

Enhancing Environmental and Social Disclosure Through Board Competencies: Evidence from Listed Firms in Malaysia

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ABSTRACT

The purpose of this study was to examine the effects of internal governance mechanisms on environmental and social (ES) disclosures. Firms with competent directors in the boardroom focussed on firm investments and achieve better disclosures. The population consisted of the top 100 publicly listed firms in Bursa Malaysia, with the final sample consisting of 180 firm-year observations from 2019 until 2022. Board competencies proxied by board size, board meeting, expertise, gender, independence, and internationalisation directorship were hand-collected from the annual reports, while financial data and ES scores were gathered from the Eikon Datastream. We found that board expertise, gender, and internalisation had a positive and significant relationship with ES disclosure. Furthermore, we also examined the effects of board competencies and ES disclosure separately and found that only board expertise and gender had a positive and significant relationship with environmental disclosure. However, board expertise, gender, independence, and internationalisation directorship had a positive and significant relationship with social disclosure. This study contributes to the extent of the literature by examining the board of directors' effectiveness in promoting ES activities in the firms. In addition, this study offers practitioners insights into having a competent board to ensure better ES investments and transparency.

Keywords: Board of Director's Competencies, Corporate Governance, Environmental and Social (ES) Disclosure

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INTRODUCTION

There is a growing concern for businesses to be transparent (Lavin & Montecinos-Pearce, 2021; Liu et al., 2023) and effectively convey data and insights to both investors and stakeholders (Alkhawaja et al., 2023). This growing concern underscores the importance placed on boards to offer comprehensive information, ensuring clarity, accessibility, and transparency (Wu et al., 2024). Environmental, social, and governance (ESG) encapsulates integrating environmental, social, and governance considerations into the core of enterprises and investment strategies (Gillan et al., 2021). It signifies the incorporation of non-financial aspects into business models, thereby aligning these elements with financial implications to pursue specific goals (Chen et al., 2023).

Board attributes play a significant role in improving environmental and social (ES) disclosures within a company (Buallay & Al-Ajmi, 2020). Boards that prioritise diverse expertise, a commitment to sustainability, and a strong governance framework often drive the integration of ESG considerations into corporate strategies (Klettner et al., 2014; Ngu & Amran, 2019). Their leadership and oversight can shape the firm's approach to ESG-related decision-making, influencing the depth and transparency of ESG disclosure. A board with a keen focus on ESG factors tends to encourage more comprehensive reporting and accountability, reflecting the company's commitment to sustainable practices and responsible governance (Al-Issa et al., 2022; Inderst & Stewart, 2018). Extending this line of research and leveraging the staggered introduction of board attributes, this study explored the potential influence of these attributes on ESG disclosure within the 100 firms listed on Bursa Malaysia. Specifically, this study examined the influence of board size, sufficient meetings, expertise, gender, independence, and internationalisation directorship towards ES disclosure.

Board competency, encompassing board size, meeting, expertise, gender diversity, and independence, is crucial for effective environmental and social disclosures (Arayssi et al., 2020). A well-rounded and knowledgeable board can drive comprehensive reporting practices by ensuring that environmental and social issues are adequately addressed and integrated into the firm's strategy (Sierdovski et al., 2022). Competent boards are better equipped to oversee and challenge disclosures, ensuring

transparency and accountability (Bhat et al., 2023). As such, the overall effectiveness of environmental and social reporting can significantly benefit from a board's collective competency. This helps the firm to provide clear and accountable information about its environmental and social impact.

By recognising the impact of specific board competencies on ESG disclosure, firms can strategically prioritise diversity, expertise, or sustainability-oriented skills in their boards (Alkhawaja et al., 2023; Wu et al., 2024). This, in turn, may positively influence long-term sustainability strategies and decision-making processes. In an era where stakeholders demand greater transparency and sustainability, the findings from this study can assist firms in meeting these expectations. Understanding the link between board attributes and ESG disclosure can assist firms in communicating their commitment to sustainable practices more effectively to stakeholders, thereby enhancing trust and reputation (Beretta et al., 2023; Wu et al., 2024).

The remainder of this paper is structured as follows: Section 2 provides an overview of the theoretical background hypotheses development; Section 3 explains the research methodology; Section 4 provides the findings and discussions; and lastly, the paper concludes with a summary of the main findings.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Stakeholder Theory

The Stakeholder Theory (ST) proposed by Freeman (1984) offers a comprehensive view of organisational management and ethical business practices. It emphasises the ethical and moral considerations that all stakeholders should prioritise when making business decisions (Tsang et al., 2023). In other words, it highlights the significance of prioritising the concerns of a wide array of stakeholders beyond just shareholders. As argued by Van Hoang et al. (2023), it is common for the ST to be quoted when explaining the environmental, social, and governance (ESG) practices. This is because firms are required to fulfil the demands and expectations of

diverse stakeholders by disclosing their ESG activities. According to this Theory, boards with diverse, skilled, and ethically conscious members are more inclined to prioritise the interests of various stakeholders. These boards are likely to endorse and facilitate comprehensive ESG disclosures as part of their commitment to meet stakeholder expectations (Islam & Bhuiyan, 2019; Riyadh et al., 2019). Thus, the Theory suggests that board attributes, including board size, adequate meeting, expertise, gender, independence, and internationalisation directorship play a pivotal role in driving the extent and quality of ESG disclosures within a company, aligning it with the interests of its stakeholders (Gazley et al., 2010).

Good governance in the firms is essential in ensuring better investment, transparency, and performance. The board of directors plays a significant role in the firm's strategic planning to drive the company's strategies in ESG investment. Supported by Buallay and Al-Ajmi (2020), board attributes play a significant role in the investment and enhancement of ESG disclosures within a company. Therefore, boards with diverse expertise, a commitment to sustainability, and a strong governance framework often drive the integration of ESG considerations into corporate strategies (Klettner et al., 2014; Ngu & Amran, 2019).

