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Article

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Do institutional environment and corporate governance structures determine Islamic Banks' sustainability performance? Evidence across key jurisdictions in Islamic finance industry

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ABSTRACT

This study examines the impact of the institutional environment and corporate governance structures on Islamic banks' sustainability performance (SP). It applies a two-step System Generalized Method of Moments (GMM) estimator to analyze data gathered on a panel of 32 Islamic banks drawn from nine key Islamic finance jurisdictions from 2016 to 2021. To consistently code and quantify the Islamic banks' SP, we use the Specific Standard Disclosures for the Financial Services Sector introduced by the GRI as a framework of reference. Then, we employ the weighted content analysis method on the sustainability and annual reports of the subjected sample. Our findings indicate that the institutional factors specifically, regulatory guidelines (regulatory isomorphism) and the adherence of Islamic banks to the sustainable finance networks' specifications (normative isomorphism) are not currently determinants of their SP. Contrarily, we observe that the establishment of a sustainability committee and a better experience of sustainability disclosure improve Islamic banks' SP. In contrast to agency theory, board activity is identified to have a significantly negative relationship with SP. An important policy implication of our results is that policymakers should closely monitor Islamic banks' regulatory dependency and enhance their SF ecosystem to positively influence their SP. Finally, future research may leverage on more conducive regulatory frameworks to sustainability transition in these key jurisdictions, more effective normative structures, further disclosure of sustainability committee characteristics, the development of appropriate measures of Islamic banks' digitalization levels, and the availability of more material sustainability data to provide further insights and better understand the determinants of Islamic banks' SP.

1. Introduction

Several recent studies underline that the transgression of planetary boundaries that may result from anthropogenic pressures i.e., climate change, biodiversity loss, land system change, and freshwater use -to name few-can adversely affect both natural and financial ecosystems. (Brainard, 2019; Burke et al., 2015; Dafermos et al., 2018; Fabris, 2020; Gangi et al., 2019; IMF, 2018; Klomp, 2014; Lamperti et al., 2019; Rockström et al., 2009). To illustrate, they damage or reduce the earth's

capacity to sustain and regenerate natural resources and maintain ecological balance, thus exposing societies to existential risks (Rockström et al., 2009; UNEP FI, 2018). Moreover, they create systemic risks to financial stability due to the irreversible and nonlinear nature of climate and environmental risks. Furthermore, the unpredictable effects of these risks, specifically their physical, transition, and liability risks, can harm financial institutions (Naidoo, 2020). Klomp (2014) argues that environmental and climate shifts reduce banks' reserves and increase banks' insolvency risks; undermine banks' asset quality as their

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customers are more likely to default on their obligations due to climate or environmental physical risks; reduce banks' managerial efficiency due to a significant increase in banks' expenses subsequent to natural disasters; impair banks' profitability due to the decline in banks' efficiency and substantial increase in counterparty risks; and increase banks' liquidity risks because of bank runs.

Furthermore, Carney (2015) and Battiston et al. (2021) argue that environmental disorder can substantially impact the insurance industry. They claim that climate-related physical risks can have the potential to harm or destroy corporate productive assets, reducing their production capacities, and ultimately affecting their ability to repay their debts. Consequently, insurance companies may incur considerable losses when faced with catastrophic and frequent environmental shocks, as they are obligated to pay substantial compensations for their customers' claims.

Further, environmental shifts can cause economic turmoil as they increase macroeconomic and fiscal stability exposure to vulnerabilities, induce instability in labor markets, reduce labor productivity, decrease agricultural yields, destroy productive assets, and create significant upward price shifts across several commodity and services markets (Fabris, 2020).

On top of that, today's perception of value creation accounts for various stakeholders' interests and incorporates social dimension (people) into the value chain alongside economic (profit) and environmental (planet) impacts. For instance, the Global Reporting Initiative (GRI), establishes a set of international standards aimed at evaluating, quantifying, and promoting social and business ethics, labor practices (environment for decent work), human rights (freedom, nondiscrimination, security, and equity), and societal impact (legal compliance, local communities' empowerment, assessment for impact on society). They also help corporates embed employees' aspirations and societies' interests into their core strategies (fulfil their social contract and reinforce their social legitimacy) (Chen & Roberts, 2010; Deegan, 2002). Therefore, to balance environmental and social sustainability with financial/economic stability, substantial progress must be made worldwide and across various sectors namely, financial and non-financial sectors (Bose et al., 2018).

Banks' intermediary role in the economy and their capacity to create money and allocate credits to businesses underline their important role in the transition toward more sustainable economic system (Campiglio, 2016). Gangi et al. (2019) argue that when banks incorporate borrowers' sustainability performance (SP) into their credit allocation policies, it leads to a "multiplier effect". Banks leverage their roles as financial providers, institutional investors, advisors, and heads of supply chain to close the sustainable development finance gap, mitigate the financial system's exposure to systemic risks that can stem from climate and environmental shifts, and compel borrowers to embed sustainability criteria into their business models, competitive analyses, innovation strategies, and corporate governance (CG) structures.

Commensurate with Goss and Roberts (2011), Nandy and Lodh (2012), and Hasan et al. (2017), Hauptmann (2017) reports that borrowers with higher SP scores tend to receive lower interest rates on their credits compared to borrowers with lower scores. Nonetheless, the author underlines that corporates take advantage of their SP and obtain more favorable credit conditions only if their banks also show greater SP. In other words, the effectiveness of banks' sustainability control management system and their dedication to translate sustainability standards into effective credit allocation policies and risk assessment frameworks can establish the groundwork for more banks' influence on corporate sustainability strategies and performance.

In the context of Islamic banking, commitment to sustainability is embedded in MAQASID theory. It offers a comprehensive approach for Islamic banks, enabling them to go beyond mere Shari'ah compliance to enhance their positive impacts (*Masalih*); minimize their negative externalities (*Mafasid*); and promote a broader vision of value creation that encompasses people, the planet, and profit within the framework of universal balance, justice, fairness, and social accountability. Therefore,

a key question that may emerge in this context is: What drives Islamic banks to incorporate sustainability criteria into their business strategies and enhance their SP? Alternatively, what are the determinants of Islamic banks' SP?

This study asserts that Islamic banks establish a sustainability management control system and introduce sustainability criteria into their business strategies to address external pressures from regulatory authorities and civil society groups that call on Islamic banks to show greater stewardship commitment for their customers' social and environmental impacts (Nizam et al., 2019). In addition, recent regulations have mandated the creation of inclusive governance and self-regulating frameworks to better incorporate social and environmental sustainability criteria into the strategic orientations of Islamic banks. This has led to integrating additional practices into banks' CG frameworks such as appointing chief sustainability officers (CSO) or establishing sustainability committees (SC). The impact of these practices on Islamic banks' SP needs to be closely analyzed.

By investigating whether institutional factors and CG structures are drivers of SP for Islamic banks in important jurisdictions within the Islamic finance industry, we make a valuable contribution to existing research from multiple theoretical viewpoints. From an institutional theory perspective, this study investigates whether (1) the introduction of SF-specific regulatory guidelines into specific regulatory contexts¹ and (2) Islamic banks' involvement in local and/or international SF initiatives can enhance their SP. To the best of our knowledge, this is the first study to examine this relationship.

Better alignment of stakeholders' expectations and corporate business focus requires Islamic banks to set company-wide sustainability strategies, policies, and codes of conduct that embed social and environmental considerations into their CG structures. This study's contribution from the CG perspective focuses on analyzing the impact of the SC on the Islamic banks' SP. As far as we know, this is the first study to examine whether incorporating SC into Islamic banks' CG structure can positively affect their SP.

Finally, our study accounts for a broad spectrum of sustainability dimensions. It introduces Islamic banks' overall SP together with its components namely, economic, social, and environmental SP (consistent with Jan, Marimuthu, & Hassan, 2019). This offers a close assessment of the potential impact of institutional drivers and CG structures on different sustainability layers.

Overall, we claim that this study will furnish regulators, supervisors, and boards of Islamic banks in different jurisdictions with additional information/data to evaluate the influence of their SF-specific regulatory guidelines and CG practices on SP. As a result, they can develop appropriate plans and implement additional actions to strengthen their regulatory ecosystem and enhance Islamic banks' growth opportunities and competitive position by effectively incorporating sustainability criteria into their CG models and business strategies.

The remainder of the paper is organized as follows: section 2 provides an overview of the theoretical background and establishes the testable hypotheses. Section 3 describes the data and the empirical strategy. Section 4 summarises and discusses the empirical results. Finally, section 5 concludes the study and provides recommendations for future research.

2. Theoretical background and hypothesis development

The embeddedness of environmental, social, and economic

¹ Value-Based Intermediation (VBI) in Malaysia (2017); Sustainable finance Roadmap (2014) and Regulation No.51/POJK 0.03/2017 on Application of Sustainable Finance to Financial Services Institutions in Indonesia; and Policy Guidelines for Green Bank Negara Malaysia (2018) and Guidelines on Environmental and Social Risk Management (ESRM) for Banks and Financial Institutions (2017) in Bangladesh.

considerations in sustainability indicates that “there is much variation in the [relevant] theoretical perspectives” that may help examine this concept (Deegan, 2002, p. 288). In other words, sustainability is extremely complex to be understood through the lens of a single theoretical framework (Fernando & Lawrence, 2014). Moreover, Gray et al. (1995) suggest that the use of social and political theories, particularly institutional, stakeholder, resource dependence, and legitimacy theories, provides increased theoretical avenues for researchers to investigate SP than economic theories (e.g., agency theory, decision usefulness theory). Legitimacy theory holds that organizations are bound to meet the expectations of their societies and fulfill their “social contract” (Chen & Roberts, 2010). It seeks to ensure that the value system of an entity is consistent with the value system of the larger society (Lindblom, 1994). Organizations show observance of their network of social structures through explicit compliance with institutionalized or standardized rules and norms, that is, regulatory endorsement (e.g., sustainability guidelines, standards, and networks) and implicit attention to their community interests (social endorsement) (Comyns & Figge, 2015; Deegan, 2002; Ntim and Soobaroyen, 2013), and hence, the relevance of institutional and stakeholder theories in sustainability studies.

Furthermore, resource dependence theory suggests that an entity’s ability to meet their societal expectations (and therefore increase their likelihood of survival and growth) depends on their ability to access vital and relevant resources in their organizational environment (Chen & Roberts, 2010). According to Hillman and Dalziel (2003) boards of directors undertake two important roles in organizations namely, (1) controlling or managing on behalf of shareholders and (2) providing resources such as expertise, advice, counsel, and diffusion of innovation to reduce uncertainty, minimize transaction costs, and help entities survive in a dynamic environment. As a result, several studies (Ben-Amar et al., 2017; Disli et al., 2022; Hollindale et al., 2019) draw on this theoretical framework to examine whether corporate boards can affect firm SP.

Therefore, in accordance with legitimacy and institutional theories, in this study we seek to examine whether institutional isomorphism (the issuance of SF-specific regulatory guidelines and peer pressure) may positively impact the SP of Islamic banks. Moreover, we examine the influence of CG structures (i.e., board size -BS-, board independence -BI-, board activity -BA-, and specifically the establishment of a SC) on Islamic banks’ SP across different jurisdictions in line with stakeholder and resource dependence theories.

