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CORPORATE CHARACTERISTICS AND ESG DISCLOSURES IN MALAYSIAN PUBLIC-LISTED COMPANIES

Ho Wai Kee[1+]
Ng Shir Li[2]
Vivi Norazlina Mohd Sidik[3]
Ng Foo Seng[4]
Susela Devi K. Suppiah[5]

[1,2,3,4,5]*Sunway University Business School, Sunway University, No. 5, Jalan University, Bandar Sunway, Selangor, Malaysia.*
[1]*Email: waikeeh@sunway.edu.my Tel: 0193313937*
[2]*Email: shirlin@sunway.edu.my Tel: 0129911689*
[3]*Email: vivim@sunway.edu.my Tel: 0168361086*
[4]*Email: foosengn@sunway.edu.my Tel: 0122221383*
[5]*Email: suselas@sunway.edu.my Tel: 0142648815*

(+ Corresponding author)

ABSTRACT

Companies are changing the way business is conducted to contribute to the betterment of society holistically. Corporate disclosures relating to sustainability has increased intensely to respond to the increased demand for sustainability data from stakeholders. Corporate characteristics may influence the degree of disclosure of sustainability information. Using 285 observations from Malaysian public-listed companies, from 2014 to 2018, the study examines the influence of specific corporate characteristics on the disclosure of sustainability practices. The study applies two-stage least square regression analysis to validate the hypotheses and models. Earnings per shares, return on equity, company size and market capitalization are used as the proxies for corporate characteristics and the Combined Economic, Social and Governance (ESG) Score as the proxy for sustainability practices disclosure measure. The results show that the return on equity and market capitalisation are significantly related to the level of disclosure of sustainability practices. Thus, return on equity and market capitalisation have an impact on the company's level of disclosure of sustainability practices. The implication to practice is that a well-performing corporate with large market capitalisation may actively adopt sustainability practices as a strategy rather than merely comply with regulatory requirements. Profitable companies with large market capitalisation should invest substantially in implementing sustainable practices to achieve lower operating costs and higher yield in the long-term. This study provides insights into the role of corporate characteristics that support the efficacy of sustainability reporting to enhance shareholder value.

Contribution/Originality: This study documents evidence of utilisation of the ESG_SCORE (Refinitiv, 2019) to measure ESG performance, commitment and effectiveness before and after the 2015 Sustainability Framework. It provides evidence for the important role of the Malaysian regulators and policy-makers in promoting SDGs and guides regulators to benchmark the Sustainability Framework in the future.

1. INTRODUCTION

The United Nations Environment Programme (UN Environment) was established in 1972 to coordinate the UN environmental activities, assisting developing countries in implementing environmentally sound policies and practices. UN Environment is now the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within

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the United Nations system, and serves as an authoritative advocate for the global environment (Sustainable Development Goals Knowledge Platform, 2019a; United Nations Environment Programme, 2019). UN Environment has successfully raised awareness across the nation on the economic, environmental and social (EES) risks and opportunities. As of 1 August 2019, there are 116 countries that have adopted the Sustainable Development Goals for people and the planet. In 2013, Malaysia established the Sustainable Development Solutions Network (SDSN Malaysia) to support Malaysia in achieving its development goals and mobilizing knowledge, scientific and technical expertise to support sustainable development solutions (Sustainable Development Solutions Network, 2019).

The initiative undertaken by the UN Environment together with the SDSN members worldwide has driven companies to focus on the way business is run, i.e., meeting their commitments to operate responsibly and support society (The United Nations Global Impact, 2019). UN Environment also highlights the role stakeholders can play in pursuing sustainable societies for future generations and encourage the stakeholders to participate in UN processes related to sustainable development (Sustainable Development Goals Knowledge Platform, 2019b). As a result, stakeholders now demand better knowledge of how environmental, social and economic impacts factor into business strategy. Besides, policymakers and regulators from various countries strengthen corporate sustainability-related disclosure to support the sustainable development goals (Sustainable Stock Exchanges Initiative, 2018). In 2015, Bursa Malaysia introduced mandatory requirements for a publicly listed company to disclose sustainability statements in annual reports from 31 December 2016 to 31 December 2018 (Bursa Malaysia Securities Berhad, 2015).

It is challenging to embark on the journey of sustainability reporting. The biggest challenges faced by companies include understanding what sustainability is and why there is a need for it. Some companies viewed sustainability reporting as a compliance exercise and public relations stunt (Growth, 2017). There is extensive literature on the impact of sustainability reporting on corporate performance (Burhan & Rahmanti, 2012; Laskar, 2018; Whetman, 2018) and literature on the impact of sustainability practices on corporate performance (Ameer & Othman, 2012; Chen, 2015; Golicic & Smith, 2013; Goyal, Rahman, & Kazmi, 2013; Kusuma & Koesrindartoto, 2014; Lun, 2011). Extant literature proves that sustainability reporting improves long-term profitability, enhancing customers satisfaction and create value for its stakeholders. However, prior literature on the factors to encourage an entity to embark on or invest in sustainability reporting effort is limited (Alcaraz-Quiles, Navarro-Galera, & Ortiz-Rodriguez, 2015; Jill, 2018).

