	0.259
Zscore	0.007	0.435	Zscore	0.118	0.009**
NPF	2.952	0.083	NPF	-20.029	0.016*
DROA	-0.281	0.069	DROA	-84.494	0.157
Zscore* ASIZE	-0.0001	0.986	Zscore* ASIZE	-0.120	0.007**
NPF* ASIZE	-3.219	0.107	NPF* ASIZE	29.868	0.004**
DROA* ASIZE	20.128	0.096.	DROA* ASIZE	87.900	0.143

Risk Governance Structure Var: ACIN					
Regression (3)			Regression (4)		
DependentVar.:	Coef	Pr (> z)	DependentVar.:	Coef	Pr (> z)
ROA			SPI		
Ln(BAAG)	-0.016	0.010*	Ln(BAAG)	0.0001	0.997
Ln(BASI)	0.003	0.039*	Ln(BASI)	0.061	2.49e-06***
Sargan test (p-value)		0.999	Sargan test (p-value)		0.999
AR2 test (p-value)		0.753	AR2 test (p-value)		0.089
Remarks: “. ”: significant at 10% confidence level “* ”: significant at 5% confidence level “** ”: significant at 1% confidence level “*** ”: significant at 0.1% confidence level					

Source: Data Processed (2023)

The tabulated data illustrates regressions (3) and (4) estimation findings. Both regression analyses indicate the presence of valid and consistent instruments, with Sargan test p-values exceeding 5% at 0.999 each and second autocorrelation test p-values at 0.753 and 0.089, respectively, surpassing the 5% significance threshold. Consequently, the results support hypotheses 2a and 2b, highlighting significant correlations in regression (3) and (4) concerning the audit committee's independence, which substantially enhances risk management effectiveness concerning Islamic banks' financial and social performance.

The Moderating Effect of Audit Committee Expertise Proportion

Panel data processing using the System GMM method has been conducted to test hypotheses 3a and 3b. The processing results on regression five and regression 6 are as follows:

Table 3 / Estimation Results of Regressions (5) and (6)

Risk Governance Structure Var: FAEA					
Regression (5)			Regression (6)		
DependentVar.:	Coef	Pr (> z)	DependentVar.:	Coef	Pr (> z)
ROA			SPI		
Lag (ROA)	0.242	0.458	Lag (SPI)	0.564	0.011*
Zscore	0.006	0.730	Zscore	-0.021	0.838
NPF	5.206	0.063.	NPF	17.602	0.350
DROA	-2.278	0.775	DROA	-7.567	0.878
Zscore* ASIZE	0.002	0.919	Zscore* ASIZE	0.012	0.920
NPF* ASIZE	-6.597	0.057.	NPF* ASIZE	-23.448	0.380
DROA* ASIZE	-0.007	0.999	DROA* ASIZE	13.375	0.809
Ln(BAAG)	-0.009	<2e-16***	Ln(BAAG)	0.022	0.364
Ln(BASI)	-0.00001	0.987	Ln(BASI)	0.025	0.0004***
Sargan test (p-value)		0.999	Sargan test (p-value)		0.686
AR2 test (p-value)		0.248	AR2 test (p-value)		0.905
Remarks: “. ”: significant at 10% confidence level “* ”: significant at 5% confidence level “** ”: significant at 1% confidence level “*** ”: significant at 0.1% confidence level					

Source: Data Processed (2023)

Table 3 above depicts the estimation results of regressions (5) and (6). Both regression results are assessed to have valid and consistent instruments, reflected by the Sargan test p-values > 5%, which are 0.999 and 0.686, respectively, and the second autocorrelation test p-values > 5%, which are 0.248 and 0.905, respectively.

Regression result (5) indicates that overall risk management implementation significantly influences the financial performance of Islamic banks. Interestingly, regression (5) shows that the significant moderating effect of audit committee expertise proportion strengthens the effectiveness of financing risk management on the financial performance of Islamic banks because its moderation weakens the negative correlation between risk management and the financial performance of Islamic banks. Regression (6) indicates no significant influence of risk management implementation on the social performance of Islamic banks. Similarly, the moderating effect of audit committee expertise proportion on risk management towards the social performance of Islamic banks is not significant. These results fail to support hypothesis 3b.