2.1. Institutional drivers

Institutional theory offers a reliable theoretical perspective for better understanding the drivers of Islamic banks’ SP, as it helps introduce several external factors that may shape Islamic banks’ methods for incorporating sustainability practices into their business strategies. According to this theory, changes in organizational behavior in response to industry evolution or progress do not necessarily result from organizations’ rational decision processes seeking to strengthen their efficiency (Bose et al., 2018). Rather, it is more likely to stem from their willingness to comply with or respond to external pressures, i.e., institutional forces resulting from regulative, normative, and cognitive isomorphism (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Therefore, Organizations in this theory seek to strengthen their legitimacy (Deephouse, 1996), enhance their social acceptance, and uphold their reputation (Beckert, 2010).

This study focuses primarily on regulatory guidelines as a regulative or coercive isomorphic mechanism and Islamic banks’ membership in local and/or international (SF) initiatives or networks as a normative isomorphism structure.

2.1.1. Regulatory guidelines

Regulative isomorphism underlines that organizations (banks) are sometimes legally required to follow regulators’ guidelines and policy

instructions in order to maintain their legitimacy and respond appropriately to regulatory expectations and supervisory rules (Beckert, 2010; DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Thereby, organizations in a particular organizational field may gradually develop a set of common practices that are clearly visible to their various stakeholders in order to obtain regulatory endorsement (maintain their legitimacy from the regulatory perspective/regulatory legitimacy) (Comyns & Figge, 2015; Ntim & Soobaroyen, 2013) and gain a positive public image and goodwill (Hooghiemstra, 2000). In other words, institutions enact laws, enforce rules, and issue regulations to constrain or limit organizations’ conduct and introduce relevant guidelines to standardize or unify their business practices (Roy & Seguin, 2000; Scott, 1995). Banks across jurisdictions face enormous regulatory pressure to show greater stewardship commitment in their credit allocation policies and to promote their involvement in social, climate, and environmental sustainability (Nizam et al., 2019). Given regulators’ significant impact on commercial banks’ growth opportunities and their ability to control their capital and financial resources (Bose et al., 2018), banks must incorporate regulators’ sustainability guidelines into their credit allocation policies, business strategies, and risk management frameworks.

Setyowati (2023) claims that financial institutions cannot create tangible/material sustainability impacts without an effective regulatory ecosystem conducive to sustainability demands. Previous studies, however, report conflicting results on the relationship between the issuance of SF specific regulatory guidelines and banks’ SP. Guenther et al. (2016) and Bose et al. (2018) find a positive and statistically significant impact of regulatory guidelines on banks’ SP, whereas Suk (2018), Damert and Baumgartner (2018), Amidjaya and Widagdo (2019), and Kawabata (2019) document an insignificant association. We set a priori expectations that regulatory guidelines across jurisdictions have a positive impact on Islamic banks’ SP because regulators have the power and ability to mainstream SF in financial systems of jurisdictions (Setyowati, 2023), scale up and shift the business orientation of banks to account for socially sustainable and climate resilient investments (Schumacher et al., 2020), and therefore, strengthen banks’ SP. Accordingly, we formulate our first hypothesis as follows.

H1. the introduction of SF-specific regulatory guidelines significantly and positively impacts the Islamic banks’ SP.

H1a. the introduction of SF-specific regulatory guidelines significantly and positively impacts the Islamic banks’ economic SP.

H1b. the introduction of SF-specific regulatory guidelines significantly and positively impacts the Islamic banks’ social SP.

H1c. the introduction of SF-specific regulatory guidelines significantly and positively impacts the Islamic banks’ environmental SP.

2.1.2. Islamic banks’ membership in SF initiatives

Isomorphic institutional change can also occur in response to common values, specific institutional practices, or attractive institutional models that a social group develops in a specific context or organizational field (Fernando & Lawrence, 2014). Therefore, organizations seek voluntarily to develop imitation processes to improve their practices and adhere to the parameters of these institutional models in order to gain similar consideration from their stakeholders (Beckert, 2010). Moreover, cultural values, social acceptance, ideology, ethics, and corporate collective identity in the context of complex systems theory may aid in developing a set of common beliefs or social structures that, over time, become regular or normative processes (Scott, 1995). Peer pressure and adherence to or compliance with the standards of local or international professional networks can set off this process of institutional change.

Bank Negara Malaysia (BNM), for instance, contends that Islamic banks can show greater commitment and willingness to incorporate Value-Based Intermediation [VBI] principles into their operations if they voluntarily subject themselves to soft institutional pressures, such as involvement in relevant local or international SF associations/

certifications/initiatives (UNPRI, UNPRB, GABV, SBN) (Bank Negara Malaysia, 2018). Moreover, the strategy document on VBI highlights that the development of an effective domestic network namely, the Community of Practitioners (CoP), may facilitate the integration of sustainability criteria into Islamic banks' business strategies as it promotes industry-wide knowledge exchange, establishes a single reference point to discuss, resolves implementation issues, and implements strategic industry-level projects that demonstrate the principles of VBI (Bank Negara Malaysia, 2018). Moreover, it may increase the collaboration between the private financial sector and policymakers as well as strengthen policy and regulatory alignment with SF frameworks (Kawabata, 2019).

In line with Bose et al. (2018), Kawabata (2019), and Setyowati (2020) the second testable hypothesis in relation to normative isomorphism is as follows.

H2. a significant and positive relationship exists between Islamic banks' membership in local and/or international SF initiatives and their overall SP.

H2a. a significant and positive relationship exists between Islamic banks' membership in local and/or international SF initiatives and their economic SP.

H2b. a significant and positive relationship exists between Islamic banks' membership in local and/or international SF initiatives and their social SP.

H2c. a significant and positive relationship exists between Islamic banks' membership in local and/or international SF initiatives and their environmental SP.

2.2. CG or board characteristics

Friedman (1970) claims that corporate social responsibility (CSR) is a "fundamentally subversive doctrine", and managers who seek to incorporate social responsibility conduct into their organizations' business strategies are more likely to deploy corporate resources to meet "others'" interests at the expense of their primary goal which is to maximize shareholder value.² In other words, the integration of triple bottom line perspective of value creation into firms' business models -consistent with negative and tradeoff hypotheses-can compromise and undermine shareholders' interests, reinforcing agency conflict. However, today's increased awareness of the adverse impact of climate change and environmental shocks on the safety and soundness of economic and financial institutions, their negative implications on the stability of the financial system, and their detrimental effects on the sustainability of domestic and international economic growth have laid the groundwork for more comprehensive CG frameworks.

Accordingly, the ultimate objective of CG structures today extends beyond the simple resolution of the ownership and control dilemma. Rather, it undertakes primarily to protect the interests of a broader range of stakeholders including regulators, customers, employees, society, and the natural environment. Montiel (2008) contends that socially responsible companies also seek to fulfill their economic obligations, i.e., meet the needs of their customers and investors and create an economic value. Hence, the distinction between corporate financial and non-financial [their social and environmental impacts] dimensions -at present-is artificial (Carvalho et al., 2014). An effective CG system, therefore, enhances corporate accountability to stakeholders (Huse, 2008) and strengthens the positive impact it may have on

corporate SP (Gangi et al., 2019).³

Due to their "multiplier effect", banks are subject to additional pressure from regulators, supervisors, and civil society groups to increase their stewardship commitment and show greater involvement in social and environmental sustainability (Gangi et al., 2019; Nizam et al., 2019). Moreover, Bose et al. (2018) argue that banks' failure to consider the interests of their various stakeholders can reduce their managerial efficiency and jeopardize their ability to generate long-term value for their shareholders. To balance profitability and SP/sustainability, banks should develop formal company-wide sustainability strategies and integrate sustainability criteria into their CG structures (Cogan, 2008), which include board structure/oversight (the presence of a SC or the appointment of a CSO) and board composition (BS, independence and so on). In other words, CG improves banks' institutional capacities to better manage regulatory and social pressures, positively respond to their diverse stakeholders' interests, and ultimately strengthen their SP.

The following four subsections will provide theoretical background for the potential CG mechanisms, namely BS, BI, BA, SC, and SP associations. The relevant hypotheses are also set accordingly.

2.2.1. Board size

To manage and mitigate uncertainty and endogenous risks that can result from environmental and climate shocks, monitor institutional and society's call for greater commitment to social and environmental sustainability considerations, and therefore, better respond to their various and complex stakeholders' demands, banks may typically appoint additional directors who possess the appropriate expertise, knowledge, exposure to specific sustainability issues, and better representation of stakeholders (De Villiers et al., 2011; Gangi et al., 2019; Guest, 2009). As a result, commensurate with legitimacy and stakeholder theories, larger boards improve governance efficiency; that is, they can effectively monitor and control firms' shift toward more socially responsible conduct (Nguyen et al., 2021).

Similarly, larger boards -in line with the resource dependence theoretical perspective-are more likely to have such exposure, and thus, are better able to advise banks on how to mitigate markets' vulnerabilities to environmental and climate risks; monitor depositors' and customers' responsiveness to the implications of banks' credit allocation policies on borrowers' social and environmental sustainability impacts; assess the effects of institutional sustainability guidelines on banks' business directions; and identify or rather derive the opportunities and measure transitional risks that may result from regulatory shifts and progressive alignment of the financial system with sustainability transformation. Larger boards are also more likely to facilitate access to critical financial resources, allowing for more financial flexibility to pursue sustainability initiatives, and hence, positively influencing bank SP (De Villiers et al., 2011). In other words, the larger the boards, the more diverse the boards' expertise, the higher the quality of their advice (Guest 2009). This is clearly in contrast to the agency theory's argument which holds that there is a tradeoff between BS and governance efficiency (De Andres et al., 2005; Prado-Lorenzo & Garcia-Sanchez, 2010).

Nonetheless, Hussain et al. (2018) argue that the voluntary nature of sustainability guidelines, i.e., institutional drivers, results in either an insignificant relationship (Giannarakis 2014a; Ienciu et al., 2012; Michelin & Parbonetti, 2012) or a negative association (Disli et al., 2022) between BS and SP. Accordingly, they place the utmost importance on group dynamics and cohesiveness, advocating for a smaller BS. Similarly, other studies (Ahmed et al., 2006; Dey, 2008) argue that the smaller the BS, the more effective the communication, monitoring and controlling systems, and thus, the board members are more involved and accountable.

² He contends that the only social responsibility of businesses is to maximize shareholders' profits (Clarkson, 2016).

³ Callan and Thomas (2014), recommend the establishment of corporate compensation policies that account for executives' financial results in addition to their sustainability impacts.

This study focuses on Islamic banks with various institutional frameworks, different regulatory enforcement of sustainability guidelines, and diverse sustainability strategies. Furthermore, they are mostly at the stage of introduction or emergence from an institutional perspective, and therefore, we expect larger boards [in line with Cormier et al., 2011; Giannarakis 2014b; Htay et al., 2012; Jizi et al., 2014; Kathy Rao et al., 2012; Masud et al., 2018; Said et al., 2009] to better respond to the continuous growth of the SF market and steady development of the SF ecosystem in the selected jurisdictions, and hence, have a positive impact on Islamic banks' SP.