Our study examined the relationship between corporate characteristics and ESG disclosure in Malaysian public-listed companies over the years 2014 to 2018. This study is motivated by the amendments to Bursa Malaysia Securities Berhad Main Market Listing Requirements relating to sustainability statements in annual report on 8 October 2015. This amendment serves as the motivating force for a company to start implementing sustainable development goals and embark on a new or refocused reporting journey to report their sustainability practices.

We used earnings per shares (EPS), return on equity (ROE), size of the company (lnTA) and market capitalization (lnMKT_CAP) as the proxies of corporate characteristics and the ESG Combined Score (ESG_SCORE) as the proxy for the level of disclosure of sustainability practices. We also used the operating expenses to sales revenue (%OPE_EXP) as the control variable in this study. The sample consisted of 57 Malaysian public-listed companies with the ESG Combined Score available via the Datastream.

Our study showed that ROE and lnMKT_CAP have a significant influence on the ESG_SCORE. The results suggest that well-performing companies and companies with large market capitalisation are willing to invest in sustainability practices and embark on sustainability reporting journey.

This study contributes to the literature in two ways. Firstly, our ESG_SCORE was measured based on entities' ESG performance, commitment and effectiveness on environment, social and governance before and after the introduction of the Sustainability Framework. This provides evidence that the regulators and policy-makers play an

essential role in promoting sustainable development goals in Malaysia. Secondly, our findings provide insight and evidence to the regulators and policy-makers that corporate characteristics are the determinant of the degree of sustainability disclosure in an entity. It is essential to include this factor in enhancing the Sustainability Framework in the future.

2. BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1. Sustainability Reporting

Sustainability reporting is defined as a report that not only presents information about the economic value of an entity but provides information upon which stakeholders can also judge the environmental and social value of an organization. Sustainability reporting is published to fulfil the needs of a wider range of stakeholders which is not only limited to shareholders and investors but also includes creditors, employees, customers, suppliers, governments, media and the general public. There are so many reasons for organizations to prepare and present sustainability reporting. Sustainability reporting helps organizations to set goals, measure performances and manage changes towards a more sustainable business operation (Caesaria & Basuki, 2017). Sustainability reporting has become a systematic means of embedding sound corporate governance and ethics systems throughout all levels of an organization, thus improving the management of risk.

Sustainability reporting has increased significantly in recent years and is now widely used by organizations to formalise and enhance communication with their key stakeholders. Organizations are voluntarily reporting aspects of their economic, environmental and social performance in the sustainability report in order to gain competitive advantages and to be able to benchmark their performance against other organizations within industries and also across the industries (Ogundare, 2013).

Abdul Aziz and Hj Bidin (2017) argued that indicators (economic, social and environmental) disclosed in the sustainability reports reflect the quality of the sustainability reporting and organizations that actively report their sustainability practices to promote transparency and receive positive reputation from their stakeholders. The increasing trend of sustainability reporting globally has been supported in a recent report published by KPMG. According to the KPMG Survey of Corporate Responsibility Reporting 2017, more than 60 per cent of companies across all industry sectors are reporting on sustainability with healthcare, transport and leisure, industrials, manufacturing and metals and retail all showing increases in sustainability reporting in 2017 (KPMG, 2017).

2.2. Sustainability Reporting Framework in Malaysia

In a developing country, such as Malaysia, materiality disclosure in sustainability reporting is an emerging trend. An increasing number of Malaysian companies are actively practising sustainability reporting. Ramasamy and Ting (2004) have conducted a comparative analysis of the social responsibility awareness between Malaysian and Singaporean firms. The authors found that the awareness of corporate social responsibility (CSR) among Malaysians is on the rise, but that there is a lack of statutory regulation to report on sustainability activities. Although there are various initiatives from the government and non-government organizations (NGOs), the adoption of sustainability reporting is reasonably new for the local communities and Malaysian companies (Abdul Aziz & Hj Bidin, 2017).

In 2006, Bursa Malaysia introduced a listing requirement for Malaysian the main market public-listed companies and ACE market-listed companies to report on their CSR initiatives in their annual reports. However, Bursa Malaysia (2016) found that these listing requirements do not increase the level of disclosure as most companies focused more on the social aspects of their business instead of value creation. There is a minimal link to the business core and strategy. CSR initiatives were perceived and implemented by majority of the Malaysian companies as philanthropic initiatives and do not directly address sustainability activities relating to their business operations.

