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# Integrated Report Quality, ESG Controversies, Financial Performance Shortfalls, and ESG Performance: Evidence from Malaysia

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## ABSTRACT

Corporations are increasingly evaluated by how they respond to global sustainability challenges. ESG practices now serve as a key indicator of their commitment to responsible and sustainable behaviour. This paper examines the variables of integrated reporting quality, financial performance shortfalls, and firm characteristics affect ESG performance among public-listed companies in Malaysia. This paper uses panel data to analyse 300 firm-year observations from 50 companies between 2017 and 2022. Three regression models were estimated: the FASPPF based model, SASP5PF based model a combined model using both measures. A fixed-effects regression analysis was performed, and the findings show that FASPPF, SASP5PF, firm age, and ROA exhibit significant effects on ESG performance. By contrast, integrated reporting quality, ESG controversies, firm size, and sales growth show insignificant relationship. Leverage exhibit inconsistent. effects across models could be attributed to the differences in the proxy variables of the three models that needs further exploration. By focusing on financial performance shortfalls, this study highlights an underexplored determinant shaping ESG performance in Malaysia. The findings offer meaningful guidance for corporate leaders, investors, and policymakers who aim to enhance the design and implementation of ESG strategies within emerging market environments.

*Keywords:* ESG controversies, ESG performance, financial performance shortfalls, integrated reporting quality

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## INTRODUCTION

The fast changes which are witnessed in the present-day environment are substantially caused by the gradual exhaustion of natural

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resources and the shift towards the actions taken when issues become visible. This has caused constant apprehension among global organisations like the International Integrated Reporting Council (IIRC) and even the Sustainability Accounting Standards Board (SASB) and most of the developed countries are now giving more focus to sustainability matters. The investors have also over time started to put pressure on the companies and call on them to enhance their governance practices and become more socially responsible (Gillan et al., 2021). These changes have gradually led to one phenomenon, that is, Environmental, Social and Governance (ESG) factors. The inclusion of the ESG performance into corporate strategies is becoming a recognised advantage. The potential of making customers who appreciate sustainability grow better is one of the primary benefits, which is deemed even more critical than the second most important benefit risk resilience (Ernst & Young Global, 2021).

By 2025, it is expected that ESG related assets will exceed US$50 trillion and this will attest to the rising popularity of sustainable finance across the world. This minimises previous reliance on the expensive private ESG databases like LSEG Eikon and Bloomberg (Bloomberg, 2020; LSEG, 2023), decreasing the information barriers facing the domestic investors. Nevertheless, in spite of these advances, the quality and sufficiency of the corporate ESG reporting is often perceived differently by corporations, which poses a long-standing dilemma to investors who want to rely on the same and comparative disclosures. A high number of companies feel that their sustainability report is enough to express their ESG initiatives and live up to the expectations of the stakeholders (Rajesh & Rajendran, 2020). There is, however, an indication that there is a discrepancy between the perception of companies and reality. According to a survey conducted by PricewaterhouseCoopers (PwC), it was only found that 62% of the top 50 listed companies in Malaysia have materialised ESG considerations in their business strategies (PwC Malaysia, 2022). This gap highlights the fact that more robust, transparent, and decision useful ESG reporting is still necessary to assist in informed and sustainable investment decision-making. This gap suggests inconsistent commitment to ESG initiatives, though the Securities Commission Malaysia (2019) observed a growing trend in which investors increasingly consider ESG aspects in their investment decision-making processes, reinforcing the essential for Malaysian public-listed corporations to strengthen their ESG performance. Nevertheless, study on the determinants of ESG performance within Malaysia setting remains limited. Existing studies point to a potential link between the quality of integrated reporting and ESG performance and DasGupta (2022) suggest that financially constrained firms may rely on ESG-focused investors (DasGupta, 2022). This emphasises the significance of studying the determinants of ESG performance in Malaysia settings is

therefore essential if the corporations are to design ESG initiatives that carry substance compared to merely focus on disclosures.

Additionally, Marsat et al. (2022) highlighted that corporations with strong ESG performance are more resilience in addressing sustainability related risks. Concurrently, most empirical works focus on how ESG performance influence financial returns (Aydoğmuş et al., 2022; Nguyen et al., 2022; Shaikh, 2022; Boulhaga et al., 2023). This narrows the lens of corporations to view ESG as a tool to enhance the financial implications, overlooking the objective of sustainability and restrain the underlying determinants of shaping the ESG performance. Therefore, there is a clear value exists to pay attention towards the explorations of determinants ESG performance, which can facilitate the development of more effective strategies for enhancing ESG performance within Malaysian public-listed corporations. This triggers the formulation of current research topic, by examining the determinants of ESG performance and by identifying opportunities that support effective implementation of ESG initiatives in Malaysian settings.

This paper is structured in the following way. The following part summarises the major factors of ESG performance that set the study. This is then succeeded by a description of the methodology of the research. The following paragraphs show the results of the empirical study and comment on its implications. The paper completes with a specific conclusion on the key insights and the recommendations of the future research.

## LITERATURE REVIEW

### ESG Performance

ESG is a reaction to the increasing lack of connection between financial markets and the quickly evolving global world. Instead of looking at the financial benefits in the short term, the ESG framework expands the concept of the corporate value by highlighting the necessity to align the financial strategies with the broader societal and environmental goals (Billio et al., 2021; Mio et al., 2023). This move has become more apparent in the Malaysian environment where institutional investors and regulators are demanding more transparency and consumers are becoming more interested in more responsible business practices instead of the more token disclosures. ESG functions both as a non-financial assessment tool focusing in evaluating governance quality, community impact and environmental stewardship (Chen et al., 2023; Hu et al., 2023), while also as an investment philosophy aimed at preserving long-term firm value (Lian et al., 2023; Liu et al., 2023; Zhou et al., 2022).

