Women on the Audit Committee, Board Size and ESG Performance: Evidence from Malaysian Listed Companies

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ABSTRACT

Environmental, social and governance (ESG) performance has become a central expectation of investors, lenders and regulators, yet whether board and committee composition translates into stronger ESG outcomes remains contested, particularly in emerging markets. This study examines the effect of women on the audit committee (WAC) and board size (BSIZE) on the ESG performance (ESG) of firms listed on Bursa Malaysia. Drawing on agency theory and resource dependence theory, the study analyses a balanced panel of 238 listed firms over 2020 to 2022, comprising 714 firm-year observations. The results show that women on the audit committee are positively and significantly associated with ESG performance, indicating that each additional woman on the committee is associated with stronger ESG outcomes. Board size is also positively associated with ESG performance, although only at the 10 per cent significance level. Theoretically, the findings support the integration of agency theory and resource dependence theory by showing that women on the audit committee contribute through both monitoring and resource provision, and that larger boards supply additional resources for sustainability. Practically, the findings suggest that regulators and boards should extend the gender diversity expectations of the Malaysian Code on Corporate Governance (MCCG) 2021 from the board to the audit committee.

Keywords: ESG performance, women on the audit committee, board size, agency theory, resource dependence theory, Malaysia

INTRODUCTION

Environmental, social and governance (ESG) performance has moved from the periphery to the centre of corporate accountability. Investors increasingly use ESG information to assess long-term risk, and auditors now incorporate ESG profiles into their risk assessment and audit pricing decisions (Zhang et al., 2023; Ling et al., 2024; Gou & Li, 2025; Li & Meng, 2025). Evidence from Malaysia shows that ESG disclosure is also reflected in audit fees, indicating that ESG is treated as a real business risk rather than a voluntary public relations exercise (Yip, 2025). At the same time, concerns about greenwashing and symbolic reporting have intensified, as firms may disclose favourable sustainability narratives without corresponding improvements in actual performance (Chong et al., 2025; Masmoudi & Ben Salem, 2024). These developments place corporate governance mechanisms, particularly the board of directors and the audit committee, at the heart of the question of whether ESG commitments are genuine.

Malaysia offers a compelling setting for this question. Bursa Malaysia has progressively strengthened sustainability reporting expectations for listed issuers (Bursa Malaysia, 2022), while the Malaysian Code on Corporate Governance (MCCG) 2021 sets explicit expectations for board composition. The MCCG 2021 recommends that women make up at least 30 per cent of the board, that at least half of the board comprise independent directors, and that the board be of an appropriate size and mix of skills to discharge its responsibilities effectively (Securities Commission Malaysia, 2021). It further recommends that the chair of the audit committee should not be the chair of the board and encourages the audit committee to have the collective knowledge and experience needed to oversee reporting (Securities Commission Malaysia, 2021). Notably, the 30 per cent gender diversity expectation applies to the board as a whole and is silent on committee composition, leaving open whether women on the audit committee, the body most directly responsible for reporting oversight, make a difference to ESG performance.

The existing evidence is divided. On the positive side, women directors are associated with stronger corporate sustainability and better ESG performance, as they tend to bring broader perspectives, ethical sensitivity and risk awareness to board deliberations (Aladwan et al., 2025; Zhao & Zhang, 2026). Board structure has similarly been linked to sustainable development (Nguyen, 2025). On the negative side, recent studies caution that women on boards may be associated with disclosure asymmetry rather than substantive improvement (Jain, 2026). The evidence on board size is also mixed: larger boards bring more expertise and networks, but studies of board size and ESG controversies show that larger boards do not necessarily produce better ESG outcomes and may suffer from coordination problems (Treepongkaruna et al., 2024; Yin & Xu, 2025). Malaysian evidence on board characteristics and firm outcomes likewise remains inconclusive (Abdul Puhat et al., 2024).