Today, investors and are increasingly looking at sustainable business practices when investing. The KPMG Survey of Corporate Responsibility Reporting 2017 established that there is a growing trend for large companies to include CSR information in their annual financial reports. The vast majority, (78 per cent) of the world's top companies now report on sustainability, indicating that they believe corporate responsibility data is relevant for their investors (KPMG, 2017). In 2012, Bursa Malaysia re-positioned its 2006 corporate social reporting framework, which includes guidance on how to embed sustainability, identify, evaluate and manage material risks and opportunities into organizations. In 2016, Bursa Malaysia launched a new sustainability framework to help public-listed companies to meet the sustainability expectations of a variety of stakeholders. The Bursa Malaysia sustainability framework listing requirements require public-listed companies to make a sustainability-related disclosure in their annual reports. The main market listed companies with a market capitalization (excluding treasury shares) of RM2 billion and above as at 31 December 2015 are required to disclose a sustainability statement focusing on economic, environmental, social impacts and initiatives which comes into effect from the reporting period ending 31 December 2016.

In 2018, the revised second edition of sustainability framework was published (replaces the first edition) and the revised framework includes reference to the sustainable development goals (SDGs) and the task force on climate-related financial disclosure recommendations (TCFD) and provides some guidance on integrated reporting (Bursa Malaysia Securities Berhad, 2018).

2.3. Theoretical Framework for Sustainability Disclosure

2.3.1. Legitimacy Theory

Legitimacy theory is the most common theoretical framework in explaining sustainability reporting. Legitimacy theory provides particularly useful guidance in understanding the motivation of organizations, uniquely Malaysian public-listed companies, in preparing and presenting sustainability reports. Deegan (2014) explained that based on legitimacy theory, organizations seek to ensure that outsiders view their business activities as being legitimate. Organizations continuously attempt to ensure that they operate within the boundaries and norms of their respective communities and societies.

Legitimacy theory is based on the idea of a "social contract" between the organization and the society in which it operates in. This theoretical perspective relates to the explicit and implicit expectations society has on organizations. Hence, it can be argued that the process of organizations maintaining and meeting the expectation of society is known as organizational legitimacy. Legitimacy theory explains that organizations must consider the rights of all their stakeholders, not merely those of their shareholder and investors. Society might have imposed sanctions if organizations failed to comply with the expectations set by society (Burhan. & Rahmanti, 2009).

The values and norms evident in the social contract have changed over time. In the past, legitimacy was considered only in terms of financial and economic performance but now, organizations are expected to consider a wider range of sustainability issues such as environmental and social consequences of their business activities. Hence, the practice of disclosing company information relating to sustainability has increased intensely due to the increased in demand and expectations by stakeholders and societies for sustainability data. Based on this theoretical perspective, we believe that the pressure from society on companies to practice sustainable goals is motivating companies to invest a substantial amount in implementing sustainable development goals will increase its operating expenses initially.

2.3.2. Stakeholder Theory

Stakeholder theory is the most common theoretical perspective in explaining sustainability reporting. This theory considers the relationships that exist between the organization and its various stakeholders. Stakeholder theory was developed in 1984 by Freeman and has both an ethical branch (moral) and a normative branch

(managerial). The ethical branch or the moral branch of the stakeholder theory explains that organizations should treat all their stakeholders fairly and organizations should be managed for the benefit of all their stakeholders (Deegan, 2014). All stakeholders have equal rights to be provided with information, especially on sustainability disclosures and should be considered in the decision-making of the organization.

The normative branch or the managerial branch of the stakeholder theory suggests that influential and powerful stakeholders influence the actions of organization (Deegan, 2014). A stakeholder's power is related to the degree of control they have over the resources of the organization. Organizations have to meet the expectation of their powerful stakeholders as they can affect the achievement of the organization's objectives and survival of the organization (Freeman, 1984). Based on this theoretical perspective, we believe that a profitable public-listed company with large market capitalisation is investing a substantial amount in implementing sustainable development goals and disclosing more sustainability information to its stakeholders.

2.3.3. Hypotheses Development

In recent years, many studies have examined the relationship between corporate characteristics (i.e. financial performance of organizations) with disclosures of sustainability practices (i.e. sustainability reporting). The financial performance of organizations can be measured as to how well an organization uses its assets for production of goods and services in order to generate revenue and these financial performances are reflected in the organization's statement of financial performance, statement of financial position, and statement of cash flows (Riedl & Srinivasan, 2010).

