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BEYOND TRANSPARENCY: FEMALE DIRECTORS AND CONSERVATIVE SUSTAINABILITY DISCLOSURE PRACTICES

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Abstract:

Board gender diversity is often linked to greater governance, accountability, and sustainability reporting. Previous research, however, have shown inconsistent results, suggesting that female on board may influence sustainability disclosure in a different way than is commonly presumed. To fill this research gap, this study aims to extend an empirical literature on the relationship between female directors and sustainability reporting quality (SRQ) among Malaysian-listed firms. This study used panel data analysis with data collected from 77 Malaysian-listed firms from 2021 to 2023. Board gender diversity was measured by the proportion of female directors to the total number of directors on the board. The quality of sustainability reporting was assessed using an index developed based on the Bursa Malaysia Sustainability Reporting Framework and related sustainability toolkits. The index examined the extent and quality of sustainability disclosure. The results showed a strong negative relationship between female board representation and SRQ. By using Critical Mass Theory, this study further analyses the negative effect of female on board and SRQ. The result confirmed that the negative correlation becomes greater when women account for more than 30% of the board and companies appoint three or more female directors. This conclude that companies with higher female representatives have lower SRQ scores. In addition, this study adds to the literature on board gender diversity, sustainability reporting, and Critical Mass Theory by demonstrating that increased female representation may lead to more conservative disclosure practices rather than more broad reporting. The findings also offer practical implications for regulators and policymakers, by suggesting that more sustainability disclosure rules may be required to minimise selective reporting and lower the possibility of greenwashing behaviour.

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Keyword:

Board Gender Diversity, Female Directors, Sustainability Reporting Quality, Critical Mass, Conservative Reporting, Greenhushing

Introduction

Sustainability reporting has become a common feature of corporate reporting around the world. Over the past decade, companies have been facing increasing pressure from regulators, investors, and other stakeholders. leading to greater demands for disclosures on environmental, social, and governance (ESG) information. The shift towards greater sustainability disclosure has been particularly evident in Malaysia following the introduction of a more comprehensive sustainability reporting requirements by Bursa Malaysia. As a result, sustainability reporting is no longer viewed as an optional communication tool but as an important mechanism for demonstrating accountability and building stakeholder confidence.

The rapid demand for sustainability reporting has prompted businesses to provide more extensive information about their sustainability efforts. In practice, disclosure decisions are complex. Although sustainability reporting may increase openness, it may also expose to businesses risk. For instance, providing false sustainability claims could increase public criticism, and regulatory scrutiny, which in long term will negatively impact the firms' reputation. Knowing this issue, firms may become more cautious about what they disclose and how they communicate this information to stakeholders. As a result, sustainability reporting is not only viewed as compliance requirements but also as a strategic decision driven by managerial judgement and corporate governance concerns.

As a company's supreme decision-making body, the board of directors play an important role in corporate governance matters. The board of directors influences a broad spectrum of strategic decisions, including those related to sustainability reporting. This requirement has encouraged scholars to pay close attention to board composition in the corporate governance studies, as different board characteristics may influence strategic business decisions differently.

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Board characteristics may influence their assessments about perceive risks, stakeholder expectations, and in making disclosure decisions. Among all, board gender diversity ranks as one of the most extensively investigated characteristics.

Recent empirical studies have demonstrated that boards with female members can improve performance and governance in the organisation. Female directors have been associated to superior organisational outcomes, including lower earnings management (Alves, 2023; de Araújo Fernandes & Machado, 2023) and greater innovation potential (del Mar Fuentes-Fuentes et al., 2023; Saha & Maji, 2022; Shiu Yik et al., 2021). It has also been discovered that female directors are associated with better sustainability performance (Lin et al., 2022; Nguyen et al., 2023; Shiu Yik et al., 2021) and more extensive sustainability reporting (Gonenc & Krasnikova, 2022; Peng et al., 2022).

However, empirical evidence is inconsistent. Some studies found that female directors increase sustainability disclosure, others are inconclusive, inconsequential, or even counterproductive. The seemingly contradictory results imply that the impact of female directors on sustainability reporting is not as straightforward as previously assumed. Some researchers associated female directors with risk-aversion and supported by the argument that women tend to be more conservative in analyzing events they have never experienced and future negative consequences.