Board Size and Environment and Social Disclosure

The Malaysian Code of Corporate Governance (MCCG) does not state the exact number for the board size; The code only stipulates a sufficient number of directors in the firms. Thus, the board's size can significantly adversely impact the firm's strategic planning and decision-making. Smaller boards are often more agile, making quick decisions (Farrell & Hersch, 2005; Chaganti et al., 1985), while larger boards offer a broader range of perspectives, diverse networks, and expertise due to a more varied background among members (Aladwey et al., 2021). However, managing and coordinating larger boards can be more challenging (Jensen & Meckling, 2019), leading to decision-making delays and increased risks of financial distress (Younas et al., 2021). Consequently, the board size is likely to significantly affect both the quantity and quality of disclosed environmental and social (ES) information.

Nevertheless, other studies have demonstrated a positive association between board size and ES disclosure. For instance, board size showed a positive and significant relationship with ES disclosure in the European banking sector (Gurol & Lagasio, 2023) and Thai-listed firms (Suttipun, 2021). While board size played a crucial role, the board's composition, including the existence of independent directors and expertise in sustainability matters, can interact with board size and affect disclosure practices. Therefore, we proposed the first hypothesis as follows:

H₁: Board size has a positive effect on environment and social disclosure.

Board Meeting and Environment and Social Disclosure

Regular board meetings serve as a platform for vital decision-making and strategising in conveying the company's financial status, environmental impact, and social contributions to shareholders and stakeholders. The frequency of board meetings allows the directors to discuss ESG planning, investments, and disclosures in meeting stakeholder demands. Therefore, it significantly influences an organisation's oversight of activities in fulfilling stakeholder demands for better disclosures. However, the frequency of board meetings could give inconsistent findings on ESG disclosure. Specifically, the studies by Ntim and Osei (2011) and Almaqtari et al. (2023) found that more frequent board meetings had a positive influence on the level of ESG reports as they facilitated better interaction and supervision, leading to improved financial outcomes and overall firm performance. However, the effectiveness of increased meeting frequency depended on the skills, experience, and dedication of the directors.

Studies by Birindelli et al. (2018) and Dienes and Velte (2016) revealed a lack of positive association between the frequency of board meetings and ESG disclosures or initiatives. Instead, their studies indicated that more board meetings might indicate that the topics related to sustainability issues were spread across multiple meetings without substantial discussions (Birindelli et al., 2018; Dienes & Velte, 2016). Additionally, Ju Ahmad et al. (2017) discovered no significant relationship between increased board meeting frequency and sustainability reporting. They suggested that frequent meetings might lose effectiveness when solely focused on routine business matters rather than addressing strategic issues capable of

enhancing corporate performance and disclosing ES aspects. Kamaludin et al. (2022) also revealed a negative relationship between the frequency of board meetings and ESG scores. This implied that frequent board meetings do not necessarily guarantee the effectiveness of ESG engagement and practices. Instead, it indicated that firms can achieve effective ESG disclosure and practice even with less frequent board meetings as long as they are committed to actively engaging with ESG initiatives. Therefore, we proposed the second hypothesis as follows:

H₂: The frequency of board meetings has a positive effect on the environment and on social disclosure.

Board Expertise and Environmental and Social Disclosure

Earlier studies align with the perspective that educational qualifications, skills, and expertise contribute significantly to the advancement of sustainable environmental performance. Board members possess diverse qualities that influence company decisions and overall performance. For instance, a study by García Martín and Herrero (2020) involving 644 non-financial European Union firms spanning from 2002 to 2017 revealed a positive relationship between director's expertise and experience within these firms and their environmental performance. A proficient board should comprise a well-balanced assembly of capable directors possessing firm-specific knowledge, experience, skills, and expertise crucial for efficient governance to adapt to the swiftly evolving global market (Harper, 2007). Such expertise and experience are particularly valuable, especially concerning corporate social responsibility. Additionally, a higher proportion of board members with specialised expertise in the accounting and finance domain also positively influenced the level of ESG reports (Almaqtari et al., 2023; Githaiga & Kosgei, 2023).

Based on inconclusive findings by Almaqtari et al. (2023), Trinh et al. (2023), and García Martín and Herrero (2020), we contended that the expertise, insights, and decisions of board members could positively influence a company's policies, strategies, and actions concerning environmental sustainability and social responsibility. A board with sufficient expertise may improve ES disclosure because boards that possess higher expertise levels tend to demonstrate stronger performance in ES domains. Therefore, the third hypothesis of this study was formulated as follows:

H₃: Board expertise has a positive effect on the environment and social disclosure.

Board Gender Diversity and Environmental and Social Disclosure

Sections 4.4 and 4.5 of MCCG (2017) required the company to disclose its gender diversity policies and the firm's initiative to appoint at least 30% women directors in its annual report. This objective was to ensure that women qualify for the board and senior management roles in firms. The motives behind female appointments were due to the different personalities and views between genders (Hillman et al., 2002). Bear et al. (2010) found that women directors were more sensitive regarding sustainability (environment and social welfare) issues. Therefore, having board gender diversity could improve ES investment and disclosure in meeting the stakeholder needs for better ESG transparency about the firm's investment in the environment and sociality. Supported by Githaiga and Kosgei (2023) discovered that board gender diversity was significantly related to sustainability reporting in East Africa. Based on data from Malaysia, Wasiuzzaman and Wan Mohammad (2020) found that board gender diversity influenced Malaysia's emerging market's ESG disclosure transparency. These proved that having women on boards can improve sustainability practices and reporting. With more women directors sitting on corporate boards, the ESG disclosure scores had risen significantly.