The Moderating Effect of Audit Committee Meeting Frequency

Panel data processing using the System GMM method has been conducted to test hypotheses 4a and 4b. The processing results for regressions 7 and 8 are as follows:

Table 4 / Estimation Results of Regressions (7) and (8)

Risk Governance Structure Var: ACMF					
Regression (7)			Regression (8)		
DependentVar.:	Coef	Pr (> z)	DependentVar.:	Coef	Pr (> z)
ROA			SPI		
Lag (ROA)	0.460	0.381	Lag (SPI)	0.702	0.407
Zscore	0.011	2.63e-05***	Zscore	-0.006	0.701
NPF	0.375	0.416	NPF	-2.616	0.078.
DROA	-4.799	0.0003***	DROA	6.506	0.696
Zscore*ASIZE	-0.0003	0.394	Zscore*ASIZE	-0.0001	0.895
NPF*ASIZE	-0.028	0.636	NPF*ASIZE	0.243	0.324
DROA*ASIZE	0.237	0.053.	DROA*ASIZE	-0.674	0.706
Ln(BAAG)	-0.007	0.108	Ln(BAAG)	0.022	0.749
Ln(BASI)	0.0003	0.798	Ln(BASI)	0.016	0.669
Sargan test (p-value)		0.998	Sargan test (p-value)		0.726
AR2 test (p-value)		0.572	AR2 test (p-value)		0.651
Remarks:					
“.”: significant at 10% confidence level					
“*”: significant at 5% confidence level					
“***”: significant at 1% confidence level					
“****”: significant at 0.1% confidence level					

Source: Data Processed (2023)

Table 4 above illustrates the estimation results of regressions (7) and (8). Both regression results are assessed to have valid and consistent instruments, reflected in the Sargan test p-values > 5%, which are 0.998 and 0.726, respectively, and the second autocorrelation test p-values > 5%, which are 0.572 and 0.651, respectively.

Regression (8), however, indicates that the influence of audit committee meeting frequency moderation is insignificant in implementing risk management toward the social performance of Islamic banks. This result fails to support hypothesis 4b. Based on the results, only support for hypothesis 4a statement is obtained since significant correlation results are only obtained in regression (7), where the moderation effect of audit committee meeting frequency significantly strengthens the effectiveness of risk management towards the financial performance of Islamic banks.

The Moderating Effect of the Number of Shariah Supervisory Board Members

Panel data processing using the System GMM method has been conducted to test hypotheses 5a and 5b. The processing results on regressions (9) and (10) are as follows:

Table 5 / Estimation Results of Regressions (9) and (10)

Risk Governance Structure Var: SBSZ					
Regression (9)			Regression (10)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
Lag (ROA)	0.303	0.001**	Lag (SPI)	2.845	0.012*
Zscore	-0.0003	0.939	Zscore	-0.200	0.014*
NPF	1.500	0.192	NPF	-2.234	0.556
DROA	-0.132	0.026*	DROA	109.424	0.018*
Zscore*ASIZE	0.004	0.104	Zscore*ASIZE	0.103	0.018*
NPF*ASIZE	0.615	0.193	NPF*ASIZE	1.492	0.438
DROA*ASIZE	4.977	0.071	DROA*ASIZE	-53.049	0.018*
Ln(BAAG)	-0.005	0.196	Ln(BAAG)	-0.206	0.069.
Ln(BASI)	0.001	0.327	Ln(BASI)	-0.079	0.123
Sargan test (p-value)		0.999	Sargan test (p-value)		1.000
AR2 test (p-value)		0.239	AR2 test (p-value)		0.640
Remarks: “. ”: significant at 10% confidence level “* ”: significant at 5% confidence level “** ”: significant at 1% confidence level “*** ”: significant at 0.1% confidence level					

Source: Data Processed (2023)

The estimation results in Table 5 showcase the outcomes of regressions (9) and (10). Both sets of regression results are deemed to possess valid and consistent instruments, evident from the Sargan test p-values exceeding 5%, standing at 0.999 and 1.000, respectively, as well as the second autocorrelation test p-values surpassing 5%, which are 0.239 and 0.640 respectively. Upon analyzing the results, it can be inferred that there is support for hypotheses 5a and 5b, as regressions (9) and (10) demonstrate that the moderating effect of the number of Shariah Supervisory Board members significantly enhances the efficacy of risk management concerning the financial and social performance of Shariah-compliant banks.