Three gaps motivate this study. First, conceptually, most studies examine gender diversity at the level of the full board, while the audit committee, which oversees reporting quality, internal control and the external auditor, has received far less attention as a channel for ESG outcomes. Prior work on the audit committee and ESG has focused mainly on chair effectiveness and expertise (Alodat et al., 2023; Sahu et al., 2025) rather than on gender composition. Second, contextually, evidence covering the post-MCCG 2021 and pandemic period in Malaysia is scarce, even though the COVID-19 period altered governance priorities and financial reporting behaviour (Hsu & Yang, 2022; Harjoto & Laksmana, 2022). Third, empirically, few studies use a large balanced panel with two-way fixed effects to test committee-level gender diversity and board size together, while accounting for differences between firms and for events in each year that affect all firms alike.

Accordingly, this study pursues two objectives. The first objective is to examine the effect of women on the audit committee (WAC) on ESG performance (ESG). The second objective is to examine the effect of board size (BSIZE) on ESG performance (ESG) among firms listed on Bursa Malaysia.

The novelty of this study lies in shifting the gender diversity debate from the boardroom to the audit committee and in testing it against ESG performance in the Malaysian post-MCCG 2021 period. The study contributes in three ways. First, it provides new evidence that the number of women on the audit committee is positively associated with ESG performance, extending the board diversity literature to the committee level. Second, it shows that board size has a positive, though modest, association with ESG performance, supporting the resource provision logic of resource dependence theory over the coordination cost concern. Third, it offers practical guidance to regulators, boards and nomination committees on extending gender diversity expectations beyond the board to its key committees.

The remainder of this paper is organised as follows. The next section reviews the theoretical foundations and develops the hypotheses. This is followed by the methodology, research findings and discussion. The paper then presents the implications to management and to academia, and closes with the conclusion, limitations and directions for future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theoretical Foundations

Agency theory. Agency theory holds that managers may pursue self-interest at the expense of owners, giving rise to agency costs that must be contained through monitoring (Jensen & Meckling, 1976). ESG underperformance can be viewed as an agency problem, because managers may avoid long-horizon sustainability investments whose benefits accrue after their tenure, or may present favourable sustainability narratives that are not backed by substance (Masmoudi & Ben Salem, 2024). The board and the audit committee are the principal internal monitors that reduce such problems, so their composition should influence ESG performance.

Resource dependence theory. Resource dependence theory views the firm as an open system that depends on its external environment for critical resources, and argues that the board is a key mechanism for managing this dependence (Pfeffer & Salancik, 1978). Directors provide resources such as expertise, advice, networks, access to capital and legitimacy, which help the firm respond to the expectations of investors, lenders and regulators (Hillman & Dalziel, 2003). As ESG performance is increasingly demanded by capital

providers and regulators in Malaysia (Securities Commission Malaysia, 2021; Bursa Malaysia, 2022), directors who bring relevant knowledge and external linkages should help firms secure the capabilities needed to improve ESG performance.

Integrating the two theories. Hillman and Dalziel (2003) argue that the board performs two complementary functions: monitoring, as explained by agency theory, and resource provision, as explained by resource dependence theory. This study adopts this integrated view. Women on the audit committee and board size are expected to influence ESG performance both by strengthening oversight of management and by bringing the expertise, perspectives and legitimacy needed to address sustainability expectations.

ESG Performance

ESG performance refers to the extent to which a firm manages environmental impacts, social responsibilities and governance practices, typically captured through third-party ratings or scores. Studies in Southeast Asia show that ESG performance varies considerably across firms and depends on firm-level governance and resource characteristics (Ali et al., 2022), while Malaysian evidence indicates that ESG practices are linked to performance among Shariah-compliant firms (Peng & Isa, 2020). The credibility of ESG scores is itself a governance issue, since external audit and strong oversight are associated with higher-quality ESG scores (Del Giudice & Rigamonti, 2020). Audit quality also conditions the relationship between ESG and firm value and financial performance (Maji & Tiwari, 2025; Vaihekoski & Yahya, 2025), and Big Four auditors moderate the link between governance and ESG performance (Handayati et al., 2025). Collectively, this literature suggests that ESG outcomes depend heavily on the strength of internal and external oversight.

