Volume: 11 Issues: 69 Special Issue [October, 2026] pp. 97 - 110
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116907

THE EFFECT OF BOARD GENDER DIVERSITY, FIRM SIZE AND LEVERAGE ON FINANCIAL PERFORMANCE: A MEDIATING EFFECT OF ESG DECOUPLING

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Article history
Received date : 5-9-2026
Revised date : 6-9-2026
Accepted date : 21-10-2026
Published date : 22-10-2026

To cite this document:
Ismail, M. K. A., & Roslan, A. N. (2026). The effect of board gender diversity, firm size and leverage on financial performance: A mediating effect of ESG decoupling. *International Journal of Accounting, Finance and Business (IJAFB),* 11 (69), 97 - 110.

Abstract: *This study develops a Malaysia-focused framework on firm size, leverage and board independence shape the ESG decoupling and focus on examples decoupling mediate the financial performance among Malaysian public listed companies. ESG decoupling refers to the gap between symbolic ESG disclosure and substantive ESG performance. The issue is timely because Malaysia's sustainability reporting environment is moving toward more structured and comparable disclosure under the National Sustainability Reporting Framework, which adopts IFRS S1 and IFRS S2 as baseline standards for sustainability reporting. At the same time, the Malaysian corporate governance environment continues to emphasize board composition, including board gender diversity and independent board oversight. Within this setting, the paper proposes firm size, leverage and board independence as the independent variables, ESG decoupling as the mediating variable, and financial performance as the dependent variable measured exclusively by Tobin's Q. Drawing on legitimacy theory, agency theory, stakeholder theory and signalling theory, the study argues that firm visibility, financial pressure and board monitoring affect the extent to which ESG disclosures correspond with actual ESG performance. ESG decoupling is expected to reduce Tobin's Q because symbolic sustainability disclosure weakens investor trust, increases information risk and exposes firms to reputational and regulatory costs. The study also explains how ESG decoupling can be operationalized using company annual reports by comparing an ESG disclosure score with an ESG performance score. The proposed framework contributes to corporate governance and sustainable finance literature by positioning ESG decoupling as the mechanism through which firm and board and company characteristics influence market-based firm value in Malaysia's emerging market.*

Keywords: *Board Gender Diversity; Firm Size; Board Independence; ESG Decoupling; Sustainable Finance*

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Introduction

Background of the Study

Environmental, social and governance (ESG) considerations have become central to corporate governance and sustainable finance. Investors, regulators, creditors and wider stakeholders increasingly expect firms to explain how sustainability-related risks and opportunities affect business models, risk exposure, capital allocation and long-term resilience. This expectation has intensified with the issuance of IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures, which position sustainability information as financial material information for investment and risk assessment (IFRS Foundation, 2023).

Malaysia provides a relevant emerging-market context for this conceptual paper. The Securities Commission Malaysia introduced the National Sustainability Reporting Framework (NSRF) to enhance the consistency, comparability and reliability of sustainability disclosures, using IFRS S1 and IFRS S2 as the baseline for companies in Malaysia (Securities Commission Malaysia, 2024). These developments are significant because Malaysian public listed companies are increasingly required to move beyond general sustainability narratives toward more structured and decision-useful ESG information.

Malaysia's corporate governance environment also places strong emphasis on board composition and board effectiveness. The Malaysian Code on Corporate Governance recommends that boards comprise at least 30% women directors, while Bursa Malaysia's Listing Requirements require a listed issuer to have at least one-woman director on its board (Securities Commission Malaysia, 2021; Bursa Malaysia, 2023). These requirements demonstrate that board gender diversity remains an important governance issue in Malaysia. However, gender diversity should not be considered in isolation from broader firm and board characteristics. The credibility of ESG reporting may also depend on firm size, leverage and independent board monitoring. Larger firms are usually more visible to investors, regulators, creditors and the public; therefore, they face stronger pressure to disclose ESG information and maintain corporate legitimacy. At the same time, larger firms may have greater resources to implement substantive ESG practices, although their high visibility may also encourage more sophisticated symbolic reporting when disclosure is used mainly to protect reputation. Leverage is also relevant because highly indebted firms are subject to greater scrutiny from creditors and may use ESG disclosure to signal lower risk and stronger responsibility. However, firms with high leverage may face financial constraints that limit their ability to invest in actual ESG improvements, creating a possible gap between ESG disclosure and ESG performance. Therefore, firm size and leverage are important in explaining ESG decoupling because they influence both the motivation and the capacity of firms to align sustainability claims with actual corporate practices (Peng & Xie, 2024).