According to Bai et al. (2022), a strong ESG performance often interpreted as evidence of resilience, preparedness for sustainable development, which may earn the trust of the market. Because of this, investors commonly use ESG performance as a core screening mechanism to evaluate business conduct and future financial potential rather than a mere ethical signal

(Dkhili, 2023). This is particularly evident in Malaysia, this dynamic is amplified by the FTSE4Good Bursa Malaysia Index, provides institutional investors with accessible ESG evaluation tools to reduce the information asymmetry to reward and penalise corporations based on the demonstrable ESG performance.

Although the term "corporate social responsibility" (CSR) is often used interchangeably with ESG (Clément et al., 2023; Saini et al., 2023), but they are not identical. In this study, CSR and ESG will use interchangeably because Malaysian corporations often report these as a single performance narrative. Reforms such as the Malaysian Code on Corporate Governance (MCCG), the Sustainable and Responsible Investment (SRI) Roadmap, and Bursa Malaysia's sustainability reporting requirements have collectively increased stakeholder pressure for credible ESG performance, and these mechanisms represent institutional pressures that encourage firms to elevate their ESG practices to sustain legitimacy within the market.

**Integrated Reporting Quality (IRQ)**

The term integrated reporting (IR) has often been defined as a comprehensive picture of the strategy, governance, performance, and future of an organisation based on its operating environment, and the general goal of delivering value in the short, medium and long term (International Integrated Reporting Council, 2021). Conveyed by Conway (2019a), there is a positive relationship between the performance of ESG and the quality of ESG reporting, with the observation that the quality of integrated report that is generated by the firms, especially those reports which reflect more non-financial aspects, is associated with stronger ESG performance. The essence of this relationship is the integrated thinking concept in which organisations are aware of the interdependence of both financial and non-financial capitals, which allows them to better foresee ESG related risks and tie their strategic priorities to long term value generation.

IR does not only offer a platform to enable organisations communicate their past performance, but it also provides avenue through which organisations articulate their future goals and the intended responses to the emerging ESG challenges. A properly developed integrated report that integrates all the applicable business considerations in a coherent and organised way is usually a pointer of good managerial standards, particularly when it comes to environmental, social and governance pillars. Companies that value this practice tend to show long term and progressive interest in ESG matters and as a result, this leads to an upward trend in ESG performance over the years (Conway, 2019b). Theoretically, the dynamics are aligned to the stakeholder theory and legitimacy theory. Good quality IR increases transparency, information asymmetry is low, and this makes the stakeholders more confident. It is worth noting that this would be especially true in Malaysia where institutional investors are increasingly getting dependent on the integrated disclosures to assess the

governance strength as well as the ESG alignment.

Though a considerable amount of research confirms the substantial dependence between the quality of the integrated reporting (IRQ) on the ESG performance, some of the researchers reveal that there is no evident connection between them. These ambiguous outcomes might be due to time gaps between the initiation of ESG projects and the stage of implementation when the beneficial effects of the improvements will come into sight (Conway, 2019b; Eccles & Saltzman, 2011). Besides that, certain companies can use IR as a token practice as opposed to a substantive practice, particularly where the practice of IR is voluntary. Such symbolic and substantive difference offers a good theoretical account to explain the inconsistent empirical results.

IR remains voluntary in Malaysia, and the quality of disclosure differs significantly among companies, especially in terms of the richness, form, and incorporation of the elements of ESG. Such variances are informed by the regulatory guidelines like the Malaysian Code on Corporate Governance (MCCG) and the Bursa Malaysia Sustainability Reporting Guide. These discrepancies underscore the significance of conducting research on the effectiveness of IRQ in ESG performance in the Malaysian environment. Hence, hypothesis 1 is developed:

H1: Higher levels of Integrated Reporting Quality are expected to be associated with stronger ESG performance.

**Financial Performance Shortfalls**

Financial performance deficits are experienced when the real financial performance of an organisation under-performs compared to its desired or expected levels, which indicates that there might be some inefficiencies or underlying difficulties in the management of the organisation (Wang, 2022). These deficiencies arise when the current performance falls below the performance in the past and in most cases, managers will have to review and revise their strategic choices. DasGupta (2022) claims that the need to invest in research and development cannot be a recommended option when the companies have poor short term financial performance, in large part because the opportunity costs of R and D are so high that they drain the operational results. Meanwhile, DasGupta (2022) discovered that financial underperformance may positively impact the ESG performance of the organisation, which implies that social aspirations are more powerful than historical standards in determining how managerial reactions to a decrease in financial performance are formed. Available literature also shows that companies that previously performed well on environmental matters have a faster recovery of sustainability related shocks (Marsat et al., 2022). This fact indicates that the active participation of ESG can be viewed as the type of shield that allows organisations to survive through the difficult times. Hence, hypothesis 2 is developed:

H2: Firms experiencing financial performance shortfalls are expected to exhibit higher levels of ESG performance.

**ESG Controversies**

ESG controversies are adverse news or reports that relate to dubious social activities or the inappropriate disposal of the waste that is harmful to the environment. Such incidents lead to the question of the long-term sustainability and ethical conduct of a firm by its stakeholders (Naeem et al., 2022). Fauser and Utz (2021) note that despite the fact that robust ESG campaigns have the potential to improve the ESG performance of a firm, the existence of ESG scandals tends to undermine the overall ESG performance. Consequently, companies tend to have new ESG programs in their quest to recover trust and gain stakeholder confidence once again (Galletta et al., 2023; Teor et al., 2022).

Theoretically, ESG controversies are a direct threat to organisational legitimacy. According to the legitimacy theory, in case firms deviate outside the expectations of the society, they might be required to take corrective action and one of the ways is to improve their ESG practices to bring themselves in the same level as the society (Abdul Rahman & Alsayegh, 2021). Practically, companies might react to scandals by initiating new environmental programmes, updating labour policies or tightening the governance structures. These are positioning efforts to defend or rebuild corporate reputation, especially in cases where the previous controversies have undermined stakeholder trust (DasGupta, 2022). Studies, however, show that negative ESG news seems to produce a more significant effect on the perception of stakeholders as compared to positive news, and thus the process of recovery is more difficult among the companies impacted. This is especially relevant for Malaysian public-listed corporations, where ESG ratings such as the FTSE4Good Bursa Malaysia Index or LSEG ESG scores penalise firms for adverse incidents. Consequently, controversies can lead to immediate reductions in ESG scores (Rajesh & Rajendran, 2020), and negative signals typically have more pronounced and enduring effects compared to positive news (Sabbaghi, 2022). Hence, hypothesis 3 is developed:

H3: ESG controversies are expected to have a negative impact on the ESG performance.