This situation can sometimes limit comprehensive disclosure of sustainability information. where female directors may inspire a more conservative reporting strategy, especially if the sustainability details are hard to validate or might lead to reputational risks for the company. In this situation, female directors may be more inclined to safeguard the reputation of the firm, by limiting the amount of information disclosed.

This point of view is especially pertinent in the context of Critical Mass Theory. This theory holds that the present of women directors do not automatically impact boards decisions. Only when they reach certain threshold, their impact on business decisions becomes significant. Studies have found that when female representation reaches 30% or more, or when the board has at least three female board members, they have better potential to influence board decisions and deliberations.

To further understand this matter, this study explores the relationship between female directors and the SRQ among the Malaysian publicly listed companies. The study examines whether better quality of sustainability reporting is linked to higher proportions of female on board, and whether it becomes more apparent after reaching the critical mass level. From the analysis, the results show a significant negative correlation exists between female directors and the quality of sustainability reporting, contrary to what was anticipated. The negative relationship is more pronounced when more than 30% of the board or more than three women are appointed as directors.

This study adds to the literature in three ways. First, it challenges the common perception that the higher is the proportion of women directors, the better is the disclose on sustainability. Secondly, it extends the Critical Mass Theory relating to sustainability reporting by showing that the impact of female directors is more significant when a certain number of representations is achieved. Lastly, the results contribute to the growing discussion of "greenhushing," with the

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suggestion that a more conservative approach to disclosing sustainability information may be associated with higher proportion of female board representatives.

Literature Review

Sustainability Reporting Quality

As organisations are increasingly expected to report on their ESG impacts, SRQ has been gaining more and more attention among researchers, regulators and stakeholders. High quality sustainability information allows the stakeholders to accurately assess sustainability performance and the company's long-term commitment to sustainable development which is valuable to investors make informed decisions (Permatasari et al., 2020; Yuliandhari et al., 2022). Apart from being a medium for communicating, sustainability reporting is also considered as an effective medium for promoting transparency, accountability and corporate stewardship.

Although the importance of sustainability reporting is widely recognized, there is no single accepted method to measure the quality of sustainability reporting. There are many different techniques and methods used in previous studies to measure the quality of sustainability reports. Some studies measure the reporting quality from the qualitative aspects, including balance (Permatasari et al., 2020), clarity, accuracy, timeliness, reliability and comparability (Sebrina et al., 2023). Others concentrate on how much disclosure is provided by using a multi-point scoring scale, which focuses on whether or not sustainability items are disclosed (Setiawan et al., 2023; Yuliandhari et al., 2022). Some other studies include weighted scoring systems that give different scores depending on the type of information, whether it is general statements, qualitative disclosures, and quantitative disclosures. Quantitative disclosures are often associated with having greater credibility, being more objective and verifiable, and being more useful to stakeholders (Elaigwu, 2020; Elaigwu et al., 2024; Herawaty et al., 2021). From the perspective of Michelon et al. (2015), a high-quality report must be based upon accuracy, relevance, and provide useful information to help stakeholders make correct decisions.

Other indicators used include page counts, word counts (Herawaty et al., 2021), external assurance (Herawaty et al., 2021; Rezaee & Tuo, 2019), compliance with reporting frameworks and adherence to standards like Global Reporting Initiative (GRI) (Herawaty et al., 2021; Rezaee & Tuo, 2019). But these methods have been found to be inadequate to reflect the quality of reporting. Length of a report or volume of disclosure may be susceptible to impression management, contain less substance or meaningful information but lengthy in volume.

There is a growing trend in the literature to not depend on the amount of information provided as determinant of information quality, but to focus on the comprehensiveness of the information. Research conducted by Helfaya et al., (2019) found that both, preparers and users of sustainability reports rated completeness, accuracy, and reliability as the most important dimensions of reporting quality. They also found that stakeholders focus on the richness of information and the diversity of performance indicators, rather than on total disclosure. This is a reminder that companies need to pay attention to the quality of information provided, rather than focusing on the volume of information.

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Institutional and governance factors have been found in the literature to affect the quality of sustainability reporting. Among determinants of reporting quality disclosed by previous research includes company age (Yuliandhari et al., 2022), firm size (Setiawan et al., 2023), board size (Ben-Amar & McIlkenny, 2015; Setiawan et al., 2023), board independence (Ben-Amar & McIlkenny, 2015; Setiawan et al., 2023), female directors (García-Sánchez et al., 2019; Nadeem et al., 2020), directors' experience (Setiawan et al., 2023), and shareholder engagement (Yuliandhari et al. 2022). However, results are inconsistent in various institutional contexts, suggesting that reporting quality depends not only firm characteristics but also institutional factors such as reporting systems and national governance systems.