The central concept in this paper is ESG decoupling. ESG decoupling occurs when a company presents strong ESG commitments, policies, targets or narratives, while its actual ESG practices and outcomes remain weak, inconsistent or selectively implemented. In simple terms, the firm says more than it does. This symbolic-substantive gap is closely related to greenwashing, social-washing and impression management (Marquis, Toffel, & Zhou, 2016; Tashman, Marano, & Kostova, 2019). ESG decoupling is important because investors and stakeholders may rely on annual reports and sustainability statements as evidence of risk management and long-term value creation. If disclosure is not supported by real performance, the market may misprice risk and stakeholders may be misled.

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This paper focuses on the relationship between board gender diversity, firm size, leverage on financial performance in Malaysia, while positioning ESG decoupling as the mediator variable. These variables are observable from company annual reports and financial statements, and they represent three important dimensions of firm behavior: visibility, financial pressure and monitoring quality.

Problem Statement

The main problem addressed in this conceptual paper is the credibility gap in ESG reporting among Malaysian public listed companies. Although sustainability reporting is becoming more structured, a higher volume of ESG disclosure does not automatically indicate stronger ESG practice. Firms may prepare detailed annual report narratives to satisfy investors, regulators and stakeholders, yet their actual environmental, social and governance performance may remain limited. This produces ESG decoupling, which weakens the usefulness of ESG information for investment decision-making and regulatory evaluation. This concern is consistent with the previous study, which argues that decoupling occurs when firms separate symbolic disclosure from substantive practice, thereby creating a gap between what firms report and what they actually implement (Cepêda et al., 2025).

Prior studies have widely examined the direct relationship between corporate governance, ESG disclosure and financial performance. However, many studies implicitly treat ESG disclosure as a reliable proxy for ESG performance. This assumption is problematic because ESG disclosure may be symbolic. A firm may disclose policies, commitments and targets without implementing substantive improvements in emissions management, labour practices, stakeholder engagement, anti-corruption systems or accountability.

From the perspective of legitimacy theory, firms may use ESG reporting to gain social approval and maintain corporate image, especially when they face pressure from regulators, investors and stakeholders. However, such disclosure may become a form of impression management if it is not supported by real operational change. Therefore, the key problem is not only whether firms disclose ESG information, but whether such disclosure is authentic and supported by evidence (Tashman et al., 2019).

In the Malaysian context, this problem is timely for three reasons. First, the National Sustainability Reporting Framework and Bursa Malaysia's sustainability reporting requirements are increasing the importance of reliable, comparable and decision-useful sustainability information. Second, Malaysia's corporate governance reforms continue to emphasize board composition, women directors and independent oversight, suggesting that governance quality should support ESG credibility. Third, the ESG-financial performance relationship remains inconsistent because ESG disclosure may generate short-term legitimacy benefits while exposing firms to long-term reputational and valuation penalties if the disclosure is not matched by real performance. Prior studies show that greenwashing and ESG decoupling can create negative economic effects, including higher financing costs, reduced stakeholder trust and weaker market credibility. Therefore, ESG decoupling is a critical mediating mechanism in explaining how firm size, leverage and board independence may influence financial performance, particularly when financial performance is measured through market-based valuation such as Tobin's Q (Peng & Xie, 2024; Zhan, 2025).