**Firm Size and Firm Age**

Firm size has been long ago identified as a significant factor that defines the sustainability profile of the company. The bigger companies usually have a stronger financial basis, are more formalised with an internal system, and are more visible to the larger community. They enable them to invest more in environmental, social, and governance-based efforts (Yadav et al., 2022). DasGupta (2022) continues to state that the size of an asset base of the company can provide a strong indication about its

capabilities to be able to invest in long-term sustainability. In line with other previous research, this study measures firm size in terms of the natural logarithm of total assets (Abdi et al., 2022).

In Malaysia, the large corporations are under a greater regulation of the regulators and institutional investors who are increasingly demanding credible and transparent sustainability practices. The theory of legitimacy is also a valuable explanation of this process: those companies have a greater presence in society and are therefore expected to be more responsible and transparent. In an attempt to maintain their credibility and reputation within the market, these companies usually engage in a more holistic sustainability campaign.

Another major organisational attribute is firm age. Older companies are more likely to have developed and more mature governance structures, established relationships with their stakeholders, and experience in management. Such features contribute to the effectiveness of their implementation of sustainability related strategies (D'Amato & Falivena, 2020). Experienced leadership teams can also tend to be in a better position to identify sustainability challenges and create a policy that enables long-term value creation (Welch & Yoon, 2022). Hence, hypotheses 4 and 5 are developed:

H4: Larger firms are expected to demonstrate higher ESG performance.

H5: Older firms are anticipated to exhibit stronger ESG performance.

**Leverage**

Leverage indicates the degree to which an organisation relies on borrowed loans in order to finance its operations. Companies with a greater amount of debt tend to be under increased financial strain, increasing their vulnerability to risks that arise due to their environmental, social, and governance deficits (Bae et al., 2019). This exposure of risk could also influence the move by the highly leveraged firms to implement stronger ESG practices as a stress-reduction strategy, a stress indicator, and to retain the trust of lenders and investors.

The increasing adoption of ESG parameters in lending decisions and investment policies has become more pronounced in the Malaysian context between banks and institutional investors. Respondent firms with high debt burdens would for their part be more incentivised to enhance their ESG performance to stay able to access favourable financing and secure a stronger position in the capital market. Hence, hypothesis 6 is developed:

H6: Firms with higher leverage are expected to exhibit stronger ESG performance.

**Return on Assets and Sales Growth**

Return on assets (ROA) reflects the effectiveness of the use of the assets base to generate profits. Companies that are regularly reporting high profitability are in a better position of experiencing increased financial liberty, in which they may allocate the resources to sustainability-based projects. Good financial results are also capable of

facilitating the management to invest in more long-term environmental sustainability policies that meet the expectations of the stakeholders and assist in strengthening organisational integrity. In the Malaysian context, the highly successful companies are prone to increased pressure both on the part of institutional investors and the general population, which is more and more demanding transparent and accountable ESG involvement.

Sales growth, in its turn, is used to measure the growth of a firm and its capacity to produce increasing revenues. Firms that grow through a series of years have usually a bigger amount of capital that could be invested in ESG operations. As expansion makes the firm more visible in the market, it is accompanied by more scrutiny of the company by the masses and therefore it is likely to lead to a company introducing tighter ESG standards to ensure that they cannot lose the trust of the stakeholders and protect their reputation. Hence, hypotheses 7 and 8 are developed:

H7: Higher return on assets is expected to demonstrate stronger ESG performance.

H8: Higher sales growth is anticipated to exhibit improved ESG performance.

**Theoretical Foundations and Conceptual Rationale**

To grasp the determinants of ESG performance, it is necessary to rely on a number of theoretical approaches explaining why companies implement sustainability and how the outside world affects their decision. Stakeholder theory is highly concerned with the stakeholders of investors, regulators, and other important stakeholders, especially with Malaysia because the Bursa Malaysia, the Securities Commission, and the Malaysian Code on Corporate Governance have increased the expectations on transparent and responsible ESG practices. For instance, highly leveraged firms often experience heightened pressure from creditors, which may lead them to prioritise meeting financial obligations at the expense of ESG-related initiatives. In contrast, firms with stronger financial performance are typically better positioned to allocate resources toward ESG activities, thereby enabling them to address the expectations of a wider range of stakeholders.

The theory of legitimacy can also give additional information by indicating that firms may tend to improve their ESG performance when their credibility is under attack, like when subjects of ESG scandals arise. Meanwhile, institutional theory points to the regulatory, normative and competitive forces that entice firms to take firmer ESG commitments to make them fit into the changing industry standards. For example, high-quality reporting serves as an important signal of transparency and accountability, thereby strengthening organisational legitimacy and contributing to improved ESG performance. Larger firms, being subject to greater public scrutiny, often face stronger pressures to uphold their legitimacy, which in turn