The existing literature generally shows that the quality of sustainability reporting is a multi-faceted phenomenon, which transcends disclosure volume. Comprehensive, accurate, balanced, reliable and aligned with recognised reporting standards are prerequisites for high quality sustainability reporting. Therefore, the use of an appropriate measurement framework is an important issue to consider in sustainability reporting research because it could affect different aspects of the reporting quality and the interpretation of the research findings.

Board Gender Diversity

There has been a growing focus on board gender diversity in sustainability and governance studies. Previous research argues that board members, particularly women directors, may provide unique perspectives, experiences, and values for board deliberations, which can affect how firms make sustainability-related decisions and report them (Bear et al., 2010; Chams & García-Blandón, 2019; Liao et al., 2015). Female directors are also reputed to be more ethical, sensitive to stakeholders' needs and participative in decision-making compared to male directors (Adams & Ferreira, 2009; Carter et al., 2005; García-Sánchez et al., 2019). They are also often claimed to be more accountable, transparent and credible in providing information to external stakeholders (García-Sánchez et al., 2019; Nadeem et al., 2020). These features are likely to further enhance the monitoring of the board and sustainability reporting.

This argument is supported by the Resource Based View (RBV) Theory. According to RBV, the key for organizations to obtain competitive advantages is to gain from assets that are valuable, rare, and hard to imitate. In the context of this, board gender diversity is a source of human and social capital, which is the asset to the organizations. Female directors contribute to board's expertise, risk assessment and identification of sustainability-related opportunities (Khan et al., 2021; Makkonen, 2022; Ouni & Mansour, 2022). Gender-diverse boards have more diverse perspective, are prone to engage more in the monitoring of ESG initiatives (Fernandez-feijoo et al., 2013) and contribute to a more comprehensive and credible sustainability reporting (Issa & Hanaysha, 2021).

While the above arguments support the notion that the quality in sustainability reporting can be improved with female directors, the effectiveness of female directors could be related to their proportion. Previous studies implicitly assume a linear relationship between the number of directors and its influence on business outcomes (Liu et al., 2014; Saha, 2023; Saha & Maji, 2022). However, the Critical Mass Theory suggests that the impact of female directors does not solely rely on their representation but also on whether they have enough representation to be able to meaningfully participate in board deliberations (Smriti & Das, 2026; Zhang et al., 2026).

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In situations where the representation of female directors is limited, they might be subjected to tokenism, which may restrict their participation in decision-making, thereby preventing them from influencing the direction of corporate decisions (Al-shaer, 2016; Kangyi et al., 2024). Increasing women's representation leads to a higher likelihood of meaningful influence by women directors on board decisions, as women directors move beyond symbolic participation. Some studies found that female directors more than 30 percent (De Novellis et al., 2025; Jayaraman et al., 2025) or a minimum of two (Nadeem et al., 2020), to three (Amorelli & García-Sánchez, 2020; Javaid et al., 2023; Jayaraman et al., 2025) female directors on the board to be effective in contributing to the board discussions, monitoring activities and decisions on sustainability. Their role in the quality of sustainability reporting should be more noticeable as a critical mass is reached.

Based on the above arguments, the following hypotheses are proposed:

H1: Board gender diversity is positively associated with sustainability reporting quality.
H2: The positive association between board gender diversity and sustainability reporting quality becomes stronger when female directors achieve a critical mass on the board.

Methodology

Sample Selection and Data Collection

The study uses a panel data set of 77 non-financial companies traded in the Bursa Malaysia Main Market over the period of 2021 to 2023, which gives a total of 231 firm-year observations. The sample was chosen from companies with a minimum market capitalisation of RM2 billion as at 31 December 2015. This criterion was selected as large companies belong to the first wave mandated by Bursa Malaysia to publish sustainability information under Practice Note 9 of the Bursa Malaysia Listing Requirements. As a result, these companies are likely to have more experience and maturity in sustainability reporting. Financial institutions, such as banking, insurance, securities, unit trust and closed-end fund companies, were not included because they operate under different reporting and regulatory requirements.