Women on the Audit Committee and ESG Performance

The argument for a positive relationship rests on both theories. From an agency perspective, effective monitoring of management is the principal means of containing agency costs (Jensen & Meckling, 1976), and women directors are associated with greater ethical sensitivity and risk awareness, which make them diligent monitors (Aladwan et al., 2025; Zhao & Zhang, 2026). Because the audit committee oversees financial and non-financial reporting, internal control and the external auditor, women on the committee may demand more rigorous ESG reporting and challenge symbolic disclosure. From a resource dependence perspective, women bring diverse expertise, networks and legitimacy that help the firm meet stakeholder and regulatory expectations (Pfeffer & Salancik, 1978; Hillman & Dalziel, 2003). Empirically, women on boards are linked to stronger corporate sustainability (Aladwan et al., 2025) and better ESG performance, particularly when they hold genuine power (Zhao & Zhang, 2026), and audit committee attributes such as chair effectiveness and expertise strengthen sustainability disclosure and ESG performance (Alodat et al., 2023; Sahu et al., 2025).

The opposing argument holds that representation does not guarantee influence. Women on boards can be associated with disclosure asymmetry, where firms appear more transparent on some dimensions without improving underlying performance (Jain, 2026). Firms may also appoint women primarily to satisfy regulatory expectations under the MCCG 2021, a form of symbolic compliance that parallels greenwashing in sustainability reporting (Chong et al., 2025). Despite these concerns, the dominant theoretical expectation from agency theory and resource dependence theory is positive, and a greater number of women on the committee should increase their influence. Therefore, the following hypothesis is proposed:

H1: Women on the audit committee (WAC) are positively associated with ESG performance (ESG).

Board Size and ESG Performance

Resource dependence theory suggests that larger boards provide more resources, because each additional director brings expertise, networks and links to external constituencies (Pfeffer & Salancik, 1978; Hillman & Dalziel, 2003). A larger board can distribute oversight across more committees, include directors with sustainability or industry knowledge, and enhance the legitimacy of the firm with investors and regulators. Board structure has been linked to stronger sustainable development outcomes (Nguyen, 2025), and the MCCG 2021 emphasises that the board should have the size and mix of skills necessary to discharge its responsibilities (Securities Commission Malaysia, 2021).

Agency theory, however, warns that larger boards may suffer from coordination costs, slower decision making and free-riding, which weaken monitoring (Jensen & Meckling, 1976). Studies on board size and ESG controversies suggest that larger boards do not automatically deliver better ESG outcomes (Treepongkaruna et al., 2024; Yin & Xu, 2025), and board characteristics have shown mixed associations with firm outcomes among large Malaysian firms (Abdul Puhat et al., 2024). Given the growing complexity of ESG demands, which require broad expertise, this study expects the resource benefits of larger boards to outweigh their coordination costs. Therefore, the following hypothesis is proposed:

H2: Board size (BSIZE) is positively associated with ESG performance (ESG).

Control Variables

Three control variables are included. Firm size (SIZE) is expected to be positively associated with ESG performance because larger firms face greater public visibility and possess more resources for sustainability initiatives (Ali et al., 2022). Profitability (ROA) is expected to be positively associated with ESG performance under the slack resources view, although ESG investments may also reduce short-term returns (Kammoun & Khoufi, 2025). Audit quality (BIG4) is expected to be positively associated with ESG performance because Big Four auditors provide stronger external oversight and are associated with higher-quality ESG information (Del Giudice & Rigamonti, 2020; Diab & Eissa, 2024; Handayati et al., 2025).