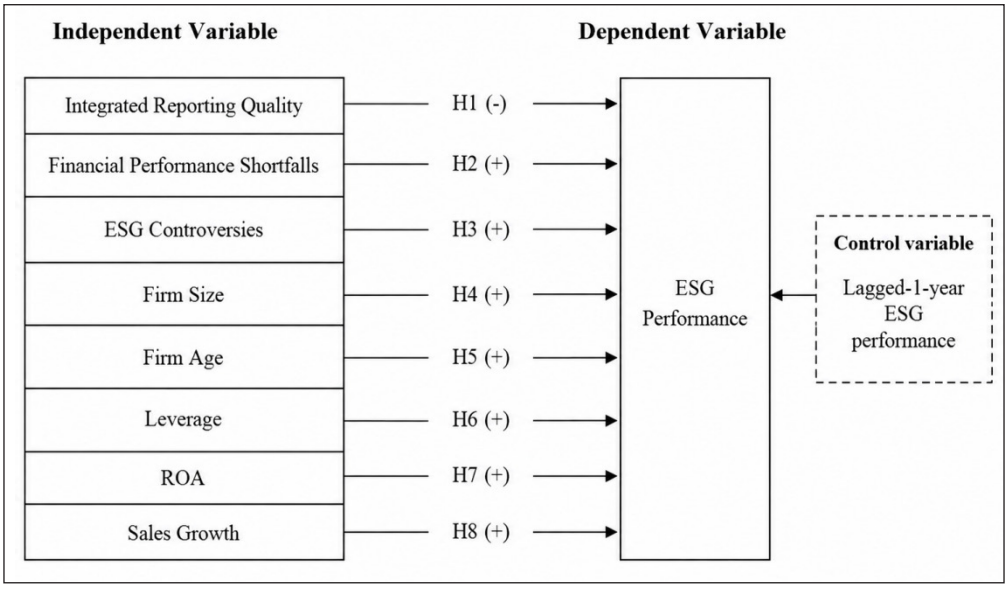


*Figure 1.* Conceptual framework of the study
Source: Author's own work

encourages better ESG practices. Similarly, more established firms with long-standing reputations to safeguard are generally more inclined to adopt and maintain robust ESG initiatives.

An additional factor to this debate is prospect theory, which suggests that the managers with weaker financial results might revisit their strategic priorities and strengthen their ESG efforts, as it would restore the confidence of stakeholders. For instance, weak financial performance may constrain a firm's available resources, thereby reducing its capacity to meet stakeholder expectations and potentially resulting in lower ESG performance. At the same time, firms experiencing reputational setbacks may be more strongly motivated to undertake corrective ESG initiatives in an effort to restore their standing. The conceptual framework of Figure 1.

## METHODS

### Data and Variables

As the quantitative study, content analysis was used to evaluate the quality of integrated reporting, whereas ESG controversies, shortcomings in the financial performance, and financial indicators were evaluated through the use of numerical data. The years 2017 to 2022 were chosen to see how the performance of ESG has changed over time. Being more relevant lately, since 2014, integrated reporting provides a more holistic perspective of organisational performance as it connects financial performance and environmental and social aspects (Malaysian Institute of Accountants & Association of Chartered Certified Accountants, 2022).

In this study, data from the annual reports of the chosen firms from Bursa Malaysia will be sampled rather than

individuals. 786 businesses have been listed to date on the Main Market, 163 businesses have been listed to date on the Ace Market, and 51 businesses have been listed to date on the Leap Market of Bursa Malaysia. The ESG performance scores supplied by LSEG Eikon are used in this study. With a history extending back to 2002, LSEG provides one of the most extensive ESG datasets in the sector, spanning over 85% of the global market cap over more than 630 distinct transparent and objective ESG measures (LSEG,2023). LSEG ESG now has 346 publicly traded Malaysian companies. The sample was however restricted to 296 firms that did not make complete or continued disclosures in the year of study. Financial numbers were compared with the annual report of the firms in various cases to verify accuracy especially where some gaps in data were detected in the database.

Hence, the final sample is from different industries such as 9 corporations from financial services sector, 5 corporations from telecommunication and media sector, 3 corporations from industrial products and services sector, 11 corporations from consumer products and services sector, 4 corporations from energy sectors, 4 corporations from plantation sector, 2 corporations from construction sector, 2 corporations from health care sector, 3 corporations from property sector, 3 corporations from transportation and logistics sector, and four corporations from utilities sector; for which data on ESG score is available on the date of analysis from 2017 to 2022.

ESG performance is determined through LSEG's ESG scores, which serve as an enhanced and substitute version of the ASSET4 ESG ratings first offered by Thomson Reuters. LSEG has a notable research advantage over other ESG databases due to the public availability and transparency of all metrics, associated inquiries, and data points. This enables researchers to have a more comprehensive and in-depth understanding of the industry, which is also frequently being used in ESG performance study (Bruna et al., 2022; Demers et al., 2021; Mooneeapen et al., 2022; Pozzoli et al., 2022; Shakil, 2021).

In addition, the framework of IRQ employs continuous scoring to investigate IRQ results more deeply and capture more variance. A set of indicators, namely 0, 1, and 2, with the following meanings: 0 signifies that businesses did not mention the IR component in their report, 1 indicates that they mentioned it but provided only a concise explanation, and 2 indicates that they mentioned it along with a detailed justification. The finished coding framework comprises 30 components (i.e., 30 × 2 scores = maximum 60 scores) and one guiding principle (i.e., maximum 7 points). As a result, the maximum attainable total score for IRQ could potentially reach 67 (i.e., 60 scores plus 7 scores). According to Qaderi et al. (2021), the higher the overall IR score, the more closely the corporation's report adheres to the international IR framework 2021.

The measurement of financial performance shortfall employed in the study include FASPPF and SASP5PF,

which these two concepts are adopted from prior research study of DasGupta (2022). By computing the cross-sectional mean performance from the prior year for the five-firm cluster within an industry, with industries being determined based on MSCI sector classifications, DasGupta (2022) gauges businesses' social aspiration levels.

The corporation's involvement in controversies or scandals involving ESG operations or activities is indicated by the ESG controversies score, which is supplied by LSEG Eikon. On 23 contentious themes, LSEG based its assessment of the ESG controversy score. Following the study of Shakil (2021), this study employed the ESG controversy score from LSEG as an indicator of ESG controversy of the public listed corporations in Malaysia. LSEG's score for ESG controversies is based on 23 such problems, with the most recent full period reflecting recent conflicts. Table 1 represent the description and definitions of variables.