The Moderating Effect of Shariah Supervisory Board Meeting Frequency

Panel data processing using the System GMM method has been conducted to test hypotheses 6a and 6b. The processing results on regressions (11) and (12) are as follows:

Table 6 / Estimation Results of Regressions (11) and (12)

Risk Governance Structure Var: SBMF					
Regression (11)			Regression (12)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
Lag (ROA)	0.072	0.817	Lag (SPI)	2.294	0.055.
Zscore	0.011	0.001**	Zscore	0.016	0.476
NPF	-0.682	0.191	NPF	9.022	<2.2e-16***
DROA	-3.373	0.522	DROA	-77.351	0.100
Zscore*ASIZE	-0.0004	0.093.	Zscore*ASIZE	-0.0004	0.593
NPF*ASIZE	0.031	0.450	NPF*ASIZE	-0.080	0.001**
DROA*ASIZE	0.119	0.780	DROA*ASIZE	6.210	0.077.
Ln(BAAG)	-0.018	0.007**	Ln(BAAG)	-0.069	0.425
Ln(BASI)	0.004	0.057.	Ln(BASI)	-0.067	0.232
Sargan test (p-value)		0.999	Sargan test (p-value)		0.980
AR2 test (p-value)		0.455	AR2 test (p-value)		0.179
Remarks: “. ”: significant at 10% confidence level “* ”: significant at 5% confidence level “** ”: significant at 1% confidence level					

Risk Governance Structure Var: SBMF					
Regression (11)			Regression (12)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
"***": significant at 0.1% confidence level					

Source: Data Processed (2023)

The table above, Table 6, illustrates the estimation results of regressions (11) and (12). Both regression results are evaluated to have valid and consistent instruments, reflected by the Sargan test p-value > 5%, 0.999, and 0.980, respectively, and the second autocorrelation test p-value > 5%, 0.455, and 0.179, respectively.

Based on the above results, support is obtained for hypotheses 6a and 6b as regressions (11) and (12) show that the significant impact of the Shariah Supervisory Board meeting frequency moderation strengthens the implementation of risk management on Islamic banks' financial and social performance.

The Moderating Effect of External Audit Quality

Panel data processing using the System GMM method has been conducted to test hypotheses 7a and 7b. The processing results on regressions (13) and (14) are as follows:

Table 7 / Estimation Results of Regressions (13) and (14)

Risk Governance Structure Var: EXAQ					
Regression (13)			Regression (14)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
Lag (ROA)	0.128	0.288	Lag (SPI)	0.562	0.736
Zscore	0.002	0.434	Zscore	0.0007	0.972
NPF	-0.414	0.084.	NPF	-2.715	0.619
DROA	-2.252	0.003**	DROA	-13.266	0.067.
Zscore*ASIZE	0.004	0.042*	Zscore*ASIZE	-0.009	0.729
NPF*ASIZE	0.038	0.940	NPF*ASIZE	9.733	0.416
DROA*ASIZE	0.289	0.847	DROA*ASIZE	12.135	0.0009***
Ln(BAAG)	-0.007	0.039*	Ln(BAAG)	0.054	0.644
Ln(BASI)	0.003	0.037*	Ln(BASI)	0.023	0.718
Sargan test (p-value)	0.989		Sargan test (p-value)	1.000	
AR2 test (p-value)	0.513		AR2 test (p-value)	0.123	
Remarks: ".": significant at 10% confidence level "**": significant at 5% confidence level "***": significant at 1% confidence level "****": significant at 0.1% confidence level					

Source: Data Processed (2023)

The regression estimates in Table 7 above depict the results of equations (13) and (14). Both regression outcomes are deemed to possess valid and consistent instruments, as indicated by the Sargan test p-values exceeding 5%, which are 0.989 and 1.000, respectively, and the p-values of the second autocorrelation test exceeding 5%, standing at 0.513 and 0.123 respectively.