Data were gathered from annual reports, integrated reports, sustainability reports, corporate governance reports and Thomson Reuters DataStream. Sustainability reporting information was gathered and content analysis applied to the publicly available corporate sustainability reports. Meanwhile board characteristics and ownership data were manually collected from the annual reports. Finally, the financial data were extracted from the DataStream.

Measurement of Sustainability Reporting Quality

Sustainability reporting quality (SRQ) was measured using a Sustainability Reporting Quality Index (SRQI) developed based on the Bursa Malaysia Sustainability Reporting Guide and Toolkits (Revised 2022). The index captures three dimensions of reporting quality: disclosure extent, disclosure depth, and compliance with reporting requirements.

The index consists of seven sections covering sustainability governance, reporting scope and basis, materiality assessment, management approach, performance targets, performance data tables, and assurance disclosures. Sections A to C, and E to G assess the presence of disclosure using a dichotomous scoring approach, where a score of one was assigned when the required

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information was disclosed, and zero otherwise. To capture disclosure quality, Section D evaluates firms' reporting of common sustainability matters and indicators prescribed by Bursa Malaysia. Following the approach adopted by Jamil et al., (2021), a modified five-point scale was used to differentiate between brief qualitative disclosure, detailed qualitative disclosure, quantitative disclosure with limited explanation, and quantitative disclosure with comprehensive explanation. Higher scores indicate better reporting quality. Jamil et al., (2021) used 6-point scale to score the SRQ. However, this study adopts a 5-point scales as shown is Table 1 below:

Table 1: Sustainability Reporting Quality Index (*SRQI*) Scale

Score	4-point scale
0	No disclosure
1	Brief qualitative disclosure (1 to 5 sentences)
2	Detailed qualitative disclosure (more than 5 sentences)
3	Quantitative disclosure with a brief description (1 to 5 sentences)
4	Quantitative disclosure with detailed explanation (more than 5 sentences)

The cumulative score obtained from all items represents the firm's overall sustainability reporting quality, with higher scores indicating superior reporting quality.

Variables

The dependent variable is sustainability reporting quality (SRQ) assessed with SRQI.
The independent variable (board gender diversity) is defined as the proportion of female directors to the total number of directors (Githaiga, 2023; Nadeem et al., 2020).

There are four control variables included. Net income divided by total assets is the return on assets (ROA). Firm size (SIZE) is based on log of total assets. Firm age (AGE) represented by the number of years since incorporation. Firm leverage (LEV) is a ratio calculated by dividing the total long-term debt over the total assets.

Reliability of Content Analysis

Inter-rater reliability testing was done to improve the reliability of content analysis procedure. The SRQI was verified by two independent external raters to assess and grade the quality of sustainability reporting of the selected firms. The interrater reliability and consistency of the coding process was subsequently tested to ensure agreement between the different raters.

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Result And Discussion

Descriptive Statistics

Table 2 presents the descriptive statistics for all variables. Included in the table are number of observations, mean, minimum, maximum and standard deviation value for all variables in this study.

Table 2: Descriptive Statistics For All Variables

	Observations (n)	Mean (%)	Minimum (%)	Maximum (%)	Standard Deviation (%)
B_GEN	231	2.541	0	7	1.250
TOTALSRQ	231	71.706	20	94	15.127
TOTALA	231	5.814	2	6	0.695
TOTALB	231	2.290	0	3	0.696
TOTALC	231	8.147	0	11	1.838
TOTALD	231	49.887	8	64	11.777
TOTALE	231	2.900	0	5	1.743
TOTALF	231	0.654	0	2	0.910
TOTALG	231	2.013	0	6	2.585
ROA	231	0.058	-0.568	0.801	0.116
SIZE	231	6.963	5.788	8.313	0.539
LEV	231	0.494	0.078	1.503	0.221
AGE	231	44.446	9	138	26.216

Notes: B_GEN is the number of female directors on the board
TOTALA, TOTALB, TOTALC, TOTALD, TOTALE, TOTALF, TOTALG are the scores for components in the SRQ
ROA is net income over total assets
SIZE is the log of total assets
LEV is the long-term debt over total assets
AGE is the number of years of business operation since inception

Descriptive Statistics for Board Gender

Referring to Table 2, board gender diversity (B_GEN) is the number of female directors on the board for each firm-year observation. Across the sample, the number of female directors' ranges from 0 to 7, with an average of 2.541 directors per board. While the proportion of

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women has grown over time, there are still companies that do not achieve the 30% gender representation as recommended by the Malaysian Code on Corporate Governance (MCCG, 2021).