Table 1
*Description and definitions of variables*

| Variables | Description | Source(s) |
|---|---|---|
| ESGPERF | ESG performance ranging from 0-100 score. | Mooneeapen et al. 2022; Pozzoli et al. 2022 |
| IRQ | Integrated reporting quality is assessed via content analysis using the scoring template adapted from prior study. | Qaderi et al. 2021 |
| FASPPF | Firm-specific aspiration-based financial performance shortfall is calculated by subtracting a firm's actual return on assets (ROA) from its aspired ROA level, which is based on the firm's own historical performance. | DasGupta 2022 |
| SASP5PF | Social aspiration-based financial performance shortfall for the five-firm cluster is calculated by subtracting the preceding year's average ROA of a five-firm cluster within a sector with the focal firm's cross-sectional ROA performance. | DasGupta 2022 |
| ESGCON | The score is 0 and 100 by default and minimum, respectively; corporations with no controversies receive a score of 100. | Shakil, 2021 |
| SIZE | Firm size is measured through the natural logarithms of total assets. | Wen et al. 2022 |
| AGE | Firm age is calculated by current year minus year of incorporation. | Leow and Lau, 2024; Leow and Lau, 2020; Leow and Lau, 2018 |
| Leverage | Leverage is measured through total liabilities divided by total assets. | Wen et al. 2022 |
| ROA | Return on assets is measured by net income divided by total assets. | Qureshi et al. 2021 |
| SalesGrowth | Sales growth is calculated by the natural logarithm of current sales minus last year in percentage. | DasGupta 2022 |
| $ESGPERF_{it-1}$ | Lagged ESG performance is a 1-year lag for ESG performance. | DasGupta 2022 |

Source: Authors' own work
*Note.* Dependent variable: ESGPERF; Independent variables: IRQ, FASPPF, SASP5PF, ESGCON, SIZE, AGE, Leverage, ROA, Sales Growth; Control variable: ESGPERFit-1

The application of Ordinary Least Squares (OLS) regression is well suited to analysing the relationship between ESG performance and its underlying determinants, particularly due to its clarity in interpretation and its extensive use in empirical corporate finance studies. Methodological rigor is demonstrated through the implementation of key diagnostic tests, including assessments of normality, multicollinearity, heteroskedasticity, and autocorrelation, which help ensure that the core assumptions of OLS are adequately met. The lack of multicollinearity, as evidenced by VIF values below 10, supports the stability and reliability of the estimated coefficients, while the use of heteroskedasticity- and autocorrelation-consistent standard errors enhances the robustness of the results. In addition, incorporating lagged ESG performance and lagged explanatory variables indicates an effort to account for potential endogeneity and dynamic relationships, in line with established methodological approaches (DasGupta, 2022). Therefore, the first multiple regression model used for this research is:

$$ESGPERF = \beta_0 + \beta_1 IRQ_{it} + \beta_2 FASPPF_{it} + \beta_3 SASP5PF_{it} + \beta_4 ESGCON_{it} + \beta_5 log(SIZE_{it}) + \beta_6 AGE_{it} + \beta_7 Leverage_{it} + \beta_8 ROA_{it} + \beta_9 log(SalesGrowth_{it}) + \beta_{10} ESGPERF_{it-1} + e_{it} \quad [1]$$

According to DasGupta (2022), suggest that financial performance shortfalls were using FASPPF and SASP5PF as historical and social aspirations exhibit inherent differences in terms of their nature and impact, and this study argue against combining the two measures. Therefore, the second and third multiple regression model incorporate two distinct independent variables are used for and therefore, this research incorporates two distinct independent variables, namely FASPPF and SASP5PF (equation 2 and 3), as measures representing the firm's financial performance shortfall (DasGupta, 2022).

$$ESGPERF = \beta_0 + \beta_1 IRQ_{it} + \beta_2 FASPPF_{it} + \beta_3 ESGCON_{it} + \beta_4 log(SIZE_{it}) + \beta_5 AGE_{it} + \beta_6 Leverage_{it} + \beta_7 ROA_{it} + \beta_8 log(SalesGrowth_{it}) + \beta_9 ESGPERF_{it-1} + e_{it} \quad [2]$$

$$ESGPERF = \beta_0 + \beta_1 IRQ_{it} + \beta_2 SASP5PF_{it} + \beta_3 ESGCON_{it} + \beta_4 log(SIZE_{it}) + \beta_5 AGE_{it} + \beta_6 Leverage_{it} + \beta_7 ROA_{it} + \beta_8 log(SalesGrowth_{it}) + \beta_9 ESGPERF_{it-1} + e_{it} \quad [3]$$

## RESULTS AND DISCUSSION

### Descriptive Statistics

Table 2 represents descriptive statistics, it shows the distribution of all variables used in the analysis, on the total samples of 50 Malaysian public-listed corporations and it comprised of 300 firm-year observations over from year 2017-2022. The means, ranges, and standard deviations indicate substantial variation across firm-year observations, supporting of the dataset for panel regression analysis.

Table 2
*Descriptive statistics of panel data*

| Variables | Observations | Mean | Maximum | Minimum | Standard Deviation | VIF |
|---|---|---|---|---|---|---|
| IRQ | 300 | 55.702 | 66.900 | 28.800 | 7.573 | 1.805 |
| FASPPF | 300 | 0.004 | 0.557 | -0.310 | 0.058 | 1.263 |
| SASP5PF | 300 | -0.001 | 0.609 | -0.426 | 0.089 | 5.926 |
| ESGCON | 300 | 96.310 | 100.000 | 13.889 | 12.902 | 1.027 |
| SIZE | 300 | 23.970 | 27.577 | 20.751 | 1.447 | 1.990 |
| AGE | 300 | 34.900 | 88.000 | 4.000 | 16.994 | 1.272 |
| Leverage | 300 | 0.626 | 1.287 | 0.083 | 0.220 | 1.389 |
| ROA | 300 | 0.040 | 0.511 | -0.564 | 0.091 | 6.831 |
| SalesGrowth | 300 | 0.027 | 1.254 | -1.287 | 0.271 | 1.132 |
| $ESGPERF_{it-1}$ | 300 | 52.295 | 90.969 | 5.310 | 16.209 | 1.896 |