However, the study by Wasiuzzaman and Subramaniam (2023) presented different findings on board gender diversity and ESG disclosure in developed and developing countries. According to their study, female directors generally positively impacted the quality of ES disclosure and its components. In addition, a research of 332 firm-year observations from 2012 to 2017 of 65 firms listed in Bursa Malaysia supported the importance of board diversity on a firm's ESG and environmental disclosure. Yet, women directors should only be appointed if they are qualified to serve in that position and have sufficient education and experience to fulfil the duties of the position (Wan Mohammad et al., 2023). Based on the above study and considering the ST, we formulated the fourth hypothesis as follows:

H₄: Board gender diversity has a positive effect on the environment and social disclosure.

Board Independence and Environment and Social Disclosure

The Malaysian Code of Corporate Governance (MCCG) requires the company to have a majority of board independent in the boardroom to ensure the directors discharge their roles and responsibilities effectively in reducing agency problems and meeting stakeholders' needs. The chosen directors must be independent in a proper sense as they cannot be closely acquainted with the CEO of the firms. Empirical studies by Githaiga and Kosgei (2023), Kamaludin et al. (2022), Deschênes et al. (2015), and De Villiers et al. (2011) found that the presence of independent directors helped to improve the ability of boards of directors to manage and perform corporate social responsibility efficiently. Specifically, Agarwala et al. (2023) found that board independence had a positive and significant relationship with corporate social responsibility in India. This would improve the company's CSR performance and guarantee impartial decision-making. Then, using the Malaysia setting, Kamaludin et al. (2022) revealed that board independence improved ESG disclosure. Therefore, the fifth hypothesis of this study was formulated as follows:

H₅: Board independence has a positive effect on environmental and social disclosure.

Board Internationalisation and Environment and Social Disclosure

Having a broad group of people with varying nationalities and cultural backgrounds on the board could improve the company's supervisory role, and they are more likely to perform better in ESG performance (Brown et al., 2023). Recent research has shown that having international experience on a board can benefit a company in many ways, including helping internationalisation and access to foreign resources (Oxelheim et al., 2003), increasing firm value (Miletkov et al., 2017), and transferring corporate governance practices between countries (Handa, 2021).

In addition, Umar (2023) revealed that foreign directors had a major and positive impact on the corporate philanthropic efforts of the banks in Bangladesh. On the opposite side, foreign directors may not be good monitors. First, being geographically distant from corporate headquarters results in significant oversight costs for directors because visiting the site and attending board meetings becomes more difficult and time-consuming. This damages a director's capacity and motivation to learn more and closely monitor management. In line with this perspective, Lerner (2022) discovered that venture capitalists were hesitant to serve on the boards of businesses far apart. Knyazeva et al. (2009) provided evidence of a sizable local component to matching businesses with potential outside directors. Therefore, the sixth hypothesis of this study was formulated as follows:

H₆: Board internationalisation has a positive effect on environmental and social disclosure.

RESEARCH METHODOLOGY

Sample Selection

This study focused on the top 100 Malaysian firms based on their market capitalisation as of 31 December 2022. This study only considered the top 100 firms as leading companies, and about 97 per cent of Malaysia's top 100 firms included sustainability data in their annual report (KPMG's biennial Survey of Sustainability Reporting, 2022). After excluding insufficient data and extreme outliers, the final sample was 45 firms (180 firm-year observations) during 2019 – 2022. The chosen period considered the recent trends and developments in corporate sustainability strategies. Furthermore, this period has had a significant and profound impact on the firm's operations, environmental policies, and social responsibilities during the unprecedented challenges of COVID-19. We gathered the environmental and social (ES) scores and financial data from the Eikon Datastream. Meanwhile, the data on the board attributes, which consisted of board size, meeting, expertise, gender, independence, and internalisation, were hand-collected data from the annual report.

The dependent variable of this research was ES disclosure, which was measured by the score value gathered from the Eikon Datastream. Environmental disclosure (ENV) defined and measures a firm's impact on living and non-living natural systems, including the air, land and water, and complete ecosystems. Meanwhile, social disclosure (SOC) measured a company's capacity to generate trust and loyalty with its workforce, customers, and society through its best management practices.

The independent variable was the board of director competencies proxied by board size, meeting, expertise, gender, independence, and internalisation. Board size was measured by the total number of directors in the boardroom (Younas et al., 2021; Gurol & Lagasio, 2023). The board meeting was measured by the director meeting frequency in a year (Almaqtari et al., 2023; Birindelli et al., 2018). The number of directors measured board expertise with a minimum degree in accounting and finance and/or professional qualifications or more than three years of experience in the accounting field (Azmi et al., 2021). Board gender was measured by the number of female directors divided by board size (Wasiuzzaman & Wan Mohammad, 2020). Board independence was measured by the number of directors with independent non-executive directors divided by board size (Azmi et al., 2021; Kamaludin et al., 2022). Board internalisation was measured by the number of directors outside Malaysia divided by board size (Brown et al., 2023).