The descriptive statistics for firms that have less than the recommended 30% female representation on their boards are presented in Table 3. The 2021 data shows that 19.91% (46 firm-years) observations had < 30% female representation. This figure fell slightly in 2022 to 44 observations and further to 41 observations in 2023, indicating a gradual rise in the number of females on corporate boards.

Table 3: Descriptive Statistics For Companies With Female Directors Below 30 Percent

Year	N	Mean	Minimum % of female directors	Maximum % of female directors	Standard Deviation
2021	46	18.491	0	28.57	7.5410
2022	44	19.618	0	28.57	7.2950
2023	41	20.234	8.33	28.57	6.5560

The proportion of female directors in companies with less than 30% grew from 18.49% in 2021 to 19.62% in 2022 and 20.23% in 2023. All sampled firms had at least one female director by 2023, as the percentage of females on the board rose to 8.33% on that particular year. The maximum percentage of women directors in this group did not vary significantly with the percentage of 28.57% that remained over the years.

Overall, the descriptive statistics suggest that there has been a gradual increase in board gender diversity among the big, listed companies of Malaysia. However, a significant percentage of companies fell short of the recommended female representation as highlighted by MCCG, indicating that the pace of change towards higher board diversity levels is not uniform across companies.

Descriptive Statistics for SRQ

Referring to Table 2, the descriptive statistics show a considerable amount of variation in the quality of sustainability reporting (SRQ) among sampled firms. The average SRQ score is 71.706, implying that on average, companies have a relatively good level of adherence to the Bursa Malaysia Sustainability Reporting Framework. The standard deviation value of 15.127 however shows that there is a wide variation of reporting quality between the firms. The range of the SRQ scores between 20 and 94 suggests there is highly significant variation of sustainability reporting practices across sampled firms.

Gamuda, FGV, Petronas Gas, and Kossan Rubber scored the highest (94), reflecting the higher level of transparency and quality of sustainability reporting. On the other hand, Sapura Energy, UOA Development, Sports Toto, and Magnum recorded much lower scores, ranging from 20 to 34. The results indicate that while some companies have embraced national sustainability reporting, others are still struggling to come out with high quality report. The differences in scores among firms may partly be due to variations in organisational priorities, resource availability, stakeholder pressures and industry characteristics. Companies with higher expectations from their regulators and stakeholders, or in industries that are especially prone to environmental and social scrutiny, tend to be more likely to make detailed sustainability reports. On the other hand, companies with financial difficulties and/or major organisational issues may allocate fewer resources to sustainability reporting, which can lead to lower reporting quality. The overall descriptive statistics indicate that the average quality of the sustainability reporting of the large Malaysian listed companies is relatively good but there are still variations between companies.

Descriptive Statistics for the Control Variables

Referring to Table 2, the four control variables that are analyzed are profitability (ROA), firm size (SIZE), leverage (LEV), and firm age (AGE). Profitability (represented by ROA) shows a mean of 0.058, and a range from -0.568 to 0.801. The relatively large range indicates that there is a significant spread of financial performance in the sampled companies, with some companies achieving good profitability whereas others were not financially well during the period of the study. The range of firm sizes, which is the log of total asset, is between 5.788 and 8.313. The same applies to leverage, where there is a significant spread among firms, reflecting differences in financing practices and risk levels. There are companies that keep their capital structure rather conservative, and others are more debt oriented. There is also a significant difference in age of firms in the sample. The youngest firm is 9 years old while the oldest is over 100 years old. This divergence implies that there is a wide difference in organisational maturity, and experience among firms.

Result from Panel Data Analysis

Table 4 is the result regression result from the panel data analysis.

Table 4: Result of the Panel Data Analysis

Variables	Coefficient	p-value
pb_GEN	-0.175	0.000***
ROA	5.160	0.100
SIZE	8.016	0.015**
LEV	-7.750	0.000***
AGE	10.323	0.000***
Prob > F	0.000***	
R-squared	0.584	
Max lag / (n)	1/ (231)	

Notes: The symbol ***, **, * represent sig value p<0.001, p<0.005, and p<0.10
pb_GEN is the percentage of female directors on the board
ROA is the net income over total assets
SIZE is the log of total assets
LEV is the long-term debt over total assets

Hypothesis 1 predicts that the board gender diversity has a positive relationship with SRQ. However, the findings show that board gender is negatively associated with SRQ ($\beta = -0.175$, $p < 0.001$). So, Hypothesis 1 is rejected.