Source: Authors' own work

Table 3
*Pearson correlation matrix*

| | ESGPERF | IRQ | FASPPF | SASP5PF | ESGCON | SIZE | AGE | Leverage | ROA | SalesGrowth | $ESGPERF_{it-1}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ESGPERF | 1.000 | | | | | | | | | | |
| IRQ | 0.575 | 1.000 | | | | | | | | | |
| FASPPF | -0.013 | 0.017 | 1.000 | | | | | | | | |
| SASP5PF | -0.277 | -0.173 | 0.324 | 1.000 | | | | | | | |
| ESGCON | 0.037 | -0.009 | -0.033 | -0.016 | 1.000 | | | | | | |
| SIZE | 0.124 | 0.218 | -0.041 | 0.137 | 0.009 | 1.000 | | | | | |
| AGE | 0.258 | 0.045 | 0.018 | -0.112 | 0.097 | 0.331 | 1.000 | | | | |
| Leverage | 0.145 | -0.027 | 0.075 | 0.274 | -0.082 | 0.368 | 0.198 | 1.000 | | | |
| ROA | 0.239 | 0.008 | -0.291 | -0.871 | -0.005 | -0.392 | 0.064 | -0.281 | 1.000 | | |
| Sales Growth | 0.061 | 0.032 | -0.321 | -0.183 | 0.030 | -0.018 | 0.008 | -0.109 | 0.173 | 1.000 | |
| $ESGPERF_{it-1}$ | 0.910 | 0.575 | -0.021 | -0.302 | 0.005 | 0.107 | 0.218 | 0.150 | 0.255 | 0.025 | 1.000 |

Source: Authors' own work

In addition, all VIF values are below 10, confirming the absence of multicollinearity (Wooldridge, 2012). Also, the absolute values of Pearson efficient between the independent variables are less than 0.8 (Table 3), further indicating that multicollinearity is not a concern.

**Normality Test**

Jarque-Bera test results show p-values above 0.05 for all three models (Model 1: 0.082; Model 2: 0.084; Model 3: 0.076), demonstrating that the dataset satisfies the normality assumption. (Thadewald & Büning, 2007).

**Hausman Test**

The Hausman test results (p-value = 0.000 for all models) indicate that the fixed-effects model is appropriate, as the chi-square statistic is significant at the 5% level.

**Regression Results**

Table 4 shows across all three models (Model 1: -0.019; $p > 0.05$; Model 2: -0.047; $p > 0.05$; Model 3: 0.045; $p > 0.05$), the findings consistently indicate that there is no statistically significant relationship, whether positive or negative, between the IRQ and ESGPERF. The absence of significance in these relationships suggests that the IRQ examined in the study do not have an apparent impact on the ESGPERF among public-listed corporations in Malaysia as hypothesised in H1. The proposition put forth by stakeholder theory (Freeman, 1999), and the relevant argument for benefits of IR in enhancing ESG performance through increased stakeholder engagement. A reasonable explanation for the absence of a significant relationship between IRQ and ESG performance in Malaysian corporations, in contrast to research studies conducted is due to their standard of IR has gained a higher level of recognition and maturity, while Malaysian corporations do not have, especially South Africa has mandated listed corporations to adopt IR (Ackers & Adebayo, 2022; Ackers & Grobbelaar, 2022).

The first model combines both proxies, while the second model employs FASPPF exclusively, and the third model utilises SASP5PF alone. By isolating the proxies into different models, the study can gain a nuanced understanding of any potential issues that might arise when similar measures are combined. However, it is unpredictably found that all models having significant positive relationship between financial performance shortfall proxies and ESG performance. It suggests that there may be exceptions where such combinations can yield significant results, which future study can build upon these contradictions to refine and expand existing theories. The empirical findings indicate that there are a number of interesting relationships between the models. Through both Model 1 and Model 2, FASPPF is positively and significantly related to the ESG performance. Model 1 has a coefficient of 17.84279 ($p = 0.0403$), and Model 2 has a coefficient of 18.44270 ($p = 0.0352$) that satisfy the significance level of 5%. Likewise, SASP5PF also shows a strong and positive correlation with ESG performance in Model 1 and Model 3. Model 1 has a coefficient of 25.2660 ($p = 0.0381$), and the coefficient of Model 3 is 26.0971 ($p = 0.0333$), which helps to support the strength of this association.

The H2 is accepted, and aligned with findings of DasGupta (2022), proposes

Table 4
*Results of panel regression model 1, 2, and 3*

| | Model 1 (Combined-based) | | Model 2 (FASPPF-based) | | Model 3 (SASP5PF-based) | |
|---|---|---|---|---|---|---|
| **Variable** | **Coefficient** | **t-Statistic (p-value)** | **Coefficient** | **t-Statistic (p-value)** | **Coefficient** | **t-Statistic (p-value)** |
| C | -112.299 | -2.030 (0.043) | -103.399 | -1.862 (0.064) | -105.526 | -1.898 (0.059) |
| IRQ | -0.019 | -0.144 (0.885) | -0.047 | -0.347 (0.729) | 0.045 | 0.342 (0.733) |
| FASPPF | 17.843 | 2.062 (0.040) | 18.443 | 2.118 (0.035) | - | - |
| SASP5PF | 25.266 | 2.085 (0.038) | - | - | 26.097 | 12.193 (0.033) |
| ESGCON | 0.042 | 1.387 (0.167) | 0.040 | 1.330 (0.185) | 0.041 | 0.030 (0.176) |
| SIZE | 2.099 | 0.892 (0.373) | 1.910 | 0.807 (0.422) | 2.096 | 2.368 (0.377) |
| AGE | 2.419 | 6.400 (0.000) | 2.357 | 6.212 (0.000) | 2.229 | 0.369 (0.000) |
| Leverage | 14.759 | 2.226 (0.027) | 15.727 | 2.362 (0.019) | 9.430 | 6.147 (0.126) |
| ROA | 50.811 | 3.122 (0.002) | 25.187 | 2.344 (0.020) | 36.934 | 14.919 (0.014) |
| SalesGrowth | 1.524 | 1.145 (0.253) | 1.563 | 1.166 (0.245) | 1.031 | 1.318 (0.435) |
| $ESGPERF_{it-1}$ | 0.369 | 6.550 (0.000) | 0.366 | 6.458 (0.000) | 0.375 | 0.057 (0.000) |
| Statistics | | | | | | |
| R-squared | 0.896 | | 0.894 | | 0.894 | |
| Adjusted squared | 0.870 | | 0.869 | | 0.869 | |
| F-statistic | 35.027 | | 35.069 | | 35.084 | |
| Prob (F-statistic) | 0.000 | | 0.000 | | 0.000 | |