We also controlled the financial characteristics as it may influence our results. This study controlled firm solvency, size, liquidity, and profitability. Firm solvency proxied by debt ratio was measured by total debt over total assets. Firm size was measured by the natural logarithm of total assets. Firm liquidity proxied by the current ratio is measured by current assets over current liabilities. Firm profitability proxied by return on assets (ROA) and return on equity (ROE) were measured by net income over total assets and net income over total equities, respectively. Thus, the regression models were as follows:

$$\begin{aligned} \text{ES} = & \beta_0 + \beta_1 \text{BSIZE} + \beta_2 \text{BMEET} + \beta_3 \text{BEXPERT} + \beta_4 \text{BGEN} + \beta_5 \\ & \text{BIND} + \beta_6 \text{BINTER} + \beta_7 \text{DR} + \beta_8 \text{SIZE} + \beta_9 \text{CR} + \beta_{10} \text{ROA} + \\ & \beta_{11} \text{ROE} + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} \text{ENV} = & \beta_0 + \beta_1 \text{BSIZE} + \beta_2 \text{BMEET} + \beta_3 \text{BEXPERT} + \beta_4 \text{BGEN} + \\ & \beta_5 \text{BIND} + \beta_6 \text{BINTER} + \beta_7 \text{DR} + \beta_8 \text{SIZE} + \beta_9 \text{CR} + \beta_{10} \\ & \text{ROA} + \beta_{11} \text{ROE} + \varepsilon \end{aligned} \quad (2)$$

$$\begin{aligned} \text{SOC} = & \beta_0 + \beta_1 \text{BSIZE} + \beta_2 \text{BMEET} + \beta_3 \text{BEXPERT} + \beta_4 \text{BGEN} + \\ & \beta_5 \text{BIND} + \beta_6 \text{BINTER} + \beta_7 \text{DR} + \beta_8 \text{SIZE} + \beta_9 \text{CR} + \beta_{10} \\ & \text{ROA} + \beta_{11} \text{ROE} + \varepsilon \end{aligned} \quad (3)$$

Where ES is the total score of environmental and social disclosures; ENV was the total score of environmental disclosure; SOC was the total score of social disclosure; BSIZE was the total number of directors in the boardroom; BMEET was the total number of board meetings held in a year; BEXPERT was the total number of directors that have accounting and finance qualifications; or professional qualifications; or more than three-year experience in the accounting field; BGEN was the total number of female directors over board size; BIND was the total number of directors that had independent non-executive directorship over board size; BINTER was the total number of directors outside Malaysia over board size; DR was the ratio of total debt over total assets; FSIZE was the natural logarithm of total assets; CR was the ratio of current assets over current liabilities; ROA was a ratio of net income over total assets, and ROE was a ratio of net income over total equities.

Table 1: List of Variables

Descriptive	Mean	Std. Deviation
Environmental and social disclosure	ES	The total score of environmental and social disclosures. Score value gathered from the Eikon DataStream.
Environmental disclosure	ENV	The total environmental disclosure score measures a firm's impact on living and non-living natural systems, including air, land, water, and complete ecosystems.
Social disclosure	SOC	The total social score measures a company's capacity to generate trust and loyalty with its workforce, customers, and society through best management practices.
Board size	BSIZE	Total number of directors in the boardroom
Board Meeting	BMEET	Director meeting frequency in a year
Expertise	BEXPERT	Number of directors with accounting and finance qualifications or professional qualifications or more than three years of experience in the accounting field
Gender	BGEN	Number of female directors divided by board size

Board Independence	BIND	Number of directors with independent non-executive directors divided by board size
Board Internalization	BINTER	The number of directors outside Malaysia is divided by board size
Firm solvency	DR	Total debt over total assets
Firm Size	SIZE	Natural logarithm of total assets
Liquidity	CR	Current assets over current liabilities
Firm profitability	ROA	Net income over total assets
Firm profitability	ROE	Net income over total shareholder's equity

ANALYSIS AND DISCUSSION

Descriptive Analysis

Table 2 reports the descriptive statistics of dependent, independent, and control variables. The dependent variables showed that the average ES was 103.78, ranging from 1.08 to 187.36. The independent variables of board attributes showed that the average board size (BSIZE) was 9.62, ranging from the minimum board size (5 members) to the maximum of 16 members in the boardroom. The average BMEET was 8.11 times, ranging from 1 to 25 times a meeting held during a year. The descriptive results revealed fewer meetings were held among the top 100 firms. The average boardroom with board expertise (BEXPERT) was 45%, ranging from 11% to 90%. This indicated that some firms had boards with accounting and finance backgrounds or accounting professional qualifications. The average board gender (BGEN) was 25%, ranging from 57% to all women directors. This finding is consistent with the Corporate Governance Watchdog (2022) (CG watchdog), which revealed that the top 100 firms had complied with the MCCG (2017) regarding the participation of women in high-level positions. The average board independence was 25%, with a minimum of 20% and a maximum for all independent directors. The average board internalisation was 14%, from 0% to 100%.

The control variables of debt ratio (DR) reported an average of 0.59, indicating high leverage among the top 100 firms. The average firm size (SIZE) was 7.24, ranging from 4.45 to 8.95. The average current ratio (CR) was 1.93, ranging from 0.30 to 11.80, above the acceptable level of 0.20. The

firm profitability, proxied by return on assets (ROA) and return on equity (ROE), showed the average ROA is 0.07, ranging from -0.15 to 0.79. While the average ROE was 0.21, ranging from -0.68 to 2.29. The negative ROA and ROE were due to the reported net loss, especially during COVID-19.

Table 2: Descriptive Statistics

Descriptive	Mean	Min	Max	Std. Deviation
ES	103.78	1.08	187.36	40.73
ENV	46.87	0.18	90.25	23.53
SOC	56.90	0.55	97.34	22.14
BSIZE	9.62	5	16	2.21
BMEET	8.11	1	25	5.02
BEXPERT	0.45	0.11	0.9	0.17
BGEN	0.25	0.57	1	0.11
BIND	0.56	0.2	1	0.14
BINTER	0.14	0	0.8	0.18
DR	0.59	0.08	1	0.22
SIZE	7.24	4.45	8.95	0.80
CR	1.93	0.30	11.80	1.57
ROA	0.07	-0.15	0.79	0.11
ROE	0.21	-0.68	2.29	0.40

Notes: ES is the total score of environmental and social disclosures; ENV is the total score of environmental disclosure; SOC is the total score of social disclosure; BSIZE is the total number of directors in the boardroom; BMEET is the total number of board meetings held in a year; BEXPERT is the total number of directors that have accounting and finance qualifications; or professional qualifications; or more than three-year experience in the accounting field; BGEN is the total number of female directors over board size; BIND is the total number of directors that have independent non-executive directorship over board size; BINTER is the total number of directors outside Malaysia over board size; DR is the ratio of total debt over total assets; SIZE is the natural logarithm of total assets; CR is the ratio of current assets over current liabilities; ROA is a ratio of net income over total assets; and ROE is a ratio of net income over total equities.