Therefore, we formulate the third hypothesis as follows.

H3. BS is positively related to Islamic banks' overall SP.

H3a. BS is positively related to Islamic banks' economic SP.

H3b. BS is positively related to Islamic banks' social SP.

H3c. BS is positively related to Islamic banks' environmental SP.

2.2.2. Board independence

According to agency theory, independent directors can reduce the risks of insiders' opportunistic behavior toward outsiders or rather mitigate the agency conflict (Allegrini & Greco, 2013; Gangi et al., 2019; Hussain et al., 2018). Furthermore, they serve as a check-and-balance mechanism, allowing top executives to reduce their specific focus on shareholders' interests -financial goals-on the one hand, while accounting for other stakeholders' social and environmental expectations -nonfinancial goals-on the other (Bose et al., 2018; Liao et al., 2015). In other words, -and consistent with stakeholder, legitimacy and resource dependence theories-outside directors can exercise their power, because they are less subjected to shareholders and managers' pressures, to reinforce corporate transparency and sustainability disclosure (Bose et al., 2018; Hussain et al., 2018; Michelon & Parbonetti, 2012); strengthen their SP (Naciti, 2019); check whether companies' business strategies and practices comply with social and environmental sustainability guidelines (Khan et al., 2013); show greater accountability to the wider community and uphold their corporate image (Nguyen et al., 2021); and drive corporates to balance the interplay of business strategies, societal expectations, and regulatory legitimacy (better stakeholder orientation) (Disli et al., 2022). Moreover, independent directors help firms manage their external dependencies, develop effective business networks with powerful stakeholders and gain access to critical resources that may ultimately improve their sustainability credentials (Nguyen et al., 2021).

However, previous studies have yielded conflicting results regarding the relationship between BI and SP. For instance, Htay et al. (2012), Kathy Rao et al. (2012), Khan et al. (2013), Yekini et al. (2015), Jizi (2017), Fernández-Gago et al. (2018), and Peng and Zhang (2022) report that outsiders have a significantly positive impact on SP. Meanwhile, Eng and Mak (2003), Walls et al. (2012), and Naciti (2019) find a negative association between BI and social sustainability disclosure. Cormier et al. (2011), Michelon and Parbonetti (2012), Bose et al. (2018), and Khan et al. (2019) on the other hand, document no significant relationship between the number of outside directors and bank sustainability disclosure/performance.

We expect a positive relationship to prevail, consistent with stakeholders' theory. Therefore, the fourth testable hypothesis related to BI is as follows.

H4. BI correlates positively with Islamic banks' SP.

H4a. BI positively correlates with Islamic banks' economic SP.

H4b. BI positively correlates with Islamic banks' social SP.

H4c. BI positively correlates with Islamic banks' environmental SP.

2.2.3. Board activity

The ability of board members to apply due diligence to sustainability

management and monitor and improve firms' SP requires effective communication processes that facilitate the sharing, discussion and establishment of relevant sustainability strategies at the board level (Nguyen et al., 2021). Several recent studies have used board meetings frequency as a proxy to assess the impact of BA on SP (Hussain et al., 2018; Jizi et al., 2014; Nguyen et al., 2021). According to Nguyen et al. (2021), the complexity of the business environment,⁴ uncertainty,⁵ and today's more socially-conscious and environmentally-sensitive societies, which demand greater transparency in the disclosure of organizations' sustainability impacts, necessitate greater board involvement to better manage their stakeholders' interests and monitor their SP (commensurate with stakeholders and legitimacy theories).

Previous studies produce mixed or inconclusive results (Hussain et al., 2018; Lagasio & Cucari, 2019). Ricart et al. (2005), Jizi et al. (2014), Jizi (2017), Khairredine et al. (2020), Agyemang et al. (2020), and Nguyen et al. (2021) report a positive and statistically significant relationship between BA and SP, organizational transparency, CSR disclosure and firms' environmental SP, respectively, while Osazuwa et al. (2016) document a significantly negative association between board meetings and environmental sustainability disclosure. On top of that, Garcia-Sanchez et al. (2014), Giannarakis (2014a), Hussain et al. (2018), Ofoegbu et al. (2018), and Disli et al. (2022) find no statistically insignificant impact of BA on SP.

In line with legitimacy, stakeholders, and resource dependence theories, we expect BA to positively impact Islamic banks' SP, and thus, establishing the fifth hypothesis as follows.

H5. BA positively correlates with Islamic banks' SP.

H5a. BA positively correlates with Islamic banks' economic SP.

H5b. BA positively correlates with Islamic banks' social SP.

H5c. BA positively correlates with Islamic banks' environmental SP.

2.2.4. Sustainability committee

The creation of SC demonstrates top executives' commitment to incorporating sustainability considerations into their CG structures and creating an organizational culture that seeks to better manage the interests of their stakeholders and cater to their various social and environmental ambitions (Elmaghrabi, 2021; Hussain et al., 2018; Michelon & Parbonetti, 2012). The SC aims to establish a company-wide sustainability governance structure; embed sustainability in business practices; develop, review, endorse, execute, and oversee corporate sustainability strategies, frameworks, guidelines, and policies; translate sustainability commitments, strategies, and guidelines into corporate key performance indicators; introduce sustainability risk management frameworks that will guide the corporate management of environmental and social risks; and lastly monitor, advise, and report on bank's implementation of sustainability strategies and guidelines (Maybank Sustainability Report, 2021). Moreover, the SC can moderate the agency cost/conflict and reconcile shareholders' and managers' interests. On top of that, the introduction of the SC at the board level provides board members with direct exposure to sustainability issues and higher involvement with stakeholders, and therefore, reduces the information asymmetry (Cui et al., 2018) and legitimacy gap (Ricart et al., 2005).

Despite the level of introduction of the SC, that is, whether at board or management level, several studies (Amran et al., 2014; Arena et al., 2015; Baraibar-Diez & D.Odrizola, 2019a, 2019b; Dixon-Fowler, 2017; García Martín and Herrero, 2020; Hussain et al., 2018; Homroy & Slechten 2019; Ienciu et al., 2012 Jia & Li, 2022; Li, 2020; Li et al., 2022; Liao et al., 2015; Mallin & Michelon, 2011; Orasalin, 2020; Spitzack, 2009; Walls et al., 2012) across various jurisdictions report a

⁴ Particularly with the multi-dimensional demands of effective integration of sustainability criteria into organizations' business strategies.

⁵ due to climate and environmental shifts.

significantly positive impact of the SC on sustainability disclosure and performance. However, McKendall et al. (1999), Michelin and Parbonetti (2012), Rupley et al. (2012), and Rodrigue et al. (2013) found no statistically significant relationship between the presence of a SC or CSR committee and SP or disclosure.

Keeping the results of the previous studies in mind, and consistent with the stewardship and resource dependence theories, we can expect a positive impact of the SC on SP, and therefore, set the sixth hypothesis as follows.

H6. Having a SC significantly and positively impact Islamic banks' SP.

H6a. Having a SC significantly and positively impact Islamic banks' economic SP.

H6b. Having a SC significantly and positively impact Islamic banks' social SP.

H6c. Having a SC significantly and positively impact Islamic banks' environmental SP.

3. Data and empirical methodology

3.1. Empirical model

To estimate our dynamic model and test whether institutional isomorphism and CG structures determine Islamic banks' SP, we employ the system Generalized Method of Moments (GMM) estimator. Our regression model for the dynamic panel data analysis is as follows:

$$Y = \alpha + \beta Y_{ijt-1} + \gamma IE_{ijt} + \theta CG_{ijt} + \delta B_{ijt} + \lambda M_{ijt} + \varepsilon_{ijt}$$

where the dependent variable Y stands alternatively for overall SP and its components, specifically, economic, social, and environmental sustainability scores of the Islamic bank i , in the country j at time t . IE denotes the institutional environment's variables, i.e., regulative [the existence of SF specific regulatory guidelines or policy instructions -RG-] and normative [Islamic banks' membership in the local and/or international SF network -PN] isomorphism. CG represents the characteristics of an Islamic bank's board or CG structures. CG includes four components BS, BI, BA, and SC. B and M are vectors of control variables that consists of bank-specific and country-specific variables, respectively. Bank-specific control variables contain return on average equity (ROAE), leverage (LEV), bank size (Size), and experience of sustainability disclosure (SustEXP). Meanwhile, country-specific control variables include GDP growth and corruption levels.

3.2. The dynamic two-step system GMM

The dynamic two-step system GMM estimator is asymptotically more efficient than the first-step estimator because it uses the residuals derived from the first step to ensure consistency in the estimation of the variance-covariance matrix, thereby relaxing the independence and homoscedasticity assumptions (Disli et al., 2022). This method controls for various types of endogeneity, including simultaneity, reverse causality, and unobserved heterogeneity by using lagged values of endogenous variables as internal instruments. Arellano and Bond (1991) proposed using each variable's first difference lag levels as instrumental factors to determine the best alternatives to the lagged dependent variable's biases. The addition of difference estimators to the system GMM model aids in controlling for bias in cross-sectional estimations caused by eliminated variables. Moreover, because standard GMM in the difference estimator can only account for potential bias from omitted variables, Arellano & Bover (1995) and Blundell and Bond (1998) developed the system GMM. This methodology combines level-form and difference-form moment conditions to reduce inconsistency and biases associated with difference estimators (Harkati, Alhabshi, & Kassim, 2020).

Table 1

Sample of Islamic banks by country.

No.	Country	# Islamic Banks	# Observations	(%)
1	Bahrain	4	24	12.5%
2	Bangladesh	2	12	6.25%
3	Indonesia	1	6	3.125%
4	Kuwait	3	18	9.375%
5	Malaysia	11	66	34.375%
6	Oman	1	6	3.125%
7	Qatar	3	18	9.375%
8	Saudi Arabia	3	18	9.375%
9	United Arab Emirates	4	24	12.5%

Table 2 briefly describes of our layers of variables in addition to data sources.

3.3. Data

Our study examines the impact of institutional factors and CG structures on Islamic banks' SP across key Islamic finance jurisdictions from 2016 to 2021. The Islamic Finance Development Indicator scores of these jurisdictions over the study period show a consistent improvement in their performance and continuous growth/development of their Islamic finance industry (Refinitiv, 2021). According to Refinitiv's key indicators (Quantitative development, knowledge, governance, awareness, and CSR), they have a 70% global market share in Islamic finance assets and rank among the top 10–15 countries (Refinitiv, 2021).⁶ Table 1 shows the list of countries together with the sample of Islamic banks and the number of observations made during the study period. We collected 192 bank-year observations from 32 Islamic banks across nine jurisdictions from 2016 to 2021.