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Research Objectives

The general objective of this conceptual paper is to develop a theoretical framework explaining the relationship between firm size, leverage, board independence, ESG decoupling and financial performance in Malaysia's emerging market. The specific objectives are as follows:

- To examine the conceptual relationship between firm size and ESG decoupling among Malaysian public listed companies.
- To examine the conceptual relationship between leverage and ESG decoupling among Malaysian public listed companies.
- To examine the conceptual relationship between board independence and ESG decoupling among Malaysian public listed companies.
- To explain the direct relationship between ESG decoupling and financial performance measured by Tobin's Q.
- To propose ESG decoupling as a mediating variable linking firm size, leverage and board independence to financial performance.

Literature Review

The study is positioned within the broader literature on board gender diversity, firm characteristics, ESG decoupling and financial performance in Malaysia's emerging market. It is focus reflects the argument that firm value is not shaped only by direct governance or financial factors, but also by the credibility of ESG disclosure. Board gender diversity provides the governance context of the study because board composition remains central to Malaysia's corporate governance agenda. At the same time, firm size and leverage represent important organizational characteristics that may influence ESG reporting behavior. Larger firms are more visible to stakeholders and may face stronger pressure to disclose ESG information, while highly leveraged firms may use ESG disclosure to signal stability and responsibility to creditors and investors. However, when ESG disclosure is not supported by substantive ESG performance, ESG decoupling may occur. Therefore, this study conceptualizes ESG decoupling as a mediating mechanism that explains how board gender diversity, firm size and leverage may influence market-based financial performance among Malaysian public listed companies.

Board Gender Diversity and Governance Context in Malaysia

Board gender diversity refers to the representation of women on corporate boards. It is commonly measured as the percentage of female directors, the number of women directors or the presence of at least one-woman director. From a governance perspective, gender diversity is important because the board is responsible for monitoring management, approving strategy, overseeing risk and ensuring accountability to shareholders and wider stakeholders. Gender-diverse boards may reduce groupthink and encourage wider stakeholder consideration in strategic decision-making (Adams & Ferreira, 2009; Post & Byron, 2015).

In Malaysia, board gender diversity is supported by both voluntary governance expectations and listing rules. The Malaysian Code on Corporate Governance recommends at least 30% women directors, while Bursa Malaysia's Listing Requirements require listed issuers to have at least one-woman director (Securities Commission Malaysia, 2021, 2026). These policy developments demonstrate that gender diversity remains part of the broader effort to strengthen board effectiveness and public confidence. Nevertheless, the present conceptual framework focuses on firm size, leverage and board independence because these variables represent firm visibility, financial pressure and board monitoring, which are directly linked to the risk of ESG decoupling.

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Board gender diversity remains relevant to the paper because it provides the governance setting in which ESG credibility is discussed. However, the framework does not treat gender diversity as the sole explanatory factor. Instead, it recognizes that ESG decoupling may arise from a combination of organizational scale, capital structure and board oversight. This broader governance explanation is useful because Malaysian firms differ not only in gender representation, but also in resources, debt pressure and independence of board monitoring.

Firm Size and ESG Decoupling

Firm size is commonly measured using the natural logarithm of total assets. Larger firms are usually more visible to investors, regulators, creditors, media and civil society. Because of this visibility, they face stronger pressure to disclose ESG information and maintain legitimacy. Legitimacy theory suggests that firms disclose social and environmental information to demonstrate that their operations are consistent with societal expectations (Suchman, 1995). Larger firms may therefore produce more comprehensive ESG disclosure to maintain reputation and investor confidence.

The relationship between firm size and ESG decoupling can be argued in two ways. On one hand, larger firms may have more resources, specialist sustainability teams, better internal controls and stronger reporting systems. These resources can reduce ESG decoupling because the firm is more capable of matching disclosure with actual ESG performance. On the other hand, larger firms face stronger legitimacy pressure and may produce more sophisticated disclosure to protect reputation, even when actual implementation is incomplete. In the Malaysian context, where sustainability reporting is becoming more structured, the visibility of large, listed firms may increase pressure to disclose ESG information. However, the availability of resources suggests that larger firms should be better positioned to reduce the disclosure-performance gap when ESG governance is properly implemented.