Source: Authors' own work

that corporations confronting financial performance shortfalls may enhance their ESG performance as an alternative to pursuing other problem-solving approaches like increased R&D investments. Also, it emphasises that corporations facing greater financial difficulties may increase their investment in ESG initiatives. However, a noteworthy disparity arises when comparing the findings in this study to those of DasGupta (2022), is that SASP5PF exhibits a stronger impact on firm ESG performance, as indicated by higher beta coefficients, whereas DasGupta's study suggests the opposite, with FASPPF holding a higher influence than SASP5PF.

In all three models (Model 1: 0.042, p>0.05; Model 2: 0.041, p>0.05; Model 3: 0.041; p>0.05), the relationship between ESG controversies and ESG performance was found to be statistically positive insignificant. However, considering LSEG Eikon assumes higher ESG controversies associated with the firm will be reflected with lower ESGCON scores, the results suggest that there is insignificant "negative" relationship between ESG controversies and ESG performance among Malaysian public-listed corporations. Additionally, it varies from the viewpoints presented in previous studies (Galletta et al., 2023; Teor et al., 2022), which argue that corporations are motivated to improve their ESG performance to gain financial benefits, including improved legitimacy and reputation, attracting greater trust and engagement from stakeholders in the context of public-listed corporations.

In all three models, Model 1 (Combined-based), Model 2 (FASPPF-based), and Model 3 (SASP5PF-based), SIZE exhibits an insignificant positive relationship with ESG performance, thereby reject H4 (Model 1: 0.373, p>0.05; Model 2: 0.421, p>0.05; Model 3: 0.377; p>0.05). A possible reason for the lack of a significant relationship between firm size and ESG performance in the Malaysian corporations could be attributed to smaller corporations may also actively engage in ESG performance to compete and differentiate themselves. This is further proven by the statement of Datuk Ewon Benedick, the Minister of Entrepreneur Development and Cooperatives, who mentioned the prevalence of small and medium enterprises (SMEs) in Malaysia, constituting a significant 97.4% of all corporation establishments (Lee, 2023). This fact emphasises the prominence of recognising that ESG performance is not limited to large corporations due to the substantial presence of SMEs in Malaysia.

H5 is also supported by firm age (AGE) with a strong and consistent positive relationship and ESG performance in all of the three models (Model 1: 2.419, $p < 0.05$; Model 2: 2.357, $p < 0.05$; Model 3: 2.229, $p < 0.05$). Welch and Yoon (2022) indicate that it is the senior managerial ability that is at the core of the effective capital allocation towards ESG activities, which in the end will result in an increase in shareholder value. This is in line with the current results, which imply that older companies enjoy the advantage of having more mature leadership teams which have gained a better insight or perception of the ESG issues over the years. Organisational age leads to the development of organisational knowledge, strategic resources, and experience, which creates the opportunity to develop more organised and efficient ESG practices. D'Amato and Falivena (2020) argument that younger corporations may perform less favourably in terms of ESG factors due to their lack of legitimacy and experience aligns with current study's finding. It implies that older corporations, with more established legitimacy and experience, tend to outshine in ESG performance.

In Model 1 (Combined-based; 14.759, $p < 0.05$) and Model 2 (FASPPF-based; 15.727, $p < 0.05$), Leverage demonstrates a significant positive relationship with ESG

performance. Both models show strong and statistically significant relationship between Leverage and ESG performance. However, in Model 3 (SASP5PF-based; 9.430, $p > 0.05$), the relationship between Leverage and ESG performance is found to be insignificant, as the p-value of 0.1263 exceeds the 0.05 significance threshold. This suggests that, in this specific model, Leverage does not establish a statistically significant positive relationship with ESG performance. SASP5PF, as per previously mentioned, compares the focal corporation's ROA with the ROA of five similar-sized firms in the previous year. On the other hand, FASPPF solely relies on the focal corporation's own historical ROA. It does not consider how the corporation's performance compares to its peers, focusing instead on its own financial SASP5PF, as per previously mentioned, compares the focal corporation's ROA with the ROA of five similar-sized firms in the previous year.

On the other hand, FASPPF solely relies on the focal corporation's own historical ROA. It does not consider how the corporation's performance compares to its peers, focusing instead on its own financial. This means that, in Model 3, the relationship between leverage and ESG performance is influenced not only by the focal corporation's historical ROA but also by the performance of its peer group. When the peer Malaysian corporations have varying levels of ESG performance, this can introduce variability into the relationship, making it more challenging to identify a significant relationship. The findings show that the H6 is only supported by Model 1 and Model 2. The result coincides with the previous study by Singh et al. (2022) who suggest that the more leveraged a firm is, the more prone it becomes to financial risk. In the context of Malaysian, highly leveraged listed companies can consider the implementation of ESG or CSR practices as the reaction to lower the level of risk exposure and increase financial stability in the long term. According to Bae et al. (2019), CSR activities are also likely to mitigate the threat of a high debt ratio and act as a hedge against competition. In this sense, ESG activity serves as a remedial action to companies that have high debt burdens. Being responsible on ESG matters and sending a message of responsible behaviour, indebted companies can improve their reputation, maintain clients and lower the risk premium. Therefore, positive and significant correlation in both Model 1 and Model 2 gives empirical support to the acceptance of H6.