3.3.1. Dependent variables

Our process of sustainability data collection follows a systematic approach, or rather, an orderly protocol for secondary data source analysis. First, we set the timeframe for our data collection. Second, we identified the most pertinent sources of sustainability data of the subjected Islamic banks. Third, we selected a framework that provides relevant metrics/indicators which can help standardize the measurement of SP and better implement our protocol. Fourth, we implemented the most effective method to code and quantify Islamic banks' SP. Fifth, we extensively read the available sources of sustainability data and apply the most relevant range of codes. Finally, we calculate our sample of Islamic banks' SP.

Six-year sustainability data which extends over the period 2016 to 2021 were gathered to explore whether Islamic banks were responsive to international, and regulators' call for financial institutions to leverage their financial resources in accordance with low-carbon economy. To consistently code and quantify SP, we applied the weighted content analysis method (WCAM) on the subjected Islamic banks' annual and sustainability reports using sustainability indicators outlined by the GRI Specific Standard Disclosures for the Financial Services sector (Jan et al., 2019a, 2019b). WCAM extends the range of dummy codes beyond [0 1], and therefore, helps better evaluate Islamic banks' SP (Jan et al., 2019a). Consistent with (Jan et al., 2019a, 2019b), we use a dummy code of [0 2]. A dummy code of "0" indicates that a bank does not report on that item. A dummy code of "1", on the other hand, implies a partial disclosure about that item, whereas a dummy code of "2" denotes that a bank associates measurable outcomes/impacts to that particular item (monetary, weight, volume, processes ...). Jan, Marimuthu, bin Mohd, and Isa (2019) developed a modified framework in which they introduce several Islamic bank specific characteristics into the aforementioned standard. This standard consists of 65 items organized into four

⁶ Islamic banks from the top five countries namely, Malaysia, Indonesia, Saudi Arabia, Bahrain, and the United Arab Emirates respectively are included in our sample (Refinitiv, 2021).

Table 2

Definition of variables and data sources.

Variable name	Definition	Source
Sustainability variables		
Overall sustainability score	Sum of sustainability items' codes across all sustainability components divided by the total possible disclosure score of sustainability dimensions	Banks' annual and sustainability reports
Economic sustainability score	Sum of economic sustainability items' codes divided by the total possible disclosure score of economic sustainability dimension	Banks' annual and sustainability reports
Social sustainability score	Sum of social sustainability items' codes divided by the total possible disclosure score of social sustainability dimension	Banks' annual and sustainability reports
Environmental sustainability score	Sum of environmental sustainability items' codes divided by the total possible disclosure score of social sustainability dimension	Banks' annual and sustainability reports
CG		
Board size	The natural logarithm of the total number of board members at the end of the fiscal year	Banks' annual reports
Board independence	Percentage of independent board members	Banks' annual reports
Board activity	The natural logarithm of the total number of board's meetings over the course of a fiscal year	Banks' annual reports
Sustainability committee	Dummy variable equals 1 if the bank establishes a SC; and zero otherwise	Banks' annual and sustainability reports
Institutional variables		
Regulatory Guidelines	Dummy variable equals 1 if the bank is subject to regulatory isomorphism; and zero otherwise	Banks' annual reports, sustainability reports and central banks or supervisory websites
Banks' membership in international and/or local SF initiatives	Dummy variable equals 1 if the bank is a member of international and/or local SF network; and zero otherwise	Banks' annual and sustainability reports
Control variables		
Banks' specific variables		
ROAE	Net income/average common stock equity	Fitch connect
Leverage	Equity/total assets	Fitch connect
Bank size	The natural logarithm of Islamic banks' total assets	Fitch connect
Sustainability experience	Dummy variable equals 1 if the bank accounts 4 years of experience of sustainability disclosure at least; and zero otherwise	Banks' annual and sustainability reports
Country's specific variable		
GDP Growth	Annual growth rate of gross domestic product	World Bank
Corruption/Transparency	The corruption perception index. It measures experts and business executives' perception about countries/territories levels of public sector corruption. The score ranges from 0 (highly corrupt) to 1 (very clean).	Transparency International

dimensions, namely, integrated sustainability strategies (7 items), economic sustainability (10 items), social sustainability (36 items), and environmental sustainability (12 items). Our study will not account for the first dimension, but the other three pillars will be carefully considered.

3.3.2. Explanatory variables

- Focus variables

The study's variables of interest consist of two categories namely, Institutional variables and board characteristics.

- Institutional variables

This set of variables includes regulatory guidelines (RG) as a regulatory isomorphism framework and Islamic banks' participation in international and/or local SF initiatives (PN) as a proxy for normative isomorphism. RG is measured as a dummy variable with 1 indicating that the country has introduced SF specific regulatory guidelines for banks and zero indicating otherwise. Similarly, PN is defined as a dummy variable that equals one "1" if an Islamic bank is a member in any local or international SF initiative and zero otherwise.

- Board-level variables

In line with (Baraibar-Diez and Odriozola, 2019; Bose et al., 2018; Disli et al., 2022; Hussain et al., 2018), our variables of interest in relation to CG structures are BS, BI, BA, a SC at bank level. While BS denotes the number of board members, BI represents the percentage of independent directors at the board level. BA on the other hand, refers to the number of board meetings held over the course of a fiscal year. Finally, we construct a dummy variable for SC that equals 1 if a bank reports the existence of SC and zero otherwise.

- Control variables

Similarly, our dynamic model controls for bank and country-specific variables.

- Bank-specific variables

To account for observable bank-level heterogeneity, we control for bank-specific variables namely, profitability (ROAE), leverage (LEV), bank size (TA), and bank experience of sustainability disclosure (sus-*tex*p). From slack resource theory standpoint, companies with better financial performance (FP) are more likely to produce spare/additional resources that managers can reallocate to improve their SP (Waddock & Graves, 1997). In other words, competitive returns for banks can strengthen their boards' capacity to pay more attention and better respond to their various stakeholders' sustainability demands (Dhaliwal et al., 2011; Disli et al., 2022). In a more specific context, Mallin and Michelon (2011) argue that Shari'a objectives that seek primarily to increase public interests, promote justice, and uphold social welfare are more likely to compel Islamic banks with stronger FP to direct their slack resources toward more socially responsible investments, and therefore, strengthen their sustainability impacts. We calculate (ROAE) as the ratio of net income to average common stock equity.

Meanwhile, the leverage-SP association, remains a contentious and inconclusive issue.⁷ Bose et al. (2018), in line with Gani and Jermias

⁷ Bose et al. (2018) documents a positively and statistically significant relationship between leverage and sustainability disclosure of banks in Bangladesh, whereas Artinach et al. (2010) and Disli et al. (2022) reports an insignificant SP-leverage association.

Table 3
Descriptive statistics.

Variable	Mean	Std. Dev.	Min	Max
Sustainability variables				
SustScore	0.38	0.15	0.17	0.68
EconSust	0.63	0.12	0.35	0.85
SocialSust	0.33	0.14	0.13	0.65
EnviroSust	0.28	0.25	0.00	0.75
Corporate Governance variables				
BS	0.91	0.16	0.60	1.30
BI	51.95	24.13	8.33	90.91
BA	0.99	0.22	0.60	1.72
SC	0.42	0.50	0.00	1.00
Institutional variables				
RG	0.49	0.50	0.00	1.00
PN	0.43	0.50	0.00	1.00
Bank-level variables				
Size	10.11	0.51	9.13	11.22
LEV	10.27	3.66	4.15	24.62
ROAE	13.08	7.22	−15.17	32.66
SustExp	0.44	0.50	0.00	1.00
Country-specific variables				
GDPGro	1.98	3.76	−8.40	7.90
Corrupt	0.49	0.11	0.26	0.71

Note: BS, board size; BI, board independence; BA, board activity; SC, sustainability committee; LEV, leverage; ROAE, return on average equity.

(2006) and Dhaliwal et al. (2011), suggest a positive relationship. They claim that debtholders can discipline and monitor corporate activities, thereby, positively impacting their SP. On the contrary, Artiach et al. (2010) posit that leverage has a negative impact on firms' SP. They argue that debtholders, as capital providers, are more powerful than other stakeholder groups, and therefore, corporate management may focus their attention on meeting their needs at the expense of other, less powerful claimants (e.g., employees and society). Meanwhile, Kawabata (2019) proclaims that because equity holders are more sensitive to investment risks posed by climate and environmental shocks, they are more likely to consider the SP of financial institutions in their investment decisions than debtholders. He claims that, because the FP of investments substantially influences equity investors' returns, whereas debtholders typically receive fixed returns set at the outset, equity holders will eventually exert more pressure on financial institutions to reinforce their consideration of climate and environmental risks in their investment strategies/decisions, and therefore, strengthen their SP. Hence, in line with Kawabata (2019), we anticipate a positive leverage-SP association from the perspective of equity holders. Leverage is defined as the ratio of equity to total assets.

As for bank size, previous studies show that larger banks outperform smaller banks in terms of SP because they have more resources to establish effective sustainability management control systems and are therefore subject to higher public and stakeholders' scrutiny (Bose et al., 2018; Weber & Chowdury, 2020). Hence, we expect a positive relationship between the size of Islamic banks and SP. Bank size is defined as the natural logarithm of total bank assets.

Finally, we introduce Islamic banks' experience of sustainability disclosure as a dummy variable, assigning a code of "1" to banks with at least four years of corporate sustainability disclosure and a code of "0" otherwise. According to Adams (2017), experience of sustainability disclosure can help bank boards better integrate sustainability issues into their CG structure. Accordingly, and in line with Li (2020), Jia and Li (2022) and Li et al. (2022), we anticipate a positive and statistically significant relationship between experience of sustainability disclosure and Islamic banks' SP.

- Country-specific variables

Consistent with Jia and Li (2020) and Disli et al. (2022), this study introduces/uses economic development and corruption levels

(CORRUP) as key country-specific control variables. Despite the literature's controversial and inconclusive results on the impact of economic development on SP, we control for GDP growth (GDP Gro).

Corporates in countries with established legal and regulatory enforcement systems, more open public discourse, and less corruption, are more likely to deliver better corporate SP (Jia & Li, 2020). Their stakeholders are powerful and informative; therefore, they can pressure firms to show greater stewardship commitment toward sustainability demands (Jia & Li, 2020). This variable ranges from 0 (very clean) to 1 (extremely corrupt).

Table 3 shows the descriptive statistics of the various dependent SP variables in addition to the explanatory variables on the four levels namely, institutional, CG, bank and country.

The mean values for Sust Score, Econ Sust, Social Sust, and Enviro Sust are 0.38, 0.63, 0.33, and 0.28, respectively. Table 3 highlights the low mean environmental and social sustainability scores of our sample of Islamic banks. The board-level variables shows that a board has an average of eight members (0.91), 51.95% of whom are independent, and meets -approximately- 10 times (0.99) per year. In relation to bank-specific variables, we see that the sample mean profitability ratio (ROAE) is 13.08%, and the mean leverage ratio (LEV) is 10.27%. The average sample bank size, on the other hand, is \$12.88 billion, with minimum and maximum values of US\$1.35bn and US\$165.96bn, respectively. Regarding country-level variables, we observe that the average GDP growth across the selected jurisdictions is 1.98%, while the sample mean corruption level stands is 49%.