Leverage and ESG Decoupling

Leverage refers to the extent to which a firm relies on debt financing. It is commonly measured as total debt divided by total assets or total debt divided by total equity. Leverage is important because highly indebted firms face stronger monitoring from creditors and greater pressure to demonstrate stability, responsibility and risk management. In ESG reporting, leveraged firms may have incentives to disclose sustainability commitments to signal lower risk to banks, bondholders and investors.

However, leverage may also increase ESG decoupling. Firms with high debt obligations may have limited financial flexibility to invest in substantive ESG improvements, such as cleaner technology, employee welfare programmes, supply-chain monitoring, assurance systems or governance reforms. At the same time, they may still face pressure to disclose positive ESG information to maintain legitimacy and access to financing. This creates a potential gap between ESG disclosure and actual ESG performance. Recent evidence suggests that ESG greenwashing can increase financing costs because creditors and investors perceive symbolic ESG behavior as an information risk (Peng & Xie, 2024). Therefore, leverage is an important determinant of ESG decoupling because it captures the tension between financial pressure and substantive sustainability investment.

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ESG Decoupling and Annual-Report Credibility

ESG decoupling is the misalignment between symbolic ESG disclosure and substantive ESG performance. Symbolic ESG includes statements, policies, targets, awards and reporting narratives used to signal sustainability commitment. Substantive ESG refers to actual operational practices, measurable outcomes and internal control systems that reduce environmental harm, improve social outcomes and strengthen governance quality. Decoupling occurs when symbolic claims are stronger than the actual practices or outcomes reported by the firm. Therefore, ESG decoupling is not simply poor ESG performance; it is the credibility gap between what the firm says and what the firm does.

The concept is important because sustainability reporting can be used as a legitimacy tool. Firms under stakeholder pressure may disclose positive ESG information to appear responsible while avoiding costly operational changes. Marquis et al. (2016) show that firms may disclose selectively under scrutiny and normative pressure, while Tashman et al. (2019) explain that firms may separate symbolic CSR actions from substantive actions. Gull, Hussain, Khan, Khan and Saeed (2022) also show that CSR decoupling captures the misalignment between social responsibility disclosure and performance, where a higher score reflects greater mismatch.

In Malaysia, ESG decoupling is particularly relevant because sustainability information is often communicated through annual reports and sustainability statements. Annual reports are important public documents because they combine financial statements, corporate governance information, sustainability disclosures and management narratives. This paper therefore proposes annual reports as the main source for measuring ESG decoupling. The annual report allows researchers to examine whether ESG disclosure is supported by evidence of actual performance, such as emissions data, waste reduction results, energy use, employee safety statistics, anti-corruption training, board independence, diversity policies and assurance statements.

ESG Decoupling and Financial Performance

ESG Financial performance in this study is measured using Tobin's Q only. Tobin's Q is a market-based measure of firm value that compares the market value of the firm with the replacement or book value of its assets. It is commonly used in corporate governance and sustainability research because it captures investor expectations about future growth, risk and intangible value. A simplified formula is: Tobin's Q equals the market value of equity plus book value of debt divided by total assets (Chung & Pruitt, 1994).

Tobin's Q is suitable for this study because ESG decoupling is closely related to market perception. If investors believe that a firm's ESG disclosure is credible, the firm may enjoy stronger legitimacy, lower information risk and better market valuation. However, if ESG disclosure is perceived as symbolic or misleading, investors may discount the firm's value due to reputational risk, regulatory risk and uncertainty over long-term sustainability performance. ESG decoupling can therefore weaken Tobin's Q because it reduces the credibility of sustainability signals. This argument is supported by signalling theory, which suggests that disclosure affects market valuation only when the signal is credible (Spence, 1973).