Conceptual Framework

Figure 1 presents the conceptual framework of the study, grounded in agency theory and resource dependence theory. Women on the audit committee (WAC) and board size (BSIZE) are the independent variables, ESG performance (ESG) is the dependent variable, and firm size (SIZE), profitability (ROA) and audit quality (BIG4) are control variables.

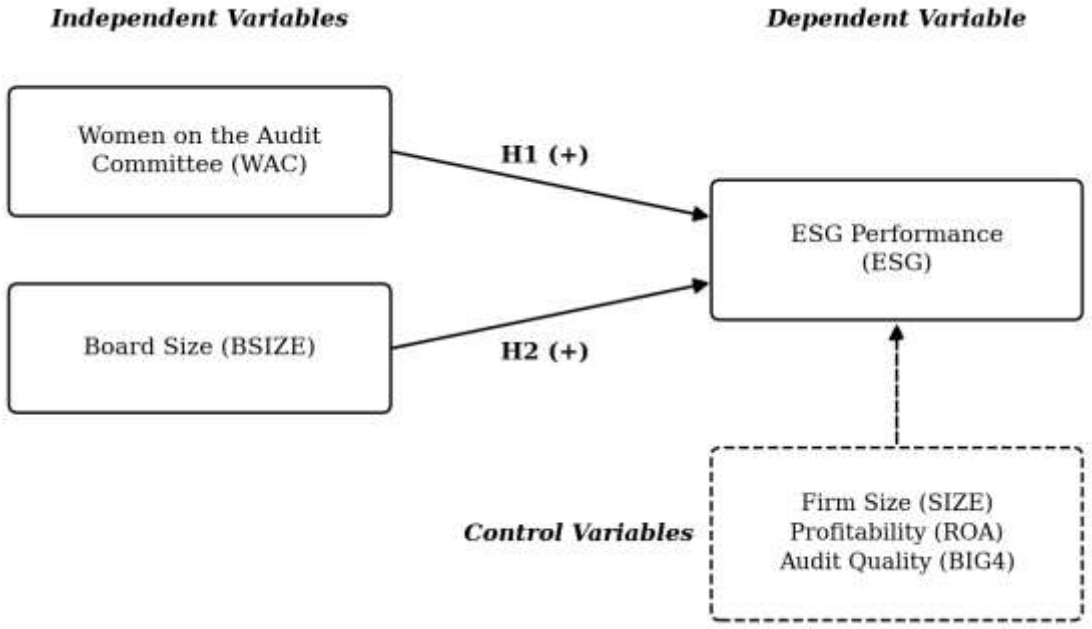

Figure 1 Conceptual Framework

METHODOLOGY

Research Design and Sample Selection

This study adopts a quantitative, archival research design using secondary panel data. Malaysia provides a highly relevant empirical setting because of its evolving corporate governance framework and growing emphasis on sustainability reporting. In recent years, Bursa Malaysia and the Securities Commission Malaysia have intensified efforts to strengthen ESG disclosure practices (Securities Commission Malaysia,

2021; Bursa Malaysia, 2022). Despite these developments, ESG performance and governance effectiveness continue to vary across firms, raising concerns about the credibility and consistency of sustainability reporting. Malaysia is therefore an appropriate context for examining how women on the audit committee (WAC) and board size (BSIZE) influence ESG performance (ESG).

The study covers the period from 2020 to 2022. This period captures the issuance of the MCCG 2021, which introduced stronger expectations on board composition and gender diversity (Securities Commission Malaysia, 2021), as well as the COVID-19 period, during which governance priorities and financial reporting quality came under unusual pressure (Hsu & Yang, 2022; Harjoto & Laksmana, 2022).

The population comprises firms listed on Bursa Malaysia with available FTSE Russell ESG ratings. Two screening procedures are applied to ensure data consistency. First, firms in the financial and insurance sectors are excluded because of their distinct regulatory environment and capital structure. Second, firms with missing or incomplete data during the study period are removed. The final sample consists of 238 non-financial firms, yielding a balanced panel of 714 firm-year observations.