The correlation coefficients between regressors are relatively small, with the exception of RG's correlation with SustExp (0.657) and SC (0.644). These maximum pairwise correlation coefficients suggest the absence of multicollinearity in our dynamic regression model.

4. Empirical results and discussion

Table 5 shows the empirical results of our estimation.

4.1. Institutional isomorphism and Islamic banks' SP

Table 5 shows that institutional factors specifically, SF regulatory guidelines/RG and Islamic banks' membership in local and/or international SF initiatives, are not statistically significant across all four models. In other words, regulative isomorphism (consistent with Kawabata 2019 but inconsistent with Bose et al., 2018) and normative pressures (unlike Bose et al., 2018; Kawabata, 2019) are not yet determinants of Islamic bank SP. Accordingly, we find no support for H1 and H2.

Bank self-regulation, or rather, the lack of formal RG for SF in GCC countries, the progressive and gradual regulatory development and implementation of sustainability guidelines and strategies in Malaysia⁸ Indonesia⁹ and Bangladesh¹⁰, and the absence of an effective regulatory and sustainability ecosystem across jurisdictions have resulted in an insignificant impact of countries' RG on Islamic banks' SP thus far.

SF, however, is a policy driven discipline (Zhang, Zhang, & Managi, 2019) i.e., without substantive regulatory oversight, it is difficult to generate tangible sustainability impacts (Setyowati, 2023). In other words, policies and regulations are key determinants of Islamic banks' SP and critical enablers of their contribution to sustainability transition

⁸ BNM identifies four phases for VBI implementation: initiation, emergence, engagement, and establishment. According to the Association of Islamic Banking and Financial Institutions Malaysia (AIBIM), they are currently at the second stage, which is emergence (BNM, 2018).

⁹ Regulatory and industry association actions in Indonesia are at the intermediary stage (SBFN, country progress report, Indonesia, 2022).

¹⁰ SBFN report 2022 highlights that Bangladesh is at the implementation stage of its overall progression matrix i.e., it does not reach the stage of maturity yet.

Table 4
Correlation matrix.

Variables	ROAE	Z	LEV	GDPGro	Corrup	SustExp	BSize	BInd	BAct	RG	PN	SC
ROAE	1											
Z	0.553 ^c	1										
LEV	−0.236 ^b	0.0478	1									
GDPGro	0.286 ^c	−0.133	−0.157 ^a	1								
Corrup	0.0356	0.361 ^c	0.122	−0.262 ^c	1							
SustExp2	0.359 ^c	0.0306	−0.543 ^c	0.324 ^c	−0.201 ^b	1						
BSize	0.0467	−0.0156	0.0341	0.0565	−0.422 ^c	−0.216 ^b	1					
BInd	−0.0980	−0.135	−0.199 ^b	−0.0124	0.267 ^c	0.245 ^b	−0.535 ^c	1				
BAct	0.311 ^c	0.233 ^b	−0.294 ^c	0.151 ^a	−0.285 ^c	0.577 ^c	−0.0770	−0.0540	1			
RG	0.233 ^b	0.0901	−0.459 ^c	0.214 ^b	−0.183 ^a	0.657 ^c	−0.181 ^a	0.180 ^a	0.619 ^c	1		
PN	−0.130	−0.201 ^b	−0.345 ^c	−0.0609	0.182 ^a	0.242 ^b	−0.345 ^c	0.439 ^c	0.00229	0.269 ^c	1	
SC	0.364 ^c	0.169 ^a	−0.394 ^c	0.129	−0.0723	0.542 ^c	−0.171 ^a	0.0993	0.515 ^c	0.644 ^c	0.208 ^b	1

^a $p < 0.05$.

^b $p < 0.01$.

^c $p < 0.001$.

(Bhatnagar & Sharma, 2022; Bose et al., 2018; Naidoo, 2020). Therefore, policymakers in key Islamic finance jurisdictions (particularly in GCC countries) have no choice but to manage this regulatory dependency and set appropriate regulatory strategies to standardize SP measures, build an effective SF ecosystem for better policy-alignment (Nicholls, 2021), regularly assess/measure Islamic banks' integration of sustainability criteria and their compliance with SF regulations (Setyowati, 2023), gradually and consistently develop and introduce clear ESG criteria¹¹ to address regulatory gaps and reinforce the current SF frameworks for Islamic banks (Schumacher et al., 2020), and create incentives¹² to shift Islamic banks' business models toward more sustainability practices and stimulate investors to increase the supply side of SF (Nicholls, 2021; Setyowati, 2023). Such policy and regulatory actions have the potential to turn the insignificant impact of RG on the SP of Islamic banks positive.

As for the peer pressure mechanism, Islamic banks are not yet active members of international SF initiatives [only CIMB and Bank Muamalat Malaysia Berhad adhere to the United Nations Principles for Responsible Banking and the Global Alliance for Banking on Values respectively]. Moreover, local normative isomorphism structures are either nonexistent [in GCC countries] or have not yet established themselves [in Malaysia, Indonesia, and Bangladesh].

Policymakers would, therefore, want to establish effective local networking and drive financial institutions to comply with the specifications of local -if any- and global sustainability/SF networks. Islamic banks' commitment to global institutional networks will increase their exposure to more holistic and comprehensive technical guidelines, sustainability specifications, and implementation support processes¹³

¹¹ Banks' representatives in Indonesia underline that due to the broad definition of green projects or green assets in the technical guidelines, they struggle to develop relevant and standardized procedures that may help introduce sustainability criteria into their investment portfolios (Setyowati, 2020).

¹² Representatives from financial institutions in Indonesia emphasize that the regulatory incentives that aim to promote and expedite the implementation of sustainable finance guidelines are insufficient (Setyowati, 2020).

¹³ <https://www.unepfi.org/wordpress/wp-content/uploads/2021/08/04-Individual-feedback-and-support-Process-%E2%80%93-Overview.pdf>.

(Bank Negara Malaysia, 2018). They can help Islamic banks develop their sustainability strategies, establish SF policies, and better integrate sustainability practices into their daily business operations and credit allocation policies (Setyowati, 2020).

Local networks on the other hand, help Islamic banks establish strategic collaborations/partnerships with key stakeholders, identify regulatory gaps, mitigate policy uncertainty, and resolve implementation issues. Moreover, Islamic banks can amplify their impacts beyond their individual organizational capabilities through increased industry-wide knowledge exchange, additional strategic collaborations, and effective local communication of sustainability best practices (Bank Negara Malaysia, 2018). On top of that, active support for “communities of practitioners”, provides policymakers with relevant platforms for more effective private financial sector-policymakers' discussions, reducing the likelihood of exposure to counter-productive policies and regulations.

Additionally, it is recommendable for regulators and policymakers to actively engage in global sustainability/SF initiatives. This will help to better align local and global SF networks' specifications, policies, objectives, assessment frameworks, regulations, guidelines, sustainability or impact metrics, and implementation strategies to name a few.

In short, policymakers can leverage their innovations in policies, regulations, and industry actions to improve Islamic banks' SP by better managing local and global structures of normative pressures.

4.2. Board-level variables and Islamic banks' SP

4.2.1. Board size and board independence

Similarly to institutional isomorphism, our estimation results across the four models show a statistically insignificant relationship between BS (Galbreath, 2011; Garcia-Sanchez et al., 2014; Giannarakis, 2014a; Saha & Akter, 2013) and BI (Janggu et al., 2014; Said et al., 2009) and SP. Therefore, H3 and H4 are rejected, implying that these board characteristics have no bearing on the SP of Islamic banks in the selected jurisdictions.

4.2.2. Board activity

In contrast to our hypothesis of a positive BA-SP association, the

Table 5
System GMM results.

	Model 1	Model 2	Model 3	Model 4
Sustscore _{t-1}	0.609 (3.54) ***			
Econsusta _{t-1}		0.548 (2.41) **		
Socialsusta _{t-1}			0.682 (4.29) ***	
Envirosusta _{t-1}				0.753 (6.74) ***
RG	0.000447 (0.02)	−0.0017 (−0.12)	−0.015 (−0.64)	0.016 (0.47)
PN	−0.01 (−0.81)	0.0083 (0.44)	−0.0119 (−0.81)	−0.001 (−0.57)
BS	−0.004 (−0.69)	0.0009 (0.53)	−0.0050 (−0.80)	−0.0016 (−0.46)
BI	0.002 (0.53)	0.00054 (0.17)	0.0017 (0.59)	0.003 (0.57)
BA	−0.0028 (−2.56)**	−0.0022 (−2.07)**	−0.0025 (−2.11)**	−0.0019 (−1.52)
SC	0.0548 (2.19) **	0.0635 (2.12)**	0.0418 (2.09)**	0.0536 (1.98)**
ROAE	−0.0013 (−0.89)	−0.0021 (−2.29)**	−0.0017 (−1.63)	−0.00076 (−0.54)
LEV	−0.006 (−1.91)*	−0.0031 (−1.36)	−0.0072 (−2.25)**	−0.0053 (−1.86)**
Z	0.0701 (2.34) **	0.0585 (2.79)**	0.0653 (2.45)**	0.0621 (2.45)**
Exp	0.0526 (2.13) **	0.0305 (1.80)*	0.0373 (1.62)	0.056 (2.10) **
GDP grow	0.00036 (0.26)	−0.00026 (−0.26)	−0.00008 (−0.07)	−0.0013 (−0.69)
Corrupt	−0.168 (−1.54)	−0.239 (−2.04)**	−0.1511 (−1.82)**	−0.130 (−1.20)
Constant	−0.3608929 (−2.10)	−0.141 (−1.30)	−0.3171 (−2.18)	−0.413 (−1.96)*
AR1	0.069	0.082	0.046	0.040
AR2	[0.842]	[0.649]	[0.968]	[0.883]
Hansen test	[0.153]	[0.841]	[0.622]	[0.814]
N Observ	143	143	143	143
Instr/groups	21/31	21/31	21/31	16/31
GMM Type	system	system	system	system
Twostep	twostep	twostep	twostep	twostep
Robust	robust	robust	robust	robust

estimation results in Table 4 show a negative and statistically significant impact of BA on Islamic banks' overall, economic, and social SP. To illustrate, a one-standard deviation increase in board meetings can result in a 0.0028, 0.0022 and 0.0025 decrease in Islamic banks' overall, economic and social SP respectively. However, unlike Osazuwa et al. (2016), BA does not explain Islamic banks' environmental SP. Therefore, we do not find support for H5c. These result conflicts with agency theory, which holds that BA is an indicator of board due diligence and claims that the higher the frequency of board meetings, the more they can attend to the needs of other stakeholders (Hussain et al., 2018), and therefore, the better the SP.