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The discovery implies that companies with larger representation of female directors are more likely to have lower quality sustainability reports. This finding contradicts the prevailing perspective in the literature which posits that female representation on the board promotes greater transparency and disclosure quality via improved monitoring, stakeholder focus and ethical monitoring. The evidence suggests, however, that if there is more female representation, then companies are more likely to adopt a more conservative stance toward sustainability reporting.

A possible reason is linked to the 'behaviour' of female directors. According to earlier research, there are indications that women are more conservative, risk-averse, and prudent when making decisions in a corporate environment that carry uncertainty risk, as well as reputational risk (Carbone et al., 2024; De Novellis et al., 2025; Iqbal & Saeed, 2025; Palvia et al., 2020; Zalata et al., 2019). From the sustainability reporting context, these may lead to efforts by companies to be more selective with their reporting, especially if sustainability disclosures are difficult to substantiate and/or could be subject to scrutiny in the future. As a result, female directors might be more concern about disclosure credibility and risk management rather than comprehensive reporting, potentially leading to more conservative sustainability disclosure practices.

Hypothesis 2 predicts that the positive relationship between board gender diversity and the quality of sustainability reporting is strengthened when the female directors reach the critical mass value. The results, however, provide evidence in the opposite direction. The result shows support to basic concepts of Critical Mass Theory, where when more women represent the board, the greater is their influence. However, the finding shows that the increased influence seems to be related with lower sustainability reporting quality. Hence, no support is found for Hypothesis 2.

In order to investigate further about critical mass, further analysis was done with both the proportion of female directors, and the number of female directors on the board. The results based on the percentage of female directors are shown in Table 5. Referring to Table 5, the reference category is the baseline for the firms that have less than 20% women directors (gcat1). The findings reveal that the quality of sustainability reporting becomes more negative with higher representation of women on the board. The coefficient (β) is negative but insignificant for firms with 20 percent and less than 30 percent female representation (gcat2: -1.953, $p = 0.178$); however, as female representation is greater than 30 percent, the relationship is significantly negative. For companies with female directors' representation ranging from 30% to less than 50% (gcat3), the SRQ scores are significantly lower ($\beta = -6.960$, $p < 0.001$), and companies with 50% or more female directors (gcat4) remains with significantly lower SRQ scores ($\beta = -5.982$, $p = 0.049$).

The same trend can be seen when critical mass is measured in terms of the number of female directors (refer Table 6). The average SRQ score for firms with 3 to 4 female directors is 8.36 points lower than that of firms with two or fewer female directors ($\beta = -8.358$, $p < 0.001$) (refer Table 4). The magnitude of the effect is even greater in firms with 5+ female directors, with SRQ scores about 16.21 points lower than the reference group ($\beta = -16.205$, $p<0.001$). The direction of this influence contradicts the explanation derived from the Resource Based View Theory.

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Table 5: The Relationship Between the Percentage of Board Gender and Sustainability Reporting Quality

Gender category	n/N	Coefficient	p-value
gcat1 (<20%)	66	reference	
gcat2 (20%-<30%)	68	-1.9530	0.178
gcat3 (30%-<50%)	84	-6.960***	0.000
gcat4 (50%+)	13	-5.982**	0.049
ROA	231	7.637***	0.006
SIZE	231	10.1163*	0.015
LEV	231	-13.6547***	0.000
AGE	231	10.47683***	0.000
Constant		455.3724 ***	0.000

Notes: gcat1 = firms with less than 20% female directors on the board
gcat2 = firms with 20% to less than 30% female directors on the board
gcat3 = firms with 30% to less than 50% female directors on the board
gcat4 = firms with 50% or more female directors on the board

Table 6 Error! No text of specified style in document.**: The Relationship Between The Number Of Female Directors And Sustainability Reporting Quality**

Gender category	n/N	Coefficient	p-value
gcat1 (≤2 women)	117	reference	
gcat2 (3-4 women)	95	-8.35751***	0.000
gcat3 (≥5 women)	19	-16.2053***	0.000
ROA	231	8.265147***	0.003
SIZE	231	8.15624***	0.005
LEV	231	-14.9258***	0.000
AGE	231	10.66713***	0.000
Constant		-448.2637***	0.000