Pearson Correlation Analysis

Table 3 presents the correlation between all variables. The result indicated that BFEMALE, ROA, AND ROE were positively significant at 1% on the ES score. Meanwhile, BSIZE was positively significant at 5% on the ES score. DR and FSIZE were positively significant at 10%. The other variables showed a coefficient value below 0.8, and no multicollinearity issue was suspected among the variables.

Table 3: Pearson Correlation Analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) ES	1.000											
(2) BSIZE	0.150**	1.000										
(3) BMEET	-0.028	0.359***	1.000									
(4) REXPERT	-0.063	-0.119*	0.115*	1.000								
(5) RFEMALE	0.180***	0.036	0.163**	0.108	1.000							
(6) BIND	-0.052	-0.005	0.165**	0.080	-0.098	1.000						
(7) BINTER	-0.001	-0.156**	-0.073	0.082	0.109	0.025	1.000					
(8) DR	-0.133*	0.007	0.244***	0.378***	0.236***	0.073	0.309***	1.000				
(9) FSIZE	-0.120*	0.125*	0.384***	0.439***	0.114*	0.166**	0.047	0.418***	1.000			
(10) CR	0.011	-0.137*	-0.226***	-0.102	-0.210***	0.084	-0.271***	-0.445***	0.086	1.000		
(11) ROA	0.210***	-0.167**	-0.245***	-0.112*	0.164**	-0.193***	0.175**	-0.196***	-0.409***	-0.022	1.000	
(12) ROE	0.200***	-0.245***	-0.187***	-0.048	0.352***	-0.215***	0.427***	0.199***	-0.325***	-0.203***	0.717***	1.000

Notes: The reported t-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. ES is the total score of environmental and social disclosures; BSIZE is the total number of directors in the boardroom; BMEET is the total number of board meetings held in a year; BEXPERT is the total number of directors that have accounting and finance qualifications or professional qualifications or more than three years of experience in the accounting field; BGEN is the total number of female directors over board size; BIND is the total number of directors that have independent non-executive directorship over board size; BINTER is the total number of directors outside Malaysia over board size; DR is the ratio of total debt over total assets; FSIZE is the natural logarithm of total assets; CR is the ratio of current assets over current liabilities; ROA is a ratio of net income over total assets; and ROE is a ratio of net income over total equities.

Multiple Regression Analysis

Table 4 presents the regression estimates of board attributes on environmental and social (ES) disclosure. The coefficients for board expertise (BEXPERT) were positive and statistically significant on ES disclosure, environmental disclosure (ENV), and social disclosure (SOC). The results indicated that directors with accounting and finance backgrounds or professional qualifications exhibited higher ES disclosure. Our findings are consistent with Almaqtari et al. (2023) and Githaiga and Kosgei (2023), who also discovered that a well-balanced director possessing firm-specific knowledge, experience, skills, and expertise was able to improve firm ESG disclosure.

The result showed that board gender diversity (BGEN) positively impacted ES, ENV, and SOC disclosure. Women directors dominated higher ES disclosure in the firms. Our findings offer evidence supporting the notion that women have different personalities and views (Hillman et al., 2002) and are more sensitive regarding ES welfare issues (Bear et al., 2010). This study is also consistent with prior studies by Wasiuzzaman and Subramaniam (2023), who found that female directors generally positively impact ES disclosure quality in a Malaysian setting. Our findings contribute to the body of knowledge and support the government initiative for firms to have a minimum of 30% women in the boardroom. However, there was no significant relationship between board independence (BIND) and ES disclosure. In detail, we tested BIND on each pillar, and the findings revealed that BIND was only positive and significant with SOC but not ENV. Our findings indicated that board independence was more concerned with social disclosure, including staff welfare, than environmental disclosure.

The board internalisation (BINTER) had a positive and significant relationship with ES disclosure. Our findings proved that directors with non-residents in Malaysia could improve ES scores by bringing their experience and good practices from their country to Malaysia. Our findings supported the proposition that good ES disclosure can protect stakeholders' interests through environmental protection and social welfare. Furthermore, we also discovered that BINTER was only positive and significant on ENV disclosure. This supported the idea that non-resident directors can bring their experience in environmental investment and strategies to Malaysia. Our findings align with a prior study that discovered how foreign directors positively impact corporate philanthropic efforts (Umar, 2023).

The control variables of debt ratio (DR) showed a positive and significant relationship with ENV. Firm size (SIZE) also showed a positive and significant relationship with ES and SOC, indicating that larger firms will invest more in the environment and society. The liquidity ratio proxied by the current ratio showed a positive and significant relationship with the ES and ENV because firms with high liquidity will invest more in the environment and society. The profitability ratio, proxied by return on assets (ROA), showed a positive and significant relationship with ES and SOC.