The ESG-financial performance relationship remains mixed in the literature because ESG can create both costs and benefits. ESG investments may require immediate expenditure on technology, reporting systems, workforce practices, governance structures and assurance.

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However, credible ESG performance can also improve stakeholder trust, reduce risk, increase access to capital and strengthen long-term competitiveness (Friede, Busch, & Bassen, 2015; Aydoğmuş, Gülay, & Ergun, 2022). ESG decoupling helps explain this mixed evidence because disclosure without substantive performance may create short-term legitimacy, but it can damage firm value when inconsistencies become visible.

Theoretical Foundation

The proposed study is supported by four complementary theories which are legitimacy theory, agency theory, stakeholder theory and signalling theory. Legitimacy theory explains why firms disclose ESG information to demonstrate that their activities are consistent with societal expectations and to maintain acceptance from key stakeholders. This theory is relevant to firm size because larger firms are more visible to investors, regulators, creditors, media and the public, making them more exposed to legitimacy pressure. As a result, larger firms may provide more extensive ESG disclosure to justify their social and environmental impact and protect corporate reputation. However, legitimacy pressure may also encourage symbolic ESG disclosure when firms emphasize positive sustainability narratives without equivalent substantive performance. This creates the possibility of ESG decoupling, where disclosure is used to maintain legitimacy rather than to reflect actual ESG implementation (Tashman et al., 2019).

Agency theory explains the role of board independence in reducing ESG decoupling. The theory argues that agency problems arise when managers pursue self-interest or reputation-enhancing strategies that may not fully align with shareholders' and stakeholders' interests. In the ESG context, managers may have incentives to disclose favorable sustainability information to improve corporate image, attract capital or reduce external scrutiny, even when actual ESG practices are limited. Independent directors can reduce this agency problem by strengthening board monitoring, challenging selective management narratives and requiring evidence-based ESG reporting. Therefore, agency theory supports the expectation that board independence is negatively associated with ESG decoupling because independent oversight can reduce managerial opportunism and improve the credibility of sustainability disclosure (Jensen & Meckling, 1976; Fama & Jensen, 1983; Ma, 2024; Ma, 2025).

Stakeholder theory explains why firms must respond to the expectations of investors, creditors, employees, customers, regulators and communities (Freeman, 1984). ESG disclosure becomes meaningful only when it reflects actual practices that address stakeholder concerns. If ESG decoupling occurs, stakeholders may perceive the firm as opportunistic, which can reduce trust and harm long-term value. Signalling theory further explains why ESG decoupling affects Tobin's Q. ESG disclosure sends signals to the market, but the signal creates value only when it is credible. When disclosure is inconsistent with performance, the signal becomes unreliable and may reduce market valuation.

Conceptual Framework and Proposition Development

Framework Overview

The proposed conceptual framework positions firm size, leverage and board independence as the independent variables, ESG decoupling as the mediating variable and financial performance as the dependent variable. Financial performance is measured using Tobin's Q only. ESG decoupling has a direct relationship with Tobin's Q and mediates the relationship between the three independent variables and Tobin's Q.

Figure 1 presents the proposed conceptual framework. The framework retains the paper's

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broader concern with board gender diversity and corporate governance in Malaysia, but the formal model focuses on the three independent variables that are most directly linked to ESG disclosure credibility and are measurable using annual reports and financial statements.