Research Instrument and Data Collection

As the study relies on secondary data, no survey questionnaire or interview protocol was used. ESG ratings were obtained from the FTSE Russell database. Governance data were hand-collected from the corporate governance overview statements and audit committee reports in the firms' annual reports, available on the Bursa Malaysia website, using a structured content analysis checklist adapted from prior governance and ESG studies (Abdul Puhat et al., 2024; Yip, 2025). This approach captures information not fully available in structured databases, namely the gender composition of the audit committee, board size and the identity of the external auditor. Financial data for firm size and profitability were extracted from the audited financial statements. All hand-collected data were cross-checked against the annual reports to ensure accuracy.

Variables and Measurement

Table 1 summarises the definition and measurement of all variables used in the study.

Table 1 Variables and Measurement

Variable	Acronym	Measurement	Source
ESG performance	ESG	ESG rating obtained from FTSE Russell	Vaihekoski & Yahya (2025); Yip (2025)
Women on the audit committee	WAC	Number of women directors on the audit committee	Aladwan et al. (2025); Zhao & Zhang (2026)
Board size	BSIZE	Natural logarithm of the total number of directors on the board	Treepongkaruna et al. (2024); Yin & Xu (2025)
Firm size	SIZE	Natural logarithm of total assets	Ali et al. (2022); Hay et al. (2006)
Profitability	ROA	Earnings before interest and tax divided by total assets	Kammoun & Khoufi (2025)
Audit quality	BIG4	Dummy variable equal to 1 if the firm is audited by a Big Four audit firm, 0 otherwise	Handayati et al. (2025)

Research Model

To test the hypotheses, the study estimates the following panel regression model:

$$ESG_{i,t} = \beta_0 + \beta_1 WAC_{i,t} + \beta_2 BSIZE_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 BIG4_{i,t} + \mu_i + \lambda_t + \varepsilon_{i,t}$$

where ESG is ESG performance, WAC is women on the audit committee, BSIZE is board size, SIZE is firm size, ROA is profitability and BIG4 is audit quality for firm *i* in year *t*. The term μ_i captures cross-section (firm) fixed effects, λ_t captures period (year) fixed effects and $\varepsilon_{i,t}$ is the error term.

Data Analysis Procedure

The analysis proceeds in four stages using EViews. First, descriptive statistics are computed to describe the distribution of each variable. Second, Pearson correlation and covariance analysis are used to examine the relationships among variables and to assess multicollinearity. Third, the model is estimated using panel least squares with cross-section and period fixed effects. Firm fixed effects control for time-invariant unobserved firm characteristics such as culture and industry, while period fixed effects capture events that affect all firms in a given year, such as the pandemic and regulatory changes (Wooldridge, 2010). To determine the most appropriate panel specification, the redundant fixed effects likelihood ratio test and the Hausman test were conducted. The redundant fixed effects test confirms that the cross-section and period effects are jointly significant, indicating that the fixed effects model is preferred over pooled ordinary least squares, while the Hausman test confirms that the fixed effects model is more appropriate than the random effects model. Fourth, inference is based on White (1980) cross-section robust standard errors, which correct for heteroskedasticity and contemporaneous correlation across firms. The Durbin-Watson statistic is used to assess serial correlation in the residuals.

RESEARCH FINDINGS

Descriptive Statistics

Table 2 presents the descriptive statistics for 714 firm-year observations. ESG performance (ESG) has a mean of 1.968, indicating a moderate average level of ESG performance among the sample firms. Women on the audit committee (WAC) has a mean of 0.845. On average, therefore, audit committees in the sample include fewer than one woman, and some include none, suggesting that gender diversity at committee level remains limited despite the MCCG 2021 expectation of at least 30 per cent women on the board (Securities Commission Malaysia, 2021).