Table 4: Multiple Regression Results

Descriptive	Expected direction	Model 1 ES	Model 2 ENV	Model 3 SOC
Constants	+/-	-54.62 -1.85*	-17.40 -0.85	-37.22 -2.61***
BSIZE	+	1.36 1.27	1.11 1.49	0.25 0.48
BMEET	+	-0.47 -0.77	-0.63 -1.49	0.16 0.54
BEXPERT	+	39.08 2.48***	21.62 1.98**	17.47 2.30**
BGEN	+	80.94 3.4***	30.64 1.86*	50.29 4.37***
BIND	+	14.23 0.93	-4.70 0.44	18.93 2.57***
BINTER	+	31.88 2.25**	15.32 1.56	16.55 2.42**
DR		22.41 1.51	29.28 2.85***	-6.87 -0.96
SIZE		12.17 3.13***	3.70 1.37	8.47 4.51***
CR		3.30 2.02**	2.45 2.16**	0.86 1.09
ROA		61.89 1.93**	18.16 0.82	43.73 2.82***
ROE		-3.97 -0.37	-7.16 -0.96	3.19 0.61
Adj. R2 (%)		21.93	9.57	36.71
F-statistics		5.54***	2.71***	10.39***
n		180	180	180

Notes: The reported t-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively.

BSIZE is the total number of directors in the boardroom; BMEET is the total number of board meetings held in a year; BEXPERT is the total number of directors that have accounting and finance qualifications or professional qualifications or more than three years of experience in the accounting field; BGEN is the total number of female directors over board size; BIND is the total number of directors that have independent non-executive directorship over board size; BINTER is the total number of directors outside Malaysia over board size; DR is the ratio of total debt over total assets; FSIZE is the natural logarithm of total assets; CR is the ratio of current assets over current liabilities; ROA is a ratio of net income over total assets; and ROE is a ratio of net income over total equities.

In contrast to the significant findings for board expertise (BEXPERT), board gender diversity (BGEN), board internalisation (BINTER) and the control variables of debt ratio (DR), this study found that the result for board size and board meetings were insignificant. The insignificant result for board size aligns with prior studies, which attribute this to coordination challenges (Farrell & Hersch, 2005) and complex decision-making (Aladwey et al., 2021) on environmental and social goals. It also aligns with the Malaysian Code of Corporate Governance (MCCG), which does not specify the number of directors. This suggests that the impact of board size on environmental and social disclosure depends more on how well it aligns with a firm's environmental and social concerns than on the number of directors alone.

Similarly, the insignificant result for board meetings supports prior findings by Ju Ahmad et al. (2017) and Kamaludin et al. (2022), showing that the number of board meetings does not affect ES disclosure. This means that firms can still have a quality ES disclosure with fewer meetings if they are dedicated to ES practices, as the quality of ES disclosure depends more on their commitment than on how often they hold board meetings.

CONCLUSION

This study examined the effect of the board competencies proxied by board size, meeting, expertise, gender, independence, and internationalisation directorship among the top 100 Malaysian firms in Bursa Malaysia. In our analysis of the individual effects of board competencies on environmental and social (ES) disclosures, we observed that board expertise and gender diversity demonstrated a positive and significant association solely with environmental disclosure. Conversely, board expertise, gender diversity, independence, and international directorship exhibited a significant positive relationship with social disclosure.

A board of directors with financial or accounting expertise or accounting professionals equipped the board with insights to comprehend, prioritise, and effectively communicate environmental concerns (Homroy & Slechten, 2019). On the other hand, gender diversity within the board introduces varied perspectives and approaches to environmental issues, potentially fostering a more holistic understanding and strategic approach

to environmental disclosure. Their combined influence highlights the significant role that diverse expertise and gender perspectives play in enhancing a firm's environmental disclosure initiatives. This suggests that a board with diverse expertise and gender representation is better positioned to champion comprehensive and transparent environmental disclosure practices within a firm.

As for social disclosure, board expertise in social matters will likely contribute to a greater understanding of social issues and would probably communicate this impact effectively. The majority of independent directors in the boardroom, indicating autonomy from non-executive directors, might foster an environment where social responsibility is critically evaluated and emphasised, leading to more robust social disclosures. Additionally, international directorship, representing a global perspective and experience, could contribute to a broader understanding of social issues, especially in a multinational context, influencing more comprehensive social disclosure practices. These findings shed light on the differential impact of distinct board competencies on ES disclosures within Malaysian firms, emphasising expertise, gender diversity, independence, and international directorship in driving environmental and social responsibility disclosures.

This study provides valuable insights into how board competency can enhance environmental and social disclosure practices in Malaysia. Nevertheless, it has limitations as this study did not consider recent MCGG requirements highlighting board tenure and remuneration. Board tenure is an important factor that may also impair board independence. Besides that, these findings only focussed on the Malaysian setting and lack of generalisation for the Asian countries. Although this study found an association between board competency and ES disclosure, these findings may not establish a definitive causal relationship due to the complexity and numerous factors influencing disclosure practices. Factors such as industry-specific factors, management policies and regulatory requirements also significantly shape environmental and social disclosure. As a result, while the study could highlight important trends and connections, it did not fully determine how board competency directly caused changes in disclosure practices.

The avenue for future research should explore the differences in the impact of board competencies on environmental, social, and

governance (ESG) disclosure across regions, which could provide a deeper understanding of context-specific influences. In addition, exploring potential mediating or moderating factors that influence the relationship between board competencies and ESG disclosure, such as regulatory environments or leadership dynamics, could provide a more comprehensive understanding.

This study highlights the importance of board competency in enhancing environmental and social disclosures, offering practical guidance for companies in Malaysia. By emphasising the role of board expertise, gender, and internalisation, the findings can help firms improve their disclosure practices, leading to greater transparency and accountability. Firms can use these insights to strengthen their boards and develop more effective strategies for reporting environmental and social impacts.