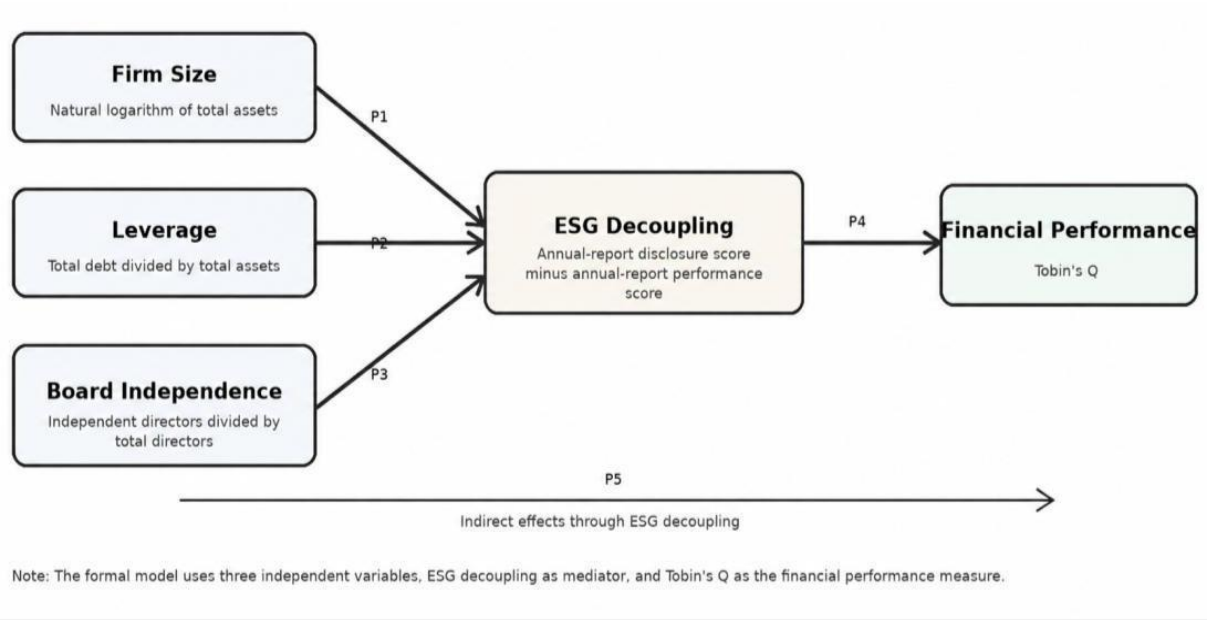


Figure 1. Proposed conceptual framework

Proposition 1: Firm Size and ESG Decoupling

Firm size is expected to influence ESG decoupling because larger firms are more visible and face stronger stakeholder pressure. Large Malaysian listed firms are also more likely to possess the resources needed to build ESG data systems, reporting structures and sustainability governance processes. Therefore, while visibility may increase disclosure pressure, the availability of resources should enable larger firms to align ESG disclosure with actual performance more effectively.

P1: *Firm size is negatively associated with ESG decoupling among Malaysian public listed companies.*

Proposition 2: Leverage and ESG Decoupling

Firm Leverage is expected to increase ESG decoupling because highly indebted firms face pressure to maintain creditor and investor confidence while simultaneously operating under financial constraints. These firms may disclose ESG commitments to signal responsibility and lower risk, yet debt obligations may limit their ability to invest in substantive ESG improvements. This creates a higher risk that ESG disclosure exceeds ESG performance.

P2: *Leverage is positively associated with ESG decoupling among Malaysian public listed companies.*

Proposition 3: Board Independence and ESG Decoupling

Firm Board independence is expected to reduce ESG decoupling because independent directors strengthen monitoring and reduce managerial opportunism. Independent boards can demand clearer ESG evidence, challenge selective disclosure and ensure that annual-report sustainability statements are supported by measurable performance. In Malaysia, board

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independence is particularly important because corporate governance reforms emphasize board oversight, accountability and transparency.

P3: *Board independence is negatively associated with ESG decoupling among Malaysian public listed companies.*

Proposition 4: ESG Decoupling and Firm Performance

ESG decoupling is expected to reduce Tobin's Q because market valuation depends on investor confidence and credible information. If investors perceive ESG disclosure as symbolic, they may discount the firm due to higher reputational risk, regulatory risk and information asymmetry. Therefore, ESG decoupling weakens the value relevance of ESG reporting and can reduce market-based financial performance.