4.2.3. Sustainability committee

Our findings, which are consistent with Liao et al. (2015), Dixon-Fowler (2017), Hussain et al. (2018), Homroy and Slechten (2019), Baraibar-Diez and Odriozola (2019), Li (2020), and Elmaghrabi (2021), show a significantly positive impact of the SC on the SP of Islamic banks in the four models. To put it in another way, Islamic banks that establish SC can better manage their various stakeholders' interests, positively respond to sustainability demands (in line with stakeholder theory), and therefore, show better SP than their counterparts. It is important to note the economic significance of our empirical results: Islamic banks that delegate management of their sustainability strategy/framework to a SC show a better overall (0.0548), economic (0.0635), social (0.0418) and environmental SP (0.0536). Therefore, this result supports H6, H6a, H6b, and H6c. Furthermore, it has several managerial implications,

Table 6
Robustness check with regulatory guidelines.

	Model 1	Model 2	Model 3	Model 4
Sustscore _{t-1}	0.625 (3.95) ***			
Econsusta _{t-1}		0.546 (2.97) ***		
Socialsusta _{t-1}			0.661 (4.49) ***	
Envirosusta _{t-1}				0.750 (6.81) ***
RG	0.0037 (0.15)	−0.0038 (−0.25)	−0.0119 (−0.53)	0.0183 (0.51)
BS	−0.0038 (−0.68)	0.0005 (0.30)	−0.0049 (−0.82)	−0.00136 (−0.41)
BI	0.0015 (0.40)	0.0004 (0.13)	0.0015 (0.51)	0.0024 (0.51)
BA	−0.0028 (−2.62)**	−0.0022 (−2.63)**	−0.0025 (−2.12)**	−0.0019 (−1.49)
SC	0.0530 (2.12) **	0.0642 (2.61) **	0.0424 (2.08) **	0.0531 (1.92) *
ROAE	−0.0013 (−0.90)	−0.0022 (−2.28)**	−0.0017 (−1.76)*	−0.0006 (−0.47)
LEV	−0.00520 (−1.96)*	−0.0036 (−1.36)	−0.0068 (−2.55)**	−0.0048 (−1.62)
Z	0.0708 (2.49) **	0.0556 (3.88) ***	0.0722 (2.66) **	0.0648 (2.63) **
Exp	0.0492 (2.12) **	0.0316 (2.03) **	0.0355 (1.64) **	0.055 (2.04) **
GDP grow	0.00024 (0.18)	−0.00025 (−0.30)	−0.00021 (−0.17)	−0.0013 (−0.71)
Corrupt	−0.1813 (−1.84)*	−0.2346 (−2.55)**	−0.1676 (−2.03)**	−0.1386 (−1.28)
Constant	−0.3813 (−2.19)**	−0.0976 (−0.86)	−0.3823 (−2.48)**	−0.4479 (−2.15)**
AR1	0.057	0.057	0.040	0.041
AR2	[0.774]	[0.625]	[0.906]	[0.859]
Hansen test	[0.174]	[0.867]	[0.672]	[0.848]
N Observ	143	143	143	143
Instr/groups	20/31	20/31	20/31	15/31
GMM Type	system	system	system	system
Two-Step	twostep	twostep	twostep	twostep
Robust	robust	robust	robust	robust

particularly for Islamic banks in GCC countries, the most important of which is to establish an effective sustainability governance structure that allow Islamic banks to effectively drive their sustainability strategy/framework from the board/top. This requires the formation of a separate board SC alongside other board committees. Its primary responsibilities include overseeing and endorsing the overall sustainability framework and strategy; monitoring and reviewing the bank sustainability governance structure, policies, and metrics; assessing, managing and advising on the sustainability strategy implementation at management level; and ensuring better integration of sustainability criteria into banks' business strategies across departments.

4.3. Control variables

The estimation results for the bank-level and country-specific control variables provide additional insights. To illustrate, bank size shows to have a significantly positive impact on SP score in all four models. This result is consistent with prior studies (Bose et al., 2018). Commensurate with Li (2020), our estimates reveal a positive and statistically significant relationship between experience of sustainability disclosure and overall, environmental, and economic sustainability scores. In other words, the more experience Islamic banks have with sustainability disclosure, the better their overall, economic, and environmental SP. ROAE, on the other hand, has a significantly negative correlation with the economic sustainability score alone. This suggests that Islamic banks prioritize financial performance over economic sustainability criteria (such as indirect economic impact, procurement practices ...). In terms of leverage, the coefficient estimates document a statistically significant

Table 7

Robustness check with Islamic banks' membership in SF networks.

	Model 1	Model 2	Model 3	Model 4
Sustscore _{t-1}	0.603 (3.28) ***			
Econsusta _{t-1}		0.546 (2.38) **		
Socialsusta _{t-1}			0.687 (4.40) ***	
Envirosusta _{t-1}				0.761 (6.82) ***
PN	−0.010 (−0.80)	0.0098 (0.49)	−0.0117 (−0.80)	−0.0116 (−0.61)
BS	−0.0043 (−0.69)	0.0010 (0.58)	−0.0046 (−0.79)	−0.0019 (−0.53)
BI	0.0019 (0.59)	0.0007 (0.22)	0.0015 (0.50)	0.0029 (0.59)
BA	−0.0028 (−2.19)**	−0.0022 (−2.18)**	−0.0026 (−2.19)**	−0.0016 (−1.62)
SC	0.0551 (2.23) **	0.0642 (2.08) **	0.0385 (1.97) *	0.0545 (2.04)**
ROAE	−0.0013 (−0.97)	−0.0021 (−2.23)**	−0.0014 (−1.62)	−0.0009 (−0.69)
LEV	−0.0062 (−2.21)*	−0.0031 (−1.35)	−0.0064 (−2.33)**	−0.0057 (−2.01)*
Z	0.0706 (2.28) **	0.0587 (2.66) ***	0.0615 (2.54) **	0.0624 (2.51)**
Exp	0.0530 (2.20) **	0.0289 (1.60)	0.0326 (1.58)	0.0610 (2.35)**
GDP grow	0.0004 (0.33)	−0.00026 (−0.30)	−0.0003 (−0.29)	−0.0010 (−0.63)
Corrupt	−0.1658 (−1.51)	−0.2362 (−1.99)**	−0.1444 (−1.70)*	−0.1295 (−1.24)
Constant	−0.3621 (−2.07)**	−0.1465 (−1.41)	−0.3021 (−2.16)**	−0.4061 (−2.03)*
AR1	0.080	0.082	0.044	0.039
AR2	[0.838]	[0.652]	[0.896]	[0.965]
Hansen test	[0.147]	[0.857]	[0.595]	[0.847]
N Observ	143	143	143	143
Instr/groups	20/31	20/31	20/31	15/31
GMM Type	system	system	system	system
Two-Step	twostep	twostep	twostep	twostep
Robust	robust	robust	robust	robust

but negative relationship with overall, social, and environmental SP. Therefore, contrary to our theoretical assumption, equity holders are less likely to consider sustainability impacts in their investment decisions. This is also consistent with IMF claims: investors [equity-holders] are not yet aware that climate, social and environmental disorder can harm financial stability and economic performance, and thus, reduce their returns (Fabris, 2020; IMF, 2018). Finally, our dynamic model results show that GDP growth does not explain Islamic banks' SP, whereas corruption has a negative and statistically significant impact on their economic and social SP (in line with Ahmed & Anifowose, 2023).

4.4. Robustness check

We perform a robustness check to examine the structural validity of our dynamic coefficient estimates and determine how certain our results are in response to changes in model specifications (Lu & White, 2014). To carry it out, we gradually integrate institutional variables, i.e., regulatory guidelines and Islamic banks' membership in local and/or international SF initiatives and check the sensitivity of our results to both models. Tables 6 and 7 present the results of our robustness check.

Tables 6 and 7 demonstrate the structural validity of our coefficient estimates and the robustness of our results to changes in regression specifications.

5. Conclusions and recommendations

Several Islamic finance jurisdictions have set the standards for

incorporating MAQASID-based sustainability criteria into Islamic financial institutions' (IFI) business strategies. Regulatory and supervisory authorities are constantly working to develop guidelines, cultivate sustainability leaders, and implement relevant CG structures to ensure a smooth transition of IFIs toward more effective sustainability practices. Therefore, the purpose of this study is to examine whether institutional factors, specifically regulatory frameworks and Islamic banks' engagement in international and/or local SF initiatives, as well as CG structures determine Islamic banks' SP in nine key Islamic finance jurisdictions. To the authors' knowledge, this is the first study to examine whether the institutional framework and the establishment of SC can have a significantly positive impact on the SP of Islamic banks.

Our study includes 32 Islamic banks and employs the two-step system GMM estimation technique. It yields notable results, particularly with regard to board characteristics. We report that the introduction of SF specific regulatory guidelines and Islamic banks' adherence to international and/or local SF networks' specifications has so far failed to explain Islamic banks' SP. This raises the question of how to monitor their regulatory dependency, without which, it is difficult to generate tangible sustainability impacts. As for board attributes, our results indicate that BS and BI are not determinants of Islamic banks' SP, whereas SC shows a positive and statistically significant relationship with sustainability indicators. BA, on the other hand, correlates inversely with overall and social sustainability scores.

Despite the study's contribution, future studies can address a few notable limitations, providing additional insights into the determinants of Islamic banks' SP. First, access to material sustainability data is limited. In other words, more efficient access to material sustainability data that better account for the role of Islamic banks as intermediaries in financial and economic systems may contribute to better understanding the dynamics of institutional isomorphism and the impact of CG structures on Islamic banks' SP. Second, there are no local SF initiatives in several Islamic finance jurisdictions, and our sample of Islamic banks has a low commitment to the specifications of international SF networks. As a result of this limitation, our results on the impact of normative structures on the SP of Islamic banks are inconclusive or rather unreflective. Future studies, therefore, may leverage the potential involvement of more Islamic banks in global sustainability certifications and their active engagement in the establishment of more effective local networks to provide more reflective results. Third, our estimation model includes SC as a dummy variable due to the lack of disclosure of SC characteristics in the sustainability and annual reports of the Islamic banks under consideration. Further disclosure in this regard (i.e., size, composition, independence, diversity, duality and diligence ...) in future sustainability reports will provide additional data that researchers can use to better figure out which attribute of this CG mechanism determines Islamic banks' SP. Finally, several Islamic banks incorporate digital transformation in their sustainability reports as a critical enabler of their transition toward more sustainability practices. Currently, data on Islamic banks' digitalization level are relatively scarce. Consequently, with greater disclosure and accessibility to digitalization data, we may better examine its impact on Islamic banks' SP.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: None.

References

- Adams, C. A. (2017). Conceptualising the contemporary corporate value creation process. *Accounting, Auditing & Accountability Journal*.
- Agyemang, A. O., Yusheng, K., Ayamba, E. C., Twum, A. K., Chengpeng, Z., & Shaibu, A. (2020). Impact of board characteristics on environmental disclosures for listed mining companies in China. *Environmental Science and Pollution Research*, 27, 21188–21201.