The study contributes to the theoretical understanding of how corporate governance influences environmental and social disclosure practices. Specifically, it examines the influence of governance attributes, including board size, frequency of board meetings, board expertise, board gender diversity, board independence, and board internalisation towards environmental and social disclosure. Specifically, it enriches stakeholder theory by demonstrating how board competency can enhance environmental and social disclosures, thereby improving stakeholder engagement and addressing their expectations for greater transparency and accountability. This theoretical framework can guide further studies and help refine theories related to board effectiveness and disclosure practices.

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REFERENCES

- Agarwala, N., Pareek, R., & Sahu, T. N. (2023). Does board independence influence CSR performance? A GMM-based dynamic panel data approach. *Social Responsibility Journal*, 19(6), 1003–1022.
- Al-Issa, N., Khaki, A. R., Jreisat, A., Al-Mohamad, S., Fahl, D., & Limani, E. (2022). Impact of environmental, social, governance, and corporate social responsibility factors on firm's marketing expenses and firm value: A panel study of US companies. *Cogent Business & Management*, 9(1), 2135214.
- Aladwey, L., Elgharbawy, A., & Ganna, M. A. (2022). Attributes of corporate boards and assurance of corporate social responsibility reporting: Evidence from the UK. *Corporate Governance: The International Journal of Business in Society*, 22(4), 748-780.
- Alkhawaja, A., Hu, F., Johl, S., & Nadarajah, S. (2023). Board gender diversity, quotas, and ESG disclosure: Global evidence. *International Review of Financial Analysis*, 90, 102823.
- Almaqtari, F. A., Elsheikh, T., Abdelkhair, F., & Mazrou, Y. S. (2023). The impact of corporate environmental disclosure practices and board attributes on sustainability: Empirical evidence from Asia and Europe. *Heliyon*, 9(8), e18453
- Arayssi, M., Jizi, M., & Tabaja, H. H. (2020). The impact of board composition on the level of ESG disclosures in GCC countries. *Sustainability Accounting, Management and Policy Journal*, 11(1), 137-161.
- Azmi, N. A., Zakaria, N., Mohd Sanusi, Z. & Abdul Wahab, E. A. (2021). The effect of board monitoring on operating cash flows manipulation among Malaysian firms. *Journal of Legal, Ethical, and Regulatory Issues*, 24(1), 1-13.
- Beretta, V., Demartini, M. C., & Sotti, F. (2023). Board composition and textual attributes of non-financial disclosure in the banking sector:

- Evidence from the Italian setting after directive 2014/95/EU. *Journal of Cleaner Production*, 385, 135561.
- Bear, S., Rahman, N., & Post, C. (2010). The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation. *Journal of Business Ethics*, 97(2), 207–221.
- Bhat, B. A., Makkar, M. K., & Gupta, N. (2023). Corporate board structure and ESG performance: An empirical study of listed firms in the emerging market. *Corporate Governance and Sustainability Review*, 7(2), 8-17.
- Birindelli, G., Dell’Atti, S., Iannuzzi, A. P., & Savioli, M. (2018). Composition and activity of the board of directors: Impact on ESG performance in the banking system. *Sustainability (Switzerland)*, 10(12), 1–20.
- Buallay, A., & Al-Ajmi, J. (2020). The role of audit committee attributes in corporate sustainability reporting: Evidence from banks in the Gulf Cooperation Council. *Journal of Applied Accounting Research*, 21(2), 249-264.
- Brown, K., Lorient, B., Peranganing, Y., & Skully, M. T. (2023). Board Diversity and ESG: Australia, Indonesia, Malaysia and Thailand. Indonesia, Malaysia and Thailand. Available at SSRN: <https://ssrn.com/abstract=4625103> or <http://dx.doi.org/10.2139/ssrn.4625103>
- Chaganti, R. S., Mahajan, V., & Sharma, S. (1985). Corporate board size, composition and corporate failures in retailing industry. *Journal of Management Studies*, 22(4), 400-417.
- Chen, L., Khurram, M. U., Gao, Y., Abedin, M. Z., & Lucey, B. (2023). ESG disclosure and technological innovation capabilities of the Chinese listed firms. *Research in International Business and Finance*, 65, 101974.
- Deschênes, S., Rojas, M., Boubacar, H., Prud’homme, B., & Ouedraogo, A. (2015). The impact of board traits on the social performance of Canadian firms. *Corporate Governance*, 15(3), 293-305.

- 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.
- Dienes, D., & Velte, P. (2016). The impact of supervisory board composition on CSR reporting. Evidence from the German two-tier system. *Sustainability (Switzerland)*, 8(1), 1–20.
- Farrell, K. A., & Hersch, P. L. (2005). Additions to corporate boards: The effect of gender. *Journal of Corporate Finance*, 11(1-2), 85-106.
- Githaiga, P. N., & Kosgei, J. K. (2023). Board characteristics and sustainability reporting: A case of listed firms in East Africa. *Corporate Governance: The International Journal of Business in Society*, 23(1), 3-17.
- 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.
- Gazley, B., Chang, W. K., & Bingham, L. B. (2010). Board diversity, stakeholder representation, and collaborative performance in community mediation centers. *Public Administration Review*, 70(4), 610-620.
- Gillan, S.L., Koch, A., & Starks, L.T. (2021). Firms and social responsibility: a review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66(3), 101889.
- Gurol, B. & Lagasio, V. (2023). Women board members' impact on ESG disclosure with environment and social dimensions: Evidence from the European banking sector. *Social Responsibility Journal*, 19(1), 211-228.
- Handa, R. (2021). Does presence of foreign directors make a difference? A case of Indian IPOs. *Business Perspectives and Research*, 9(1), 111–127.
- Harper J. (2007). *Chairing the board: a practical guide to activities and responsibilities*. Kogan Page Publishers, London.