P4: *ESG decoupling is negatively associated with financial performance measured by Tobin's Q.*

Proposition 5: ESG Decoupling as a Mediating Mechanism

ESG decoupling is proposed as the mechanism mediating because it explains how firm size, leverage and board independence influence Tobin's Q. Firm size, leverage and board independence do not affect market value only through direct financial or governance channels. They also affect the credibility of ESG disclosure. When ESG decoupling is low, sustainability reporting becomes more trustworthy and can support investor confidence. When ESG decoupling is high, the market may penalise the firm for symbolic reporting and hidden sustainability risk.

P5: *ESG decoupling mediates the relationship between firm size, leverage, board independence and financial performance measured by Tobin's Q.*

Methodology

Data Source

Although this is conceptual, the proposed framework can guide future empirical testing using Malaysian firm-year longitudinal data. The population may consist of Malaysian public listed companies on Bursa Malaysia. Data may be collected from company annual reports, sustainability statements, corporate governance reports, Bursa Malaysia filings and financial statements. Annual reports are particularly important for this study because they contain both ESG disclosure narratives and evidence of ESG-related performance. They also provide information on firm size, leverage, board independence and financial data needed to compute Tobin's Q.

The use of annual reports is appropriate because Malaysian listed companies are required to disclose corporate governance and sustainability-related information through formal reporting channels. Annual reports also allow researchers to conduct content analysis of ESG disclosure and compare it with actual ESG performance indicators disclosed by the same firm in the same reporting year. This approach is suitable for measuring ESG decoupling because decoupling is fundamentally a disclosure-performance gap.

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Measurement of ESG Decoupling Using Annual Reports

ESG decoupling can be measured by comparing the ESG disclosure score and the ESG performance score derived from the company's annual report. The ESG disclosure score captures the extent to which the firm reports ESG policies, targets, commitments, strategies and narratives. The ESG performance score captures the extent to which the firm reports actual ESG outcomes, implementation evidence and measurable results. The core logic is that a firm has high ESG decoupling when it discloses strong ESG commitments but provides weak evidence of actual ESG performance.

The ESG disclosure score may be developed through content analysis of annual-report sections such as sustainability statements, management discussion and analysis, corporate governance overview, risk management statements and ESG-related notes. Disclosure items may include environmental policy, climate strategy, emissions target, energy management policy, waste management policy, employee welfare statement, diversity policy, occupational safety commitment, anti-corruption policy, supplier code of conduct and sustainability oversight. Each item may be coded using a binary approach, where 1 indicates disclosure and 0 indicates no disclosure, or a weighted scale where more detailed disclosure receives a higher score.

The ESG performance score should be based on evidence of actual implementation and measurable outcomes reported in the annual report. Examples include greenhouse gas emissions data, emissions intensity reduction, renewable energy use, water consumption reduction, waste recycling rate, safety incident rate, employee training hours, gender diversity statistics, anti-corruption training coverage, whistleblowing cases resolved, board independence compliance, sustainability assurance, supplier audits and progress against ESG targets. The performance score should not merely count positive statements; it should capture evidence that ESG practices have been implemented and measured.

The ESG decoupling score can be calculated as follows:

ESG_DECit = Normalised ESG Disclosure Scoreit - Normalised ESG Performance Scoreit

where *ESG_DECit* represents the ESG decoupling score for firm i in year t. A higher positive value indicates a larger symbolic-substantive gap, meaning that ESG disclosure exceeds actual ESG performance. A lower or near-zero value indicates stronger alignment between disclosure and performance. This measurement approach is consistent with the decoupling logic used in prior sustainability and CSR decoupling research, where decoupling is understood as the difference between what firms disclose and what they substantively do (Hawn & Ioannou, 2016; Tashman et al., 2019; Gull et al., 2022).