In each of the three models, Return on Assets (ROA) shows very significant and positive correlation with ESG performance (Model 1: 50.811, $p < 0.05$; Model 2: 25.187, $p < 0.05$; Model 3: 36.934, $p < 0.05$) hence justifying H7. This is in line with the general knowledge that profitability is a critical factor in determining corporate behaviour. It is also observed that profitable firms are generally financially more flexible in that they can engage in ESG activities that strengthen transparency, accountability, and the long-term value generation. Such views assist in setting the strong positive relationship between ROA and ESG results in the analysis into perspective.

Table 5
*Hypotheses and summary of results*

| Hypotheses | Factors | Predicted Sign | Hypotheses Supported |
|---|---|---|---|
| H1 | IRQ → ESGPERF | - | - |
| H2 | FASPPF/ SASP5PF → ESGPERF | + | Supported |
| H3 | ESGCON → ESGPERF | + | - |
| H4 | SIZE → ESGPERF | + | - |
| H5 | AGE → ESGPERF | + | Supported |
| H6 | Leverage → ESGPERF | + | Supported |
| H7 | ROA → ESGPERF | + | Supported |
| H8 | SalesGrowth → ESGPERF | + | - |

Source: Authors' own work
*Note.* The dependent variables are ESG performance. The constructs consist of integrated reporting quality (IRQ), firm-specific aspiration-based financial performance shortfall (FASPPF), social aspiration-based financial performance shortfall for the five-firm cluster (SASP5PF), ESG controversies (ESGCON), firm size (SIZE), firm age (AGE), firm leverage (Leverage), firm return on assets (ROA), firm sales growth (SalesGrowth). +ve indicates an expectation of a positive relationship, while –ve indicates an expectation of a negative relationship. Hypotheses supported by each variable are based on the value reported in Table 4

Sales growth, on the contrary, has a statistically insignificant positive relationship with ESG performance in all three models (Model 1: 1.524, $p > 0.05$; Model 2: 1.563, $p > 0.05$; Model 3: 1.031, $p > 0.05$) and, thus, H8 is rejected. Although high sales growth rates can be linked to the financial capacity which in theory may be used to enhance ESG involvement, increased revenues are not always associated with increased ESG involvement in the Malaysian corporate environment.

Table 5 presents the summary of the hypotheses tested in this study. As shown, H2, H5, H6 and H7 are supported, but H1, H3, H4 and H8 are rejected.

## CONCLUSION

This research fills a critical knowledge gap by discussing the factors of ESG performance in the context of the Malaysian stock exchange of listed corporations, providing a picture of local and institutional peculiarities of the research area. The discussion of the nine independent variables shows that four of them FASPPF, SASP5PF, AGE, and ROA have statistically significant values with ESG performance. This suggests that ESG performance may be driven more by firm maturity and financial capability than by governance structures or growth dynamics, potentially contradicting prevailing assumptions in ESG literature that emphasise governance quality. Conversely, the effects of IRQ, ESGCON, SIZE and SalesGrowth are not significant indicating that the variables have a more limited or indirect influence on the ESG outcomes. The selected proxies adequately capture the underlying constructs, or whether measurement limitations and contextual factors (e.g., regulatory enforcement or

reporting practices in Malaysia) may have weakened their explanatory power. The impact of leverage, in its turn, seems to be conditional: it is substantial in Model 1 and Model 2 but not in Model 3, which suggests that the effect of leverage can be different according to the specifications of the model or the situation in the company. Taken together, these results help to gain a better insight into the factors that significantly influence ESG performance and provide possible recommendations to firms which want to become more sustainable in their activities.

## IMPLICATION OF THE STUDY

### Theoretical Implications

So far, much of the Malaysian literature has been based on the assumption that greater ESG performance promotes the financial performance of firms. This research expands that point of view by pointing out that attaining greater ESG performance can be itself one of the strategic ways to firms whose financial performance is lacking. The discovery of these shades reveals that the study makes a contribution to the theoretical literature about the way ESG engagement acts not just as a force behind the financial performance but as a strategic reaction to the financial demands.

### Practical Implications

The findings of this study have interesting implications for corporate managers, as they suggest an alternative strategic action when faced with financial performance shortfalls by acknowledging the ESG performance of the business can have positive effects on the corporation's bottom line.

### Sustainable Development Goals (SDGs) Implications

The research objective of this study contributes directly to SDG Target Indicator 12.6.1, which calls on corporations "to adopt sustainable practices and to integrate sustainability information into their reporting cycle"; by examining how IRQ, financial performance shortfalls and ESG controversies shape ESG performance. Additionally, this study makes significant empirical contributions to Malaysia's progress on the SDGs by examining how corporate sustainability practices, disclosure quality, and government policies work together to drive real outcomes among Malaysian listed corporations.

## LIMITATION AND RECOMMENDATION FOR FUTURE RESEARCH

### Limitations

The limitations of the research design chosen for this study needs to be acknowledged. Research only includes corporations listed in Malaysia during a specific period from 2017 to 2022 due to the data available at the time, especially IR, ESG controversies and ESG rating entering the public views of Malaysia since late 2015.

### Recommendations

To overcome the time-bound data limitation, future work should extend the period of analysis to enable longitudinal trends with

a wider Malaysian sample, to capture more industries and sizes, improving representativeness and generalisability. Subsequently, future studies could add specific control variables, including industry controls, to reflect sector differences and support more precise estimates and stronger inferences.

In the foreseeable future, researchers can examine how financial performance shortfalls affect ESG performance within specific industries such as manufacturing, technology, finance, and healthcare. Within-industry comparisons of firms that experienced shortfalls can uncover sector-specific patterns. The role of industry-specific regulations and standards should also be taken into account in the future because these two factors might be in direct interaction with financial stress that, in turn, can lead to ESG outcomes. Since content analysis is a subjective process to some extent, researchers should integrate more standardised and objective procedures in determining quality of integrated reporting (IRQ).

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