Based on the results mentioned earlier, hypotheses 7a and 7b, wherein the significant moderating influence of external audit quality strengthens the implementation of risk management, affecting Islamic banks' financial and social performance, are supported.

The Moderating Effect of the Index of Risk Governance Structure Effectiveness

Panel data processing using the System GMM method has been conducted to test hypotheses 8a and 8b. Table 8 illustrates the estimation results of regressions (15) and (16). Both regression results are assessed to have valid and consistent instruments,

as reflected by the Sargan test p-values > 5%, which are 0.999 and 1.000, respectively, and the second autocorrelation test p-values > 5%, which are 0.523 and 0.655, respectively.

Table 8 / Estimation Results of Regressions (15) and (16)

Risk Governance Structure Var: RGEI					
Regression (15)			Regression (16)		
DependentVar.: ROA	Coef	Pr (> z)	DependentVar.: SPI	Coef	Pr (> z)
Lag (ROA)	0.250	0.213	Lag (SPI)	0.944	0.039*
Zscore	0.015	0.0006***	Zscore	-0.037	0.518
NPF	-0.107	0.957	NPF	-0.955	0.897
DROA	-2.728	0.571	DROA	8.586	0.894
Zscore*ASIZE	-0.002	0.086.	Zscore*ASIZE	0.009	0.407
NPF*ASIZE	0.046	0.934	NPF*ASIZE	0.156	0.948
DROA*ASIZE	0.217	0.845	DROA*ASIZE	-2.401	0.869
Ln(BAAG)	-0.010	0.010*	Ln(BAAG)	0.013	0.797
Ln(BASI)	0.001	0.242	Ln(BASI)	0.003	0.844
Sargan test (p-value)		0.999	Sargan test (p-value)		1.000
AR2 test (p-value)		0.523	AR2 test (p-value)		0.655
Remarks: “.”: significant at 10% confidence level “*”: significant at 5% confidence level “***”: significant at 1% confidence level “****”: significant at 0.1% confidence level					

Source: Data Processed (2023)

Regression (15) results indicate that overall risk management implementation significantly affects the financial performance of Islamic banks. Regression (15) also demonstrates that the moderating effect of the index of risk governance structure effectiveness significantly strengthens the implementation of risk management on the financial performance of Islamic banks due to increased cautious behavior. However, creating an effective risk governance structure requires organizational completeness, such as audit committees, provision of financial and audit experts, maintaining the independent proportion of audit committees, and competent external audit implementation, thus incurring costs that affect the resilience of Islamic bank stability. Regression (16) results show that the moderating effect of the index of risk governance structure effectiveness is not significant in implementing risk management on the social performance of Islamic banks. Based on the above results, support is only obtained for hypothesis 8a statement, where the moderating effect of the index of risk governance structure effectiveness significantly reinforces risk management on the financial performance of Islamic banks.

4.2 DISCUSSION

The Moderating Effect of Audit Committee Membership

The research shows that although the number of audit committee members has no direct impact on the financial performance of Islamic banks, they play a crucial role in improving social performance. According to Nguyen & Dang (2022), an adequate and well-structured audit committee is an important aspect of effective corporate governance, as it provides greater oversight and ensures that the bank's operations align with Shariah principles that support social justice and economic responsibility. This aligns with the basic functions of Islamic banks, which focus on profitability, social contribution, and community development.

Audit committee members' composition, independence, expertise, and effectiveness are crucial for promoting good governance, social responsibility, and financial stability in Islamic banks. While the number of audit committee members may not directly impact the financial performance of Islamic banks, it is essential for enhancing social performance and ensuring adherence to Shariah principles (Khoo et al., 2020). An adequately structured audit committee provides oversight to align bank operations with social justice and economic responsibility, which are fundamental aspects of Islamic banking (Khoo et al., 2020). Research also indicates that the effectiveness of audit committees can influence risk-taking behaviors in Islamic banks, with a

high-performing Sharia committee helping to constrain such behaviors (Nguyen, 2021). The audit committee's role in monitoring and controlling management activities, including corrective actions in fraud cases.