Board size (BSIZE), measured as the natural logarithm of the number of directors, has a mean of 2.054, equivalent to about eight directors, and ranges from 1.386 to 2.639, corresponding to boards of four to 14 directors. Firm size (SIZE) has a mean of 13.481 and ranges from 6.771 to 20.004, indicating that the sample includes both small and very large firms. Profitability (ROA) averages 4.3 per cent, with a median of 3.3 per cent, and ranges from −56.7 per cent to 79.0 per cent. Audit quality (BIG4) has a mean of 0.566, showing that 56.6 per cent of firm-years are audited by a Big Four firm.

Table 2 Descriptive Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
ESG	1.968	2.000	4.000	0.000	1.386
WAC	0.845	1.000	5.000	0.000	0.864
BSIZE	2.054	2.079	2.639	1.386	0.232
SIZE	13.481	13.348	20.004	6.771	1.581
ROA	0.043	0.033	0.790	−0.567	0.093
BIG4	0.566	1.000	1.000	0.000	0.496

Notes: n = 714 firm-year observations (238 firms, 2020 to 2022). Refer to Table 1 for variable definitions and measurement.

Correlation Analysis and Multicollinearity

Table 3 reports the Pearson correlation matrix. ESG performance (ESG) is positively and significantly correlated with women on the audit committee (WAC) ($r = 0.207$, $p < 0.01$), board size (BSIZE) ($r = 0.231$, $p < 0.01$), profitability (ROA) ($r = 0.130$, $p < 0.01$) and audit quality (BIG4) ($r = 0.247$, $p < 0.01$), while its correlation with firm size (SIZE) is not significant ($r = 0.047$). These univariate results provide initial support for H1 and H2. The highest correlation among the explanatory variables is between WAC and BSIZE ($r = 0.185$), well below the threshold of 0.80 commonly used to indicate serious multicollinearity. Because all pairwise correlations among the explanatory variables are below 0.20, multicollinearity is not a concern in the regression estimates (Neter et al., 1983).

Table 3 Correlation Analysis

	ESG	WAC	BSIZE	SIZE	ROA	BIG4
ESG	1.000					
WAC	0.207***	1.000				
BSIZE	0.231***	0.185***	1.000			
SIZE	0.047	0.014	0.097***	1.000		
ROA	0.130***	0.050	0.048	0.129***	1.000	
BIG4	0.247***	0.134***	0.178***	0.097***	0.038	1.000

Notes: n = 714. Refer to Table 1 for variable definitions and measurement. *** significant at $p < 0.01$, ** significant at $p < 0.05$, * significant at $p < 0.10$.

Regression Results

Table 4 presents the panel least squares results with cross-section and period fixed effects. The model is statistically significant (F-statistic = 6.163, $p < 0.01$). The R^2 of 0.762 and adjusted R^2 of 0.639 indicate that the explanatory variables, together with the fixed effects, explain a substantial proportion of the variation in ESG performance. Inference is based on White cross-section robust standard errors.

Table 4 Panel Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.976	0.588	1.660*	0.098
WAC	0.074	0.024	3.126***	0.002
BSIZE	0.570	0.327	1.741*	0.082
SIZE	−0.016	0.013	−1.231	0.219
ROA	0.374	0.225	1.664*	0.097
BIG4	−0.064	0.134	−0.477	0.634
R^2	0.762			

Adjusted R^2	0.639
F-statistic	6.163***
Prob (F-statistic)	0.000
Durbin-Watson statistic	2.546
Cross-section fixed effects	Yes
Period fixed effects	Yes
Firms / Observations	238 / 714

Notes: Dependent variable is ESG performance (ESG). Refer to Table 1 for variable definitions and measurement. The model is estimated using panel least squares with cross-section and period fixed effects over 2020 to 2022 (balanced panel). Standard errors and t-statistics are based on White (1980) cross-section robust covariance. *** significant at $p < 0.01$, ** significant at $p < 0.05$, * significant at $p < 0.10$.