- Ahmed, A., & Anifowose, M. (2023). Corruption, corporate governance, and sustainable development goals in Africa. *Corporate Governance: The International Journal of Business in Society*.
- Ahmed, K., Hossain, M., & Adams, M. B. (2006). The effects of board composition and board size on the informativeness of annual accounting earnings. *Corporate Governance: An International Review*, 14(5), 418–431. <https://doi.org/10.1111/j.1467-8683.2006.00515.x>
- Allegrini, M., & Greco, G. (2013). Corporate boards, audit committees and voluntary disclosure: Evidence from Italian listed companies. *Journal of Management & Governance*, 17, 187–216.
- Amidjaya, P. G., & Widagdo, A. K. (2019). Sustainability reporting in Indonesian listed banks: Do corporate governance, ownership structure and digital banking matter? *Journal of Applied Accounting Research*.
- Amran, A., Lee, S. P., & Devi, S. S. (2014). The influence of governance structure and strategic corporate social responsibility toward sustainability reporting quality. *Business Strategy and the Environment*, 23(4), 217–235.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies*, 58(2), 277–297.
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error components models. *Journal of Econometrics*, 68(1), 29–51.
- Arena, C., Bozzolan, S., & Michelon, G. (2015). Environmental reporting: Transparency to stakeholders or stakeholder manipulation? An analysis of disclosure tone and the role of the board of directors. *Corporate Social Responsibility and Environmental Management*, 22(6), 346–361.
- Artiach, T., Lee, D., Nelson, D., & Walker, J. (2010). The determinants of corporate sustainability performance. *Accounting and Finance*, 50(1), 31–51.
- Bank Negara Malaysia. (2018). *Value-based intermediation: Strengthening the roles and impact of Islamic finance*.
- Baraibar-Diez, E., & Odriozola, M. D. (2019). CSR committees and their effect on ESG performance in UK, France, Germany, and Spain. *Sustainability*, 11(18), 5077.
- Baraibar-Diez, E., & Odriozola, M. D. (2019). CSR committees and their effect on ESG performance in UK, France, Germany, and Spain. *Sustainability*, 11(18), 5077.
- Battiston, S., Dafermos, Y., & Monasterolo, I. (2021). Climate risks and financial stability. *Journal of Financial Stability*, 54, Article 100867.
- Beckert, J. (2010). Institutional isomorphism revisited: Convergence and divergence in institutional change. *Sociological Theory*, 28(2), 150–166.
- Ben-Amar, W., Chang, M., & McLennan, P. (2017). Board gender diversity and corporate response to sustainability initiatives: Evidence from the carbon disclosure project. *Journal of Business Ethics*, 142(2), 369–383.
- Bhatnagar, S., & Sharma, D. (2022). Evolution of green finance and its enablers: A bibliometric analysis. *Renewable and Sustainable Energy Reviews*, 162, 112405.
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115–143.
- Bose, S., Khan, H. Z., Rashid, A., & Islam, S. (2018). What drives green banking disclosure? An institutional and corporate governance perspective. *Asia Pacific Journal of Management*, 35(2), 501–527.
- Brainard, L. (2019). Why climate change matters for monetary policy and financial stability: A speech at the economics of climate change. In *A research conference sponsored by the federal reserve bank of san francisco*. San Francisco, California, November 8, 2019 (No. 1101).
- Burke, M., Hsiang, S. M., & Miguel, E. (2015). Global non-linear effect of temperature on economic production. *Nature*, 527(7577), 235–239.
- Callan, S. J., & Thomas, J. M. (2014). Relating CEO compensation to social performance and financial performance: Does the measure of compensation matter? *Corporate Social Responsibility and Environmental Management*, 21(4), 202–227.
- Campiglio, E. (2016). Beyond carbon pricing: The role of banking and monetary policy in financing the transition to a low-carbon economy. *Ecological Economics*, 121, 220–230.
- Carney, M. (2015). Breaking the tragedy of the horizon—climate change and financial stability. *Speech given at Lloyd's of London*, 29, 220–230.
- Carvalho, J., Jonker, J., & Dentechev, N. (2014). What's in a word? An exploration of the changes in meaning of corporate social responsibility over the last century with an emphasis on the last decades. *Contemporary issues in corporate social responsibility* (pp. 1–18).
- Chen, J. C., & Roberts, R. W. (2010). Toward a more coherent understanding of the organization–society relationship: A theoretical consideration for social and environmental accounting research. *Journal of Business Ethics*, 97, 651–665.
- Clarkson, M. B. (2016). The moral dimension of corporate social responsibility. In *Morality, rationality and efficiency* (pp. 185–196). Routledge.
- Cogan, D. G. (2008). *Corporate governance and climate change: The banking sector*.
- Comyns, B., & Figge, F. (2015). Greenhouse gas reporting quality in the oil and gas industry: A longitudinal study using the typology of “search”, “experience” and “credence” information. *Accounting, Auditing & Accountability Journal*, 28(3), 403–433.
- Cormier, D., Ledoux, M. J., & Magnan, M. (2011). The informational contribution of social and environmental disclosures for investors. *Management Decision*, 49(8), 1276–1304.
- Cui, J., Jo, H., & Na, H. (2018). Does corporate social responsibility affect information asymmetry? *Journal of Business Ethics*, 148(3), 549–572.
- Dafermos, Y., Nikolaidi, M., & Galanis, G. (2018). Climate change, financial stability and monetary policy. *Ecological Economics*, 152, 219–234.
- Damert, M., & Baumgartner, R. J. (2018). External pressures or internal governance—what determines the extent of corporate responses to climate change? *Corporate Social Responsibility and Environmental Management*, 25(4), 473–488.
- De Andres, P., Azofra, V., & Lopez, F. (2005). Corporate boards in OECD countries: Size, composition, functioning and effectiveness. *Corporate Governance: An International Review*, 13(2), 197–210. <https://doi.org/10.1111/j.1467-8683.2005.00418.x>
- De Villiers, C., Naiker, V., & Van Staden, C. J. (2011). The effect of board characteristics on firm environmental performance. *Journal of Management*, 37(6), 1636–1663.
- Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures—a theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15(3), 282–311.
- Deephouse, D. L. (1996). Does isomorphism legitimate? *Academy of Management Journal*, 39(4), 1024–1039.
- Dey, A. (2008). Corporate governance and agency conflicts. *Journal of Accounting Research*, 46(5), 1143–1181. <https://doi.org/10.1111/j.1475-679X.2008.00301.x>
- Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review*, 86(1), 59–100.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 147–160.
- Dishi, M., Yilmaz, M. K., & Mohamed, F. F. M. (2022). Board characteristics and sustainability performance: Empirical evidence from emerging markets. *Sustainability Accounting, Management and Policy Journal*, 13(4), 929–952.
- Dixon-Fowler, H. R., Ellstrand, A. E., & Johnson, J. L. (2017). The role of board environmental committees in corporate environmental performance. *Journal of Business Ethics*, 140, 423–438.
- Elmaghrabi, M. E. (2021). CSR committee attributes and CSR performance: UK evidence. *Corporate Governance: The International Journal of Business in Society*, 21(5), 892–919.
- Eng, L. L., & Mak, Y. T. (2003). Corporate governance and voluntary disclosure. *Journal of Accounting and Public Policy*, 22(4), 325–345.
- Fabriz, N. (2020). Financial stability and climate change. *Journal of Central Banking Theory and Practice*, 9(3), 27–43.
- Fernández-Gago, R., Cabeza-García, L., & Nieto, M. (2018). Independent directors' background and CSR disclosure. *Corporate Social Responsibility and Environmental Management*, 25(5), 991–1001.
- Fernando, S., & Lawrence, S. (2014). A theoretical framework for CSR practices: Integrating legitimacy theory, stakeholder theory and institutional theory. *Journal of Theoretical Accounting Research*, 10(1), 149–178.
- Friedman, M. (1970). A Friedman doctrine: The social responsibility of business is to increase its profits. *The New York Times Magazine*, 13(1970), 32–33.
- Galbreath, J. (2011). Are there gender-related influences on corporate sustainability? A study of women on boards of directors. *Journal of Management and Organization*, 17(1), 17–38.
- Gangi, F., Meles, A., D'Angelo, E., & Daniele, L. M. (2019). Sustainable development and corporate governance in the financial system: Are environmentally friendly banks less risky? *Corporate Social Responsibility and Environmental Management*, 26(3), 529–547.
- Gani, L., & Jermias, J. (2006). Investigating the effect of board independence on performance across different strategies. *The International Journal of Accounting*, 41(3), 295–314.
- García Martín, C. J., & Herrero, B. (2020). Do board characteristics affect environmental performance? A study of eu firms. *Corporate Social Responsibility and Environmental Management*, 27(1), 74–94.
- García-Sánchez, I. M., Cuadrado-Ballesteros, B., & Sepúlveda, C. (2014). Does media pressure moderate CSR disclosures by external directors? *Management Decision*.
- Giannarakis, G. (2014a). Corporate governance and financial characteristics effects on the extent of corporate social responsibility disclosure. *Social Responsibility Journal*, 10(4), 569–590. <https://doi.org/10.1108/SRJ-02-2013-0008>
- Giannarakis, G. (2014b). The determinants influencing the extent of CSR disclosure. *International Journal of Law and Management*, 56(5), 393–416. <https://doi.org/10.1108/IJLMA-05-2013-0021>
- Goss, A., & Roberts, G. S. (2011). The impact of corporate social responsibility on the cost of bank loans. *Journal of Banking & Finance*, 35(7), 1794–1810.
- Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal*, 8(2), 47–77.
- Guenther, E., Guenther, T., Schiemann, F., & Weber, G. (2016). Stakeholder relevance for reporting: Explanatory factors of carbon disclosure. *Business & Society*, 55(3), 361–397.
- Guest, P. M. (2009). The impact of board size on firm performance: Evidence from the UK. *The European Journal of Finance*, 15(4), 385–404. <https://doi.org/10.1080/13518470802466121>
- Harkati, R., Alhabshi, S. M., & Kassim, S. (2020). Does capital adequacy ratio influence risk-taking behaviour of conventional and Islamic banks differently? Empirical evidence from dual banking system of Malaysia. *Journal of Islamic Accounting and Business Research*, 11(9), 1989–2015.
- Hasan, I., Hoi, C. K., Wu, Q., & Zhang, H. (2017). Social capital and debt contracting: Evidence from bank loans and public bonds. *Journal of Financial and Quantitative Analysis*, 1–31.
- Hauptmann, C. (2017). *Corporate sustainability performance and bank loan pricing: It pays to be good, but only when banks are too*, 20. Said Business School WP.
- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383–396.
- Hollindale, J., Kent, P., Routledge, J., & Chapple, L. (2019). Women on boards and greenhouse gas emission disclosures. *Accounting and Finance*, 59(1), 277–308.
- Homroy, S., & Slechten, A. (2019). Do board expertise and networked boards affect environmental performance? *Journal of Business Ethics*, 158, 269–292.