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Measurement of Key Variables

Table 1: Proposed Measurements of Variables

Variable	Type	Suggested Measurement	Data Source
Firm Size	Independent variable	Natural logarithms of total assets	Annual report / financial statements
Leverage	Independent variable	Total debt divided by total assets	Annual report / financial statements
Board Independence	Independent variable	Independent directors divided by total directors	Corporate governance statement / board profile
ESG Decoupling	Mediating variable	Normally ESG disclosure score minus normalized ESG performance score	Annual report / sustainability statement
Financial Performance	Dependent variable	Tobin's Q: market value of equity plus book value of debt divided by total assets	Annual report / market data

Empirical Model

Future empirical research may test the framework using longitudinal regression techniques. A longitudinal design is suitable because the relationships involve firm characteristics, governance structures, ESG reporting behavior and market valuation over time. Lagged independent variables may be used to reduce reverse causality, because firm characteristics and board composition in one year may influence ESG reporting and market valuation in the following year.

Model 1 estimates the relationship between the three independent variables and ESG decoupling:

$$ESG_DECit = \alpha 0 + \beta 1SIZEit\text{-}1 + \beta 2LEVit\text{-}1 + \beta 3BINDit\text{-}1 + \mu i + \lambda t + \varepsilon it$$

Model 2 estimates the direct relationship between ESG decoupling and Tobin's Q while retaining the independent variables:

$$TOBINQit = \delta 0 + \delta 1SIZEit\text{-}1 + \delta 2LEVit\text{-}1 + \delta 3BINDit\text{-}1 + \delta 4ESG_DECit + \mu i + \lambda t + vit$$

In these equations, SIZE refers to firm size, LEV refers to leverage, BIND refers to board independence, ESG_DEC refers to ESG decoupling and TOBINQ refers to financial performance. Firm fixed effects may control for unobserved firm-specific characteristics, while year fixed effects may control for macroeconomic shocks or regulatory changes affecting all firms. The mediating role of ESG decoupling may be tested using mediation procedures suitable for longitudinal data.

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Conclusion

This study develops a Malaysia-focused framework linking board gender diversity, firm size, leverage, ESG decoupling and financial performance. The study places board gender diversity within the wider corporate governance context and focuses the formal framework on firm size, leverage and board independence as independent variables. ESG decoupling is positioned as the mediating variable, and financial performance is measured using Tobin's Q only.

The core argument is that ESG disclosure becomes valuable only when it is credible and supported by substantive ESG performance. Firm size may reduce ESG decoupling when larger firms possess sufficient resources and reporting systems to align disclosure with action. Leverage may increase ESG decoupling when financial pressure encourages symbolic disclosure while limiting substantive ESG investment. ESG decoupling, in turn, is expected to reduce Tobin's Q because it weakens investor trust and increases information risk.

The study may contribute to corporate governance and sustainable finance literature in three ways. First, it shifts attention from ESG disclosure quantity to ESG disclosure credibility. Second, it explains ESG decoupling as a mediating mechanism linking firm and board characteristics to market-based financial performance. Third, it offers a practical measurement approach using annual reports, which is appropriate for Malaysian public listed companies because annual reports contain sustainability narratives, governance disclosures and measurable ESG indicators.

For Malaysian public listed companies, the paper suggests that sustainability reporting should not be treated as a communication exercise only. Firms should ensure that ESG claims are supported by reliable data, internal controls, measurable targets and evidence of implementation. For regulators and policymakers, the paper suggests that sustainability reporting reforms should be accompanied by stronger guidance on ESG performance evidence and assurance. For future researchers, the framework provides a basis for empirical testing using Malaysian listed-firm longitudinal data, particularly before and after the implementation of the NSRF. Future studies may also examine whether ESG decoupling differs across environmentally sensitive industries and whether board-level characteristics, including gender diversity and independence, strengthen ESG authenticity.

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Volume: 11 Issues: 69 Special Issue [October, 2026] pp. 97 - 110
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116907

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DOI: 10.55573/IJAFB.116907

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