Additionally, a larger number of audit committee members can enrich the perspectives and expertise brought to decision-making, ultimately improving the quality of supervision and the effectiveness of risk management. With more diverse and qualified committee members, Islamic banks can implement more robust strategies to address issues that could affect their social performance. The presence of competent and independent audit committee members also helps to ensure that decisions are made in the broader interest and not just focused on short-term gains.

The Moderating Effect of Audit Committee Members' Independence

Audit committee members' independence in Islamic banking institutions is a principle of good governance and a necessity that affects the credibility and integrity of the overall internal control process. According to Laeven & Levine (2009), independence in the audit committee enhances the effectiveness of supervision because it allows members to make decisions without pressure or conflicts of interest from management. With an objective position, audit committee members can be more effective in identifying potential risks and ensuring that the risk management practices adopted are in the bank's and its stakeholders' best interest. This independence is key in promoting transparency and accountability, two critical pillars maintaining the trust of customers and investors.

Furthermore, the audit committee members' independence also contributes to improving the bank's social performance. This is because, in the context of Islamic banking, decisions are made not only in terms of profitability but also in terms of their impact on society and fulfillment of Shariah principles. According to a study by Srairi *et al.* (2022), Islamic banks that adopt strong governance practices tend to better comply with Shariah principles and social responsibility. This enhances the bank's reputation and supports long-term stability by minimizing reputational risk and increasing customer loyalty. Therefore, independent audit committee members strategically ensure that bank activities remain aligned with Shariah values and social expectations, ultimately strengthening the foundation for sustainable growth.

Studies have shown that a higher percentage of independent board membership, large audit committee size, and the presence of independent audit committees positively impact risk disclosure levels in banks (Elghaffar *et al.*, 2019). Additionally, audit committee independence can reduce fraudulent financial statements, improving firm performance (Jati Wibawaningsih & Primta Surbakti, 2020). Moreover, the independence of audit committee members contributes to improving internal regulations and developing business processes in Islamic banks (Haddad *et al.*, 2021). Competent and independent audit committee members are crucial for ensuring that internal Shariah auditors can operate independently and effectively, thereby enhancing the overall governance and compliance within Islamic banks (Khalid, 2020). In conclusion, the independence of audit committee members in Islamic banking institutions is fundamental for maintaining trust, promoting effective risk management, and upholding Shariah principles, ultimately contributing to Islamic banks' overall success and sustainability.

The Moderating Effect of Audit Committee Expertise Proportion

A high proportion of expertise in the audit committee plays a vital role in optimizing the financial performance of Islamic banks through more effective risk management. Specific expertise in finance and auditing allows the committee to conduct a more in-depth analysis and critical evaluation of the risk strategies taken by the bank. According to Zeineb & Mensi (2017), banks with governance structures that include a high proportion of finance and audit experts tend to have higher levels of operational efficiency. This is because experienced experts can identify, assess, and manage risks efficiently, minimizing the possibility of financial losses and maximizing asset performance. As such, this expertise supports solid financial decisions and strengthens the bank's financial stability and sustainability in the long run.

A significant presence of expertise within the audit committee is crucial for enhancing the financial performance of Islamic banks through improved risk management practices. Expertise in finance and audit enables the committee to conduct thorough risk analysis and critical evaluation of the bank's risk strategies, leading to higher operational efficiency and better risk management (Zunanto & Abdullah, 2023). Banks with a governance structure that includes a substantial number of finance and audit experts tend to exhibit enhanced operational efficiency, as these experts can efficiently identify, assess, and manage risks, thereby reducing financial losses and optimizing asset performance (Zunanto & Abdullah, 2023). Moreover, audit committee expertise is essential for solid financial decision-making, strengthening the financial stability and sustainability of banks in the long term (Zunanto & Abdullah, 2023). Studies have shown that audit committee financial expertise contributes to the timeliness of financial reporting, improves audit quality, and enhances the effectiveness of the audit process (Sawani, 2021). Additionally, audit committee financial expertise is significant in promoting transparency, ensuring smooth audit functions, and effectively monitoring management actions (Sawani, 2021; Umaru et al., 2021).