- Hooghiemstra, R. (2000). Corporate communication and impression management—new perspectives why companies engage in corporate social reporting. *Journal of Business Ethics*, 27, 55–68.
- Htay, S. N. N., Rashid, H. M. A., Adnan, M. A., & Meera, A. K. M. (2012). Impact of corporate governance on social and environmental information disclosure of Malaysian listed banks: Panel data analysis. *Asian Journal of Finance & Accounting*, 4 (1), 1–24.
- Huse, M. (2008). Accountability and creating accountability: A framework for exploring behavioural perspectives of corporate governance. In *The value creating board* (pp. 51–72). Routledge.
- Hussain, N., Rigoni, U., & Orij, R. P. (2018). Corporate governance and sustainability performance: Analysis of triple bottom line performance. *Journal of Business Ethics*, 149, 411–432.
- Ienciu, I. A., Popa, I. E., & Ienciu, N. M. (2012). Environmental reporting and good practice of corporate governance: Petroleum industry case study. *Procedia Economics and Finance*, 3, 961–967.
- International Monetary Fund (IMF). (2018). *World economic outlook*. Washington: IMF.
- Jan, A., Marimuthu, M., bin Mohd, M. P., & Isa, M. (2019). The nexus of sustainability practices and financial performance: From the perspective of Islamic banking. *Journal of Cleaner Production*, 228, 703–717.
- Jan, A., Marimuthu, M., & Hassan, R. (2019). Sustainable business practices and firm's financial performance in Islamic banking: Under the moderating role of Islamic corporate governance. *Sustainability*, 11(23), 6606.
- Janggu, T., Darus, F., Zain, M. M., & Sawani, Y. (2014). Does good corporate governance lead to better sustainability reporting? An analysis using structural equation modeling. *Procedia-Social and Behavioral Sciences*, 145, 138–145.
- Jia, J., & Li, Z. (2020). Does external uncertainty matter in corporate sustainability performance? *Journal of Corporate Finance*, 65, Article 101743.
- Jia, J., & Li, Z. (2022). Corporate sustainability, earnings persistence and the association between earnings and future cash flows. *Accounting and Finance*, 62(1), 299–336.
- Jizi, M. (2017). The influence of board composition on sustainable development disclosure. *Business Strategy and the Environment*, 26(5), 640–655.
- Jizi, M., Salama, A., Dixon, R., & Stratling, R. (2014). Corporate governance and corporate social responsibility disclosure: Evidence from the US Banking Sector. *Journal of Business Ethics*, 125(4), 601–615. <https://doi.org/10.1007/s10551-013-1929-2>
- Kathy Rao, K., Tilt, C. A., & Lester, L. H. (2012). Corporate governance and environmental reporting: An Australian study. *Corporate Governance: The international journal of business in society*, 12(2), 143–163.
- Kawabata, T. (2019). What are the determinants for financial institutions to mobilise climate finance? *Journal of Sustainable Finance & Investment*, 9(4), 263–281.
- Khairiddine, H., Salhi, B., Aljabr, J., & Jarboui, A. (2020). Impact of board characteristics on governance, environmental and ethical disclosure. *Society and Business Review*, 15(3), 273–295. <https://doi.org/10.1108/SBR-05-2019-0067>
- Khan, I., Khan, I., & Saeed, B. B. (2019). Does board diversity affect quality of corporate social responsibility disclosure? Evidence from Pakistan. *Corporate Social Responsibility and Environmental Management*, 26(6), 1371–1381.
- Khan, A., Muttakin, M. B., & Siddiqui, J. (2013). Corporate governance and corporate social responsibility disclosures: Evidence from an emerging economy. *Journal of Business Ethics*, 114, 207–223.
- Klomp, J. (2014). Financial fragility and natural disasters: An empirical analysis. *Journal of Financial Stability*, 13, 180–192.
- Lagasio, V., & Cucari, N. (2019). Corporate governance and environmental social governance disclosure: A meta-analytical review. *Corporate Social Responsibility and Environmental Management*, 26(4), 701–711.
- Lamperti, F., Bosetti, V., Roventini, A., & Tavoni, M. (2019). The public costs of climate-induced financial instability. *Climate Climate Change*, 9, 829–833.
- Li, Z. (2020). *Corporate sustainability in Australia: Performance, disclosure, and governance* (doctoral dissertation, queensland university of technology).
- Li, Z., Jia, J., & Chapple, L. (2022). The corporate sustainability committee and its relation to corporate environmental performance. *Meditari Accountancy Research*.
- Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *The British Accounting Review*, 47(4), 409–424.
- Lindblom, C. K. (1994). The implications of organizational legitimacy for corporate social performance and disclosure. In *Critical perspectives on accounting conference*. New York, 1994.
- Lu, X., & White, H. (2014). Robustness checks and robustness tests in applied economics. *Journal of Econometrics*, 178, 194–206.
- Mallin, C. A., & Michelon, G. (2011). Board reputation attributes and corporate social performance: An empirical investigation of the US best corporate citizens. *Accounting and Business Research*, 41(2), 119–144.
- Masud, M. A. K., Nurunnabi, M., & Bae, S. M. (2018). The effects of corporate governance on environmental sustainability reporting: Empirical evidence from South Asian countries. *Asian Journal of Sustainability and Social Responsibility*, 3, 1–26.
- Maybank. (2021). *Sustainability report*.
- McKendall, M., Sánchez, C., & Sicilian, P. (1999). Corporate governance and corporate illegality: The effects of board structure on environmental violations. *International Journal of Organizational Analysis*, 7(3), 201–223.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Michelon, G., & Parbonetti, A. (2012). The effect of corporate governance on sustainability disclosure. *Journal of Management & Governance*, 16, 477–509.
- Montiel, I. (2008). Corporate social responsibility and corporate sustainability. *Organization and Environment*, 21, 245–269.
- Naciti, V. (2019). Corporate governance and board of directors: The effect of a board composition on firm sustainability performance. *Journal of Cleaner Production*, 237, Article 117727.
- Naidoo, C. P. (2020). Relating financial systems to sustainability transitions: Challenges, demands and design features. *Environmental Innovation and Societal Transitions*, 36, 270–290.
- Nandy, M., & Lodh, S. (2012). Do banks value the eco-friendliness of firms in their corporate lending decision? Some empirical evidence. *International Review of Financial Analysis*, 25, 83–93.
- Nguyen, T. H., Elmagrhi, M. H., Ntim, C. G., & Wu, Y. (2021). Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China. *Business Strategy and the Environment*, 30(5), 2313–2331.
- Nicholls, A. (2021). Policies, initiatives, and regulations related to sustainable finance. *This background paper was prepared for the report Asian Development Outlook*.
- Nizam, E., Ng, A., Dewandaru, G., Nagayev, R., & Nkoba, M. A. (2019). The impact of social and environmental sustainability on financial performance: A global analysis of the banking sector. *Journal of Multinational Financial Management*, 49, 35–53.
- Ntim, C. G., & Soobaroyen, T. (2013). Corporate governance and performance in socially responsible corporations: New empirical insights from a Neo-Institutional framework. *Corporate Governance: An International Review*, 21(5), 468–494.
- Ofoegbu, G. N., Odoemelam, N., & Okafor, R. G. (2018). Corporate board characteristics and environmental disclosure quantity: Evidence from South Africa (integrated reporting) and Nigeria (traditional reporting). *Cogent Business & Management*, 5(1), Article 1551510.
- Orazalin, N. (2020). Do board sustainability committees contribute to corporate environmental and social performance? The mediating role of corporate social responsibility strategy. *Business Strategy and the Environment*, 29(1), 140–153.
- Osazuwa, N. P., Che-Ahmad, A., & Che-Adam, N. (2016). Board characteristics and environmental disclosure in Nigeria. *International Information Institute (Tokyo). Information*, 19(8A), 3069.
- Peng, X., & Zhang, R. (2022). Corporate governance, environmental sustainability performance, and normative isomorphic force of national culture. *Environmental Science and Pollution Research*, 29(22), 33443–33473.
- Prado-Lorenzo, J.-M., & Garcia-Sanchez, I.-M. (2010). The role of the board of directors in disseminating relevant information on greenhouse gases. *Journal of Business Ethics*, 97(3), 391–424. <https://doi.org/10.1007/s10551-010-0515-0>
- Refinitiv. (2021). *Islamic finance development indicator*.
- Ricart, J. E., Rodríguez, M. Á., & Sanchez, P. (2005). Sustainability in the boardroom: An empirical examination of Dow Jones sustainability world index leaders. *Corporate Governance: The International Journal of Business in Society*, 5(3), 24–41.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E., ... Foley, J. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society*, 14(2).
- Rodrigue, M., Magnan, M., & Cho, C. H. (2013). Is environmental governance substantive or symbolic? An empirical investigation. *Journal of Business Ethics*, 114, 107–129.
- Roy, C., & Seguin, F. (2000). The institutionalization of efficiency-oriented approaches for public service improvement. *Public Productivity and Management Review*, 449–468.
- Rupley, K. H., Brown, D., & Marshall, R. S. (2012). Governance, media and the quality of environmental disclosure. *Journal of Accounting and Public Policy*, 31(6), 610–640.
- Saha, A. K., & Akter, S. (2013). Corporate governance and voluntary disclosure practices of financial non-financial sector companies in Bangladesh. *Journal of Applied Management Accounting Research*, 11(2), 45–61.
- Said, R., Zainuddin, Y. H., & Haron, H. (2009). The relationship between corporate social responsibility disclosure and corporate governance characteristics in Malaysian public listed companies. *Social Responsibility Journal*, 5(2), 212–226. [10.1108/1747110910964496](https://doi.org/10.1108/1747110910964496).
- Schumacher, K., Chenet, H., & Volz, U. (2020). Sustainable finance in Japan. *Journal of Sustainable Finance & Investment*, 10(2), 213–246.
- Scott, W. R. (1995). *Institutions and organizations*. Sage Publications. Thousands Oaks. Cal.
- Setyowati, A. B. (2023). Governing sustainable finance: Insights from Indonesia. *Climate Policy*, 23(1), 108–121.
- Spitzack, H. (2009). The development of governance structures for corporate responsibility. *Corporate Governance*, 9(4), 495–505. <https://doi.org/10.1108/14720700910985034>
- Suk, S. (2018). Determinants and characteristics of Korean companies' carbon management under the carbon pricing scheme. *Energies*, 11(4), 966.
- Sustainable Banking and Finance Network (SBFN). (2022). *Country Progress Report*. Indonesia, March 2022.
- UNEP Finance Initiative. (2018). Rethinking impact to finance the SDGs. *A position paper and call to action prepared by the positive impact initiative*.
- Waddock, S. A., & Graves, S. B. (1997). The corporate social performance—financial performance link. *Strategic Management Journal*, 18(4), 303–319.
- Walls, J. L., Berrone, P., & Phan, P. H. (2012). Corporate governance and environmental performance: Is there really a link? *Strategic Management Journal*, 33(8), 885–913. <https://doi.org/10.1002/smj.1952>
- Weber, O., & Chowdury, R. K. (2020). Corporate sustainability in Bangladeshi Banks: Proactive or reactive ethical behavior? *Sustainability*, 12(19), 7999.
- Yekini, K. C., Adelopo, I., Andrikopoulos, P., & Yekini, S. (2015). Impact of board independence on the quality of community disclosures in annual reports, 4. In *Accounting forum*, 39 pp. 249–267. Elsevier. No longer published by.
- Zhang, D., Zhang, Z., & Managi, S. (2019). A bibliometric analysis on green finance: Current status, development, and future directions. *Finance Research Letters*, 29, 425–430.