Women on the audit committee (WAC) is positively and significantly associated with ESG performance ($\beta = 0.074$, $t = 3.126$, $p < 0.01$). Each additional woman on the audit committee is associated with a 0.074 point increase in ESG performance, holding other factors constant. H1 is therefore supported.

Board size (BSIZE) is positively associated with ESG performance ($\beta = 0.570$, $t = 1.741$, $p < 0.10$). Because board size is measured in logarithmic form, a 10 per cent increase in board size is associated with an increase of about 0.054 points in ESG performance. H2 is therefore supported, although only at the 10 per cent significance level, suggesting that the effect of board size is weaker than that of women on the audit committee.

Among the control variables, profitability (ROA) is positively associated with ESG performance at the 10 per cent level ($\beta = 0.374$, $t = 1.664$, $p < 0.10$). Firm size (SIZE) ($\beta = -0.016$, $t = -1.231$, $p > 0.10$) and audit quality (BIG4) ($\beta = -0.064$, $t = -0.477$, $p > 0.10$) are not significantly associated with ESG performance. Table 5 summarises the hypothesis testing results.

Table 5 Summary of Hypothesis Testing

Hypothesis	Expected sign	Result	Decision
H1: WAC → ESG	+	Positive, significant ($p < 0.01$)	Supported
H2: BSIZE → ESG	+	Positive, significant ($p < 0.10$)	Supported (weak)

Soundness of Results

Several features support the soundness of the results. The two-way fixed effects specification controls for unobserved, time-invariant firm characteristics and for events that affect all firms in the same year, reducing omitted variable bias (Wooldridge, 2010). White (1980) cross-section robust standard errors make inference robust to heteroskedasticity and cross-sectional dependence. The low pairwise correlations among explanatory variables indicate no multicollinearity concern. The Durbin-Watson statistic of 2.546 indicates no positive serial correlation, although the value above 2 suggests mild negative serial correlation, which is common in short panels estimated with fixed effects.

DISCUSSION

The positive and significant association between women on the audit committee (WAC) and ESG performance (ESG) is the central finding of this study. It supports agency theory, which predicts that diligent

monitors reduce the agency problems that lead to weak ESG performance (Jensen & Meckling, 1976), and resource dependence theory, which predicts that women bring expertise, networks and legitimacy that help the firm respond to sustainability expectations (Pfeffer & Salancik, 1978; Hillman & Dalziel, 2003).

The result is consistent with evidence that women on boards strengthen corporate sustainability (Aladwan et al., 2025) and that female power in boardrooms improves ESG performance (Zhao & Zhang, 2026). It differs from Jain (2026), who associates women on boards with disclosure asymmetry rather than substantive improvement. The new insight is that the benefit of gender diversity is visible at the committee level, and that it increases with the number of women on the committee, which suggests that greater representation gives women more influence over the committee agenda.

The positive association between board size (BSIZE) and ESG performance (ESG), significant at the 10 per cent level, supports resource dependence theory, which views larger boards as providing more expertise, networks and legitimacy (Pfeffer & Salancik, 1978; Hillman & Dalziel, 2003). The result agrees with Nguyen (2025), who links board structure with sustainable development, and is consistent with the MCCG 2021 emphasis on a board of appropriate size and skills (Securities Commission Malaysia, 2021). The modest significance, however, suggests that the coordination costs highlighted by agency theory partly offset the resource benefits of larger boards, which helps explain why studies on board size and ESG controversies report mixed results (Treepongkaruna et al., 2024; Yin & Xu, 2025).