The improvement in financial performance driven by this proportion of expertise does not always directly impact banks' social performance. This can be explained by the experts' primary focus, which is more likely to be on financial risk management rather than on broader social aspects or Shariah compliance. Research by Nguyen & Dang (2022) suggests that while financial expertise in audit committees improves financial performance, their role in influencing decisions favoring social responsibility and Shariah compliance can be less pronounced. Therefore, to maximize both aspects of performance, Islamic banks need to consider the integration of Shariah and social experts in their audit committees, thus enabling a more holistic approach to risk governance that also highlights social performance.

Furthermore, the composition of the audit committee is crucial, with a higher proportion of financial and accounting expertise being associated with better oversight and monitoring of financial reporting processes (Kaaroud et al., 2020). Audit committees are vital in monitoring risk-taking operations in banks to ensure compliance with regulatory requirements and stakeholder expectations (Cheah et al., 2023; Nguyen, 2021). The independence and expertise of audit committee members have been found to constrain bank risk-taking behavior and enhance overall performance (Nguyen, 2021). In conclusion, a high proportion of financial and audit expertise within the audit committee is instrumental in optimizing financial performance, enhancing risk management, improving operational efficiency, and ensuring Islamic banks' long-term stability and sustainability.

The Moderating Effect of Audit Committee Meeting Frequency

More frequent audit committee meetings are crucial in improving the responsiveness and dynamism of risk management in Islamic banks. Jallali & Zoghalmi (2022) explain that regularly scheduled meetings allow committee members to stay current with internal and external developments affecting bank operations. In a fast-paced and uncertain context such as the financial sector, responding quickly to changes is essential. These frequent meetings also enhance the audit committee's ability to effectively supervise the risk management process, ensuring that the strategies implemented are appropriate and relevant to current market conditions. Consequently, this contributes to better financial performance by reducing potential losses and maximizing return on investment.

Frequent audit committee meetings are crucial in enhancing the responsiveness and dynamism of risk management within Islamic banks. These regular meetings enable committee members to stay informed about internal and external developments impacting bank operations, facilitating swift responses to changes in the fast-paced and uncertain financial sector (Ramdani & Kamal, 2023). The increased frequency of meetings also enhances the audit committee's oversight of the risk management process, ensuring that strategies align with current market conditions, thereby contributing to improved financial performance by minimizing losses and maximizing returns (Ramdani & Kamal, 2023). Studies have emphasized the significance of the frequency of audit committee meetings in enhancing audit committee effectiveness. More frequent meetings offer the committee opportunities to address financial reporting issues, enhance audit quality, and monitor financial reporting practices more effectively (Chalu, 2021).

However, the positive impact of this increased meeting frequency is limited to financial performance and does not extend to the social performance of the bank. This may be due to the focus of the meetings, which are usually more on technical and financial aspects rather than on social issues or *Shariah* compliance. As explained by Laeven & Levine (2009), although good governance includes effective financial oversight, it does not necessarily include a direct increase in social responsibility unless the meetings specifically address issues related to *Shariah* compliance and social responsibility. Therefore, to ensure that increased meeting frequency also benefits social performance, Islamic banks may need to adjust meeting agendas to specifically include discussions on *Shariah* compliance and the social impact of bank activities.

Additionally, the frequency of audit committee meetings has been linked to improved control functions and transparency in financial information (Dosinta & Yunita, 2024). Moreover, the literature indicates that the frequency of audit committee meetings positively correlates with the quality of accounting information and audit quality (Arinta & Ashari, 2022). The frequency of audit committee meetings has been positively associated with disclosure quality, underscoring its role in promoting transparency and accountability (Ahmed & Hågen, 2023). In conclusion, the frequency of audit committee meetings is critical in enhancing risk management, financial performance, audit quality, transparency, and accountability within Islamic banks.