- Hillman, A., Cannella, A., & Harris, I. (2002). Women and Racial Minorities in the Boardroom: How Do Directors Differ? *Journal of Management*, 28, 747–763.
- Homroy, S., & Slechten, A. (2019). Do board expertise and networked boards affect environmental performance?. *Journal of Business Ethics*, 158, 269-292.
- Inderst, G., & Stewart, F. (April, 2018). Incorporating environmental, social and governance (ESG) factors into fixed income investment. World Bank Group publication.
- Islam, K. A., & Bhuiyan, A. B. (2019). The theoretical linkages between the Shariah Supervisory Board (SSB) and stakeholder theory in the Islamic financial institutes: an empirical review. *International Journal of Accounting & Finance Review*, 4(2), 43-49.
- Jensen, M. C., & Meckling, W. H. (2019). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Corporate Governance*, 77-132.
- Ju Ahmad, N. B., Rashid, A., & Gow, J. (2017). Board meeting frequency and corporate social responsibility (CSR) reporting: Evidence from Malaysia. *Corporate Board: Role, Duties and Composition*, 13(1-1), 87–99.
- Kamaludin, K., Ibrahim, I., Sundarasan, S., & Faizal, O. V. A. (2022). ESG in the boardroom: Evidence from the Malaysian market. *International Journal of Corporate Social Responsibility*, 7(1), 4.
- Klettner, A., Clarke, T., & Boersma, M. (2014). The governance of corporate sustainability: Empirical insights into the development, leadership and implementation of responsible business strategy. *Journal of Business Ethics*, 122, 145-165.
- Knyazeva, A., Knyazeva, D., & Masulis, R. (2009). Local director talent and board composition. Unpublished working paper.

- KPMG Survey of Sustainability Reporting 2022. (September 2022). KPMG International.
- Lavin, J. F., & Montecinos-Pearce, A. A. (2021). ESG disclosure in an emerging market: An empirical analysis of the influence of board characteristics and ownership structure. *Sustainability*, 13(19), 10498.
- Lerner, J. (2022). Venture capitalists and the oversight of private firms. In *Venture capital*, Routledge, 267-284.
- Liu, T., Abdelbaky, A., Elamer, A. A., & Elmahgoub, M. (2023). Real earnings management and ESG disclosure in emerging markets: The moderating effect of managerial ownership from a social norm perspective. *Heliyon*, e22832.
- MCCG (2017), Malaysian Code on Corporate Governance, Securities Commission, Kuala Lumpur.
- Miletkov, M., Poulsen, A., & Wintoki, M. B. (2017). Foreign independent directors and the quality of legal institutions. *Journal of International Business Studies*, 48, 267-292.
- Ngu, S. B., & Amran, A. (2019). The impact of sustainable board capital on sustainability reporting. *Strategic Direction*, 35(12), 8-11.
- Ntim, C. G., & Osei, K. A. (2011). The impact of corporate board meetings on corporate performance in South Africa. *African Review of Economics and Finance*, 2(2), 83-103.
- Oxelheim, L., & Randøy, T. (2003). The impact of foreign board membership on firm value. *Journal of Banking & Finance*, 27(12), 2369-2392.
- Riyadh, H. A., Sukoharsono, E. G., & Alfaiza, S. A. (2019). The impact of corporate social responsibility disclosure and board characteristics on corporate performance. *Cogent Business & Management*, 6(1), 1647917.
- Sierdovski, M., Pilatti, L. A., & Rubbo, P. (2022). Organizational competencies in the development of Environmental, Social, and

- Governance (ESG) criteria in the industrial sector. *Sustainability*, 14(20), 13463.
- Tsang, A., Frost, T., & Cao, H. (2023). Environmental, social, and governance (ESG) disclosure: A literature review. *The British Accounting Review*, 55(1), 101149.
- Trinh, V. Q., Salama, A., Li, T., Lyu, O., & Papagiannidis, S. (2023). Former CEOs chairing the board: Does it matter to corporate social and environmental investments? *Review of Quantitative Finance and Accounting*, 61, 1277-1313.
- Umar, U. H. (2023). Gender diversity, foreign directors and sector-wise corporate philanthropic giving of Islamic banks in Bangladesh. *Gender in Management: An International Journal*, 2, 206–221.
- Van Hoang, T. H., Pham, L., & Nguyen, T. T. P. (2023). Does country sustainability improve firm ESG reporting transparency? The moderating role of firm industry and CSR engagement. *Economic Modelling*, 125, 106351.
- Wan Mohammad, W. M., Mohd Zaini, R., & Md Kassim, A. A. (2023). Women on boards, firms' competitive advantage and its effect on ESG disclosure in Malaysia. *Social Responsibility Journal*, 19(5), 930–948.
- Wasiuzzaman, S., & Wan Mohammad, W. M. (2020). Board gender diversity and transparency of environmental, social and governance disclosure: Evidence from Malaysia. *Managerial and Decision Economics*, 41(1), 145-156.
- Wasiuzzaman, S., & Subramaniam, V. (2023). Board gender diversity and environmental, social and governance (ESG) disclosure: Is it different for developed and developing nations? *Corporate Social Responsibility and Environmental Management*, 30(5), 2145-2165.
- Wu, Z., Gao, J., Luo, C., Xu, H., & Shi, G. (2024). How does boardroom diversity influence the relationship between ESG and firm financial performance? *International Review of Economics & Finance*, 89, 713–730.

Younas, N., Uddin, S., Awan, T., & Khan, M. Y. (2021). Corporate governance and financial distress: Asian emerging market perspective. *Corporate Governance: The International Journal of Business in Society*, 21(4), 702-715.