The control variables offer further insight. The weakly positive effect of profitability (ROA) is consistent with the slack resources view, in which more profitable firms can afford to invest in sustainability (Kammoun & Khoufi, 2025). The insignificant effects of firm size (SIZE) and audit quality (BIG4) contrast with studies that find larger firms and Big Four auditors associated with better ESG outcomes (Ali et al., 2022; Handayati et al., 2025). One explanation is methodological: firm size and auditor choice change little within a firm over three years, so their effects are largely absorbed by the firm fixed effects. The result for BIG4 is also consistent with evidence that the link between auditor choice and ESG is not uniform (Diab & Eissa, 2024).

Implications to Management

The findings carry several practical implications. For regulators such as the Securities Commission Malaysia and Bursa Malaysia, the results indicate that women on the audit committee are associated with stronger ESG performance. As the MCCG 2021 expectation of at least 30 per cent women applies only at board level, regulators could consider extending gender diversity guidance to key board committees, particularly the audit committee, and requiring disclosure of committee gender composition and of the committee's responsibilities for ESG oversight.

For boards and nomination committees, the results imply that appointing women to the audit committee, and increasing their number rather than appointing a single woman, may help strengthen ESG oversight. Boards should also assign clear sustainability oversight duties to the audit committee and ensure that women members hold roles with real authority, such as the committee chair.

Investing in the professional development and leadership pathways of women directors is also important, as Malaysian evidence links women's career maturity to business success (Darmanto et al., 2021). Regarding board size, the findings suggest that boards should be large enough to bring the range of expertise ESG requires, while avoiding the coordination problems of very large boards.

For investors and lenders, the findings suggest that the number of women on the audit committee is a useful signal of ESG commitment, and that committee composition deserves attention alongside board-level diversity statistics. For managers, the results highlight the value of treating ESG as a strategic investment, since auditors and markets increasingly price ESG risk (Zhang et al., 2023; Gou & Li, 2025).

Implications to Academia

This study adds to academic knowledge in three ways. First, it extends agency theory to the committee level by showing that women on the audit committee appear to act as effective monitors in the ESG domain, not

only in financial reporting. Second, it extends resource dependence theory by showing that the resources associated with women directors and larger boards translate into ESG outcomes, and that the effect of women grows with their number on the committee (Pfeffer & Salancik, 1978).

Third, it responds to calls to integrate agency and resource dependence perspectives (Hillman & Dalziel, 2003) by showing that women on the audit committee satisfy both the monitoring and the resource provision functions, whereas the benefits of board size are partly offset by coordination costs.

Methodologically, the study demonstrates the value of a large balanced panel with two-way fixed effects and robust standard errors for governance research, and shows that a count measure of women on the audit committee can capture variation that a simple presence dummy would miss. Future research could extend these measures to the role and expertise of women on the committee, examine comparative settings across ASEAN markets, and link committee composition with the quality of ESG assurance.

CONCLUSION

This study examined the effect of women on the audit committee (WAC) and board size (BSIZE) on ESG performance (ESG) among 238 firms listed on Bursa Malaysia over 2020 to 2022. Addressing the first objective, the study finds that women on the audit committee are positively and significantly associated with ESG performance, supporting H1. Addressing the second objective, board size is positively associated with ESG performance at the 10 per cent level, supporting H2. Among the control variables, profitability is weakly positive, while firm size and audit quality are not significant.

Overall, the study contributes by moving the gender diversity debate from the board to the audit committee, by integrating agency theory and resource dependence theory to explain how committee and board composition shape ESG performance, and by offering practical guidance on extending the gender diversity expectations of the MCCG 2021 to the audit committee.

The study has several limitations. The panel covers only three years, which limits the within-firm variation available to estimate the effects of slow-moving variables such as firm size and auditor choice. Women on the audit committee is measured as a count and does not capture the expertise, tenure or role of each woman, and ESG performance is measured using a single rating source. Profitability also contains extreme values that may influence the estimates.

Future research should use longer periods, measure the proportion and roles of women on the audit committee, including whether a woman chairs the committee, compare alternative ESG ratings, test robustness to winsorised variables, and investigate moderating factors such as ownership structure.

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