The Moderating Effect of the Number of *Shariah* Supervisory Board Members

An adequate number of *Shariah* Supervisory Board members has significant implications for the ability of Islamic banks to manage risk, improving both financial and social performance effectively. As explained by Nugraheni (2018), the *Shariah* Supervisory Board is tasked with overseeing the compliance of products and services with *Shariah* law and ensuring that the bank's overall operations are in line with Islamic ethical and social principles. By having more members who are skilled and experienced in the financial and legal aspects of *Shariah*, banks can more accurately predict and respond to risks that may arise from non-compliance with *Shariah* principles. This reduces potential sanctions or reputational damage and strengthens customer trust and loyalty, which are vital for long-term financial and social success.

Furthermore, an increase in the number of *Shariah* Supervisory Board members also helps provide richer and more diverse guidance in making strategic decisions affecting the bank's performance. Research by Tashkandi (2022) shows that boards with diverse members tend to make more balanced and inclusive decisions, which benefit all stakeholders. This diversity helps address various aspects of risk management, from financial to social and operational, ensuring that banks follow *Shariah* law and promote fairness and social responsibility. More members in the *Shariah* Supervisory Board mean enhanced supervision, higher quality advice, and better adaptation to market and regulatory changes, all of which directly contribute to financial performance and improve the bank's social impact on society.

The Moderating Effect of *Shariah* Supervisory Board Meeting Frequency

More frequent *Shariah* Supervisory Board meetings play an important role in strengthening Islamic banks' financial and social performance. Regular and frequent meetings allow board members to update and review financial and operational policies more efficiently and ensure that all bank activities remain compliant with *Shariah* principles. As Tashkandi (2022) pointed out, these frequent meetings are essential to address the dynamic and complex challenges of the modern banking sector, where speed and responsiveness to changing market conditions can greatly affect bank performance. Thus, a higher frequency of meetings facilitates faster and more informed decision-making, which is important not only for managing financial risks but also for meeting social expectations and maintaining customer trust.

In addition, more frequent *Shariah* Supervisory Board meetings also contribute to increased transparency and accountability. These meetings provide a platform for in-depth discussions on compliance with *Shariah* principles and better risk management, which is critical in maintaining the integrity of the bank's operations. According to Nugraheni (2018), through intensive and regular meetings, the board can effectively monitor and adjust existing strategies to deal with financial and social risks changes.

This not only helps in identifying and responding to risks promptly but also enhances the social role of the bank in promoting economic justice and financial inclusion, both of which are important components of social performance in Islamic banking. Thus, a high frequency of meetings directly contributes to achieving a more stable financial performance and strengthening the bank's social impact on society.

The Moderating Effect of External Audit Quality

High-quality external audits have a significant impact in supporting the implementation of effective risk management, which in turn improves banks' financial and social performance. A well-conducted external audit provides unbiased verification of a bank's financial statements and other operations, ensuring that all transactions and financial activities are conducted by established standards and compliance with applicable regulations. Srairi et al. (2022) explain that a quality external audit helps identify weaknesses in a bank's internal control system and recommends improvements that can enhance risk management and reduce the likelihood of fraud or errors that could harm the bank. Thus, external audits reduce financial risk and increase stakeholder trust, which is important for maintaining and enhancing the bank's reputation in the long run.

Furthermore, the quality of external audits also affects the social performance of banks by ensuring that banks act transparently and responsibly towards all stakeholders. In the context of Islamic banking, this includes compliance with *Shariah* principles, which demand fairness and transparency in all transactions. High quality in external auditing allows the bank to demonstrate its commitment to these values, increasing customer and public trust. According to Laeven & Levine (2009), banks that practice good governance and transparency through effective external auditing tend to attract more investors and customers, strengthening their capital base and helps in achieving their social and economic goals. Therefore, quality external audits are an important tool for financial risk management and a vital aspect of banks' social responsibility.

The Moderating Effect of the Index of Risk Governance Structure Effectiveness

The risk governance structure effectiveness index is an important indicator that measures how well an organization implements and manages its risk governance structure, including the policies, procedures, and controls used to mitigate risks. As explained by Nguyen & Dang (2022), an effective risk governance structure enhances a bank's ability to manage financial risks and plays an important role in ensuring long-term financial stability. This is because an effective structure assists banks in identifying, assessing, and responding to risks in a proactive manner, which reduces potential financial losses and strengthens the confidence of investors and other stakeholders. Therefore, measurement and continuous improvement on this index are vital to maintaining and improving banks' financial performance.