Notes: gcat1 = firms with less than 2 female directors on the board
gcat2 = firms with 3 to 4 female directors on the board
gcat3= firms with greater than 5 female directors on the board
gcat4 = firms with 50% or more female directors on the board

The results suggest that female directors become more influential in sustainability decisions when they move beyond tokenism (Al-Shaer & Zaman, 2016; Elaigwu, 2020; Kangyi et al., 2024; Mogbogu, 2016). However, the findings suggest that more women in the boardroom

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could correlate with a more conservative stance on sustainability communication, rather than increasing disclosure. The findings are in line with the conclusions of various studies which suggest that women are more risk averse, cautious and sensitive to reputational issues when making strategic decisions (Carbone et al., 2024; De Novellis et al., 2025; Iqbal & Saeed, 2025; Palvia et al., 2020; Zalata et al., 2019).

This finding suggests that female directors may be more vigilant about the credibility and defensibility of sustainability disclosures, especially if the disclosures contain sustainability claims where they may be prone to future challenges or be uncertain. Firms with more female directors thus may be more selective in disclosing sustainability information. This type of action aligns with a broader trend of greenhushing, as companies strategically manage the visibility of sustainable investments in spite of growing demands from stakeholders for transparency. It is also consistent with De Novellis et al., (2025) who found that the increase in the proportion of women on the board is correlated with conservativeness of disclosure. The critical mass analysis further validates the findings of the main analysis as the negative correlation between board gender diversity and sustainability reporting quality is more pronounced once female directors achieve meaningful level of representation on the board.

Conclusion

This study examined the relationship between board gender diversity and sustainability reporting quality among Malaysian listed companies. Drawing on the Resource-Based View (RBV) and Critical Mass Theory, this study investigated the role of female directors in shaping sustainability reporting practices, with particular attention to understand whether such influence becomes more pronounced once a critical mass of female representation is achieved.

Contrary to the conventional expectation that female directors improve sustainability disclosure, the findings reveal a significant negative relationship between board gender diversity and sustainability reporting quality. The results further indicate that the negative association becomes stronger when female representation exceeds 30 percent of the board or when firms appoint three or more female directors. These findings supports that female directors do influence sustainability reporting decisions, but not necessarily in the manner commonly assumed in prior literature.

The findings point towards a more nuanced understanding of the role of female directors in sustainability reporting. Rather than encouraging broader disclosure, female directors may promote a more cautious and selective reporting approach, particularly when sustainability disclosures involve uncertainty, reputational exposure, or information that may be difficult to substantiate. From this perspective, lower reporting scores should not automatically be interpreted as weaker governance or poorer sustainability practices. Instead, they may reflect a preference for disclosure credibility, accuracy, and defensibility over disclosure volume.

This study contributes to the growing literature on board gender diversity and sustainability reporting by challenging the assumption that greater female representation necessarily leads to more extensive sustainability disclosure. The findings also extend Critical Mass Theory by demonstrating that the influence of female directors becomes more evident once meaningful representation is achieved. More importantly, the study introduces greenhushing and conservative disclosure behaviour as potential explanations for the relationship between female directors and sustainability reporting quality.

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The findings carry important implications for regulators and policymakers. While initiatives to increase female representation on corporate boards remain important, greater board diversity alone does not necessarily lead to better sustainability reporting. Sustainability reporting frameworks may therefore need to provide clearer guidance on disclosure expectations to reduce the likelihood of selective disclosure and potential greenhushing behaviour. Such efforts may help improve the completeness, comparability, and decision-usefulness of sustainability information provided to stakeholders.

Several limitations should be acknowledged. The study relies on publicly available disclosures and therefore cannot directly observe the motivations underlying reporting decisions. Consequently, it is not possible to determine whether the observed reporting behaviour reflects greenhushing, selective disclosure, efforts to avoid greenwashing, or other organisational considerations. Future research may address this limitation through interviews, surveys, or mixed method approaches that explore the motivations behind sustainability disclosure decisions. Further studies may also refine sustainability reporting quality measures by distinguishing between non-disclosure and disclosures that fail to satisfy the detailed requirements of reporting guidelines.

Overall, the findings suggest that the relationship between female directors and sustainability reporting extends beyond the traditional transparency narrative. Understanding how board gender diversity influences not only what firms disclose, but also what they choose not to disclose, may provide important insights into the evolving nature of corporate sustainability communication.

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