However, an intense focus on effective risk governance structures primarily for financial sustainability can lead to inattention to social aspects. Significant investments in systems and infrastructure for risk governance often prioritize resources that could have been used for social or community initiatives. For example, banks may spend more on information technology for data security and risk management while neglecting programs that support social development or environmental sustainability, which are also important for fulfilling corporate social responsibility (CSR). This demonstrates the importance of balancing strengthening risk governance and promoting social performance, as described by Laeven & Levine (2009), who emphasize that effective strategies should simultaneously consider financial performance and social contributions. By understanding and adjusting to this, banks can be more effective in achieving these dual objectives, enhancing financial stability, social reputation, and ethical compliance in the long run.

5. CONCLUSION

Based on the research findings discussed in the previous chapter regarding the moderation effect of risk governance structure on risk management towards the financial and social performance of Islamic banks, the following conclusions can be drawn: Firstly, the number of audit committee members does not significantly affect the effectiveness of risk management implementation on the financial performance of Islamic banks, but it does significantly strengthen the effectiveness of risk management on their social performance. Secondly, the independence of the audit committee significantly enhances the effectiveness of risk management implementation on the financial and social performance of Islamic banks. Thirdly, the proportion of expertise within the audit committee significantly reinforces the effectiveness of risk management implementation on the financial performance of Islamic banks, albeit it does not influence the effectiveness of their social performance. Fourthly, the frequency of audit committee meetings significantly enhances the effectiveness of risk management implementation on the financial performance of Islamic banks while not affecting social performance. Fifthly, the number of *Shariah* Supervisory Board members significantly strengthens the effectiveness of risk management implementation in terms of both financial and social performance. Sixthly, the frequency of *Shariah* Supervisory Board meetings significantly enhances the effectiveness of risk management implementation in terms of both financial and social performance. Seventhly, the quality of external audits significantly reinforces the effectiveness of risk management implementation on both financial and social performance. Lastly, the effectiveness of the risk governance structure only significantly enhances the effectiveness of risk management implementation on the financial performance of Islamic banks without impacting their social performance.

6. LIMITATION AND IMPLICATION

This study, while providing insightful observations on the moderation effects of various governance structures on Islamic banks' financial and social performance, comes with several limitations. First, the sample size, restricted to Islamic banks operating in Indonesia, limits the generalizability of the findings to other regions or banking systems. Future research could expand the geographical scope to include Islamic banks from different countries to validate these findings more broadly. Second, relying on publicly available financial data and reports might introduce bias, as these documents often present information favorable to the bank's image. Such data may not fully capture the nuances of day-to-day risk management and governance practices, potentially overlooking some latent challenges. Third, the study focuses primarily on quantitative data, which can overlook qualitative aspects such as the organizational culture or the commitment level of individual board members, which are harder to measure but equally significant in shaping a bank's governance and performance.

Despite these limitations, the study offers several important implications for theory and practice. Theoretically, it contributes to the existing literature on corporate governance in Islamic banking by highlighting how specific attributes of the audit and Shariah supervisory boards can significantly influence bank performance. This underscores the need for more nuanced models that incorporate financial and social performance dimensions. Practically, the findings suggest that Islamic banks and potentially other financial institutions operating under similar principles should consider enhancing the independence and expertise within their audit committees. Additionally, increasing the frequency of meetings could lead to better risk management outcomes. For regulators, these insights point to the importance of crafting policies that encourage or even mandate such governance practices to ensure the stability and integrity of the financial system.

Furthermore, the results call for banks to balance their focus on financial sustainability with their social responsibilities. This balance is crucial for maintaining customer trust and fulfilling the broader social goals of Islamic finance. It highlights the potential need for integrating more comprehensive social performance metrics into regular evaluation processes to ensure that governance improvements translate into financial and social benefits.

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