In a study by Griffin and Mahon (1997) the authors suggested that the most commonly used financial performance variables in the studies of sustainability and financial performance are return on assets (ROA), return on equity (ROE), earning per share (EPS), dividend per share (DPS), market share price (MPS) and market capitalisation. Thus, sustainability and the financial performance of organizations have become the major focus for research in recent years. Various studies have been conducted over the last decade testing the relationship between sustainability with financial performance and these findings showed a mixed result. It ranges from positive relationship (Ameer & Othman, 2012; Caesaria & Basuki, 2017; Johari & Komathy, 2019; Khaveh, Nikhasemi, Haque, & Yousefi, 2012; Lins, Servaes, & Tamayo, 2017; Martínez-Ferrero, Garcia-Sanchez, & Cuadrado-Ballesteros, 2015; Mishra & Suar, 2010; Nwobu, 2015; Waworuntu, Wantah, & Rusmanto, 2014; Whetman, 2018) to negative relationship (Detre & Gunderson, 2011; López, Garcia, & Rodriguez, 2007) and to even mixed results (Burhan. & Rahmanti, 2009; Diantimala, 2018; Ogundare, 2013; Omnamasivaya & Prasad, 2016; Wang, 2017). These studies used various types of variables to measure the financial performance of organizations such as accounting-based measures (ROA, ROE, profit before tax, profit margin). And market-based measures (MPS, volatility in share prices and market capitalisation). While, the measures for sustainability disclosures used by these studies are GRI-based, disclosure index scores, sustainability reports and external sustainability ratings.

In an earlier study done in sustainable development and corporate performance, López et al. (2007) examined the relationship between CSR (comprised of economic, social and environmental indicators) and various accounting indicators (focusing on profit before tax, revenue, assets, capital, profit margin, return on earnings, ROA and cost of capital). The authors used a sample of 55 firms from the Dow Jones Sustainability Index (DJSI) and compared them with 55 firms from the Dow Jones Global Index (DJGI) for the period of 1998 to 2004. The results showed a negative relationship between CSR and corporate performance indicators. Burhan. and Rahmanti (2009) also tested the relationship between sustainability reporting as a whole and each of the elements of sustainability reporting (economic, environmental and social performance disclosures) with company performance (ROA) using 32 companies listed on the Indonesian stock exchange from 2006 to 2009. The study found that sustainability reporting influences company performance but only partially. Only social performance disclosure influences the company performance.

Mishra and Suar (2010) investigated whether CSR towards primary stakeholders influenced the financial (industry-adjusted ROA) and non-financial performance. The findings indicated that there was a positive relationship between CSR and firm performance. Stock-listed firms showed responsible business practices and better financial performance than non-stock-listed firms. Detre and Gunderson (2011) explored the relationship between share values of publicly traded U.S. agribusiness firms with the adoption of CSR practices (economic, environmental and social). The authors found that the values of agribusinesses react negatively (at least in the short-term) with CSR.

In the year 2012, Ameer and Othman (2012) examined the relationship between sustainable practices with financial performance using top 100 sustainable global companies in 2008 from the developed countries and emerging markets. This paper built on the study by López et al. (2007), and overall the statistical results of the study confirmed that that companies which emphasise sustainability practices have higher financial performance (measured by ROA, profit before taxation, and cash flow from operations) compared to those without such commitments. Furthermore, the findings showed that the financial performance of sustainable companies has increased and been sustained over the periods from 2006 to 2008, 2006 to 2009, and 2006 to 2010, respectively. In the same year, using public-listed companies in the Singapore Stock Exchange, Khaveh et al. (2012) investigated the effect of CSR reporting (environmental and social performance disclosures) with firm's revenue, dividend paid (represents shareholders' wealth) and share price The study found that there is a positive and significant relationship between environmental and social performance disclosures with revenue, shareholders' wealth and share price.

Ogundare (2013) examined the impact of sustainability reporting on organisational performance using selected companies who listed for the last ten years or more on Bursa Malaysia. The main focus of this study is investigating whether embedding sustainability reporting culture into organisational activities can impact significantly on such an organization's performance as measured by volatilities in share prices and profit/losses related to the ordinary equity holders of parents. The results showed a slight relationship between sustainability reporting and low volatility in share prices but no relationship with profit volatility.

Waworuntu et al. (2014) tested the relationship between corporate social performance and corporate financial performance of top 40 companies in the ASEAN region using economic, environment and social disclosure variables against firm's profitability ratios (i.e. 5-year average return, ROA, ROE and EPS). The findings reported a moderate to strong positive correlation between corporate social performance and all three firm's profitability ratios that measures corporate financial performance. The study confirmed that there is an increasing awareness of CSR disclosure in the top listed ASEAN companies.

Martínez-Ferrero et al. (2015) analysed the relationship between the financial reporting quality (earnings management using accruals, degree of accounting conservatism and accruals quality) on sustainability information disclosure obtained from 25 countries from 2002 to 2010. The results supported the existence of a positive relationship between financial reporting quality with sustainability information disclosures. Nwobu (2015) examined the relationship between sustainability reporting and profitability using accounting base measure of organizational performance (profit after tax and shareholders fund) in Nigerian banks. The author found a positive correlation between sustainability reporting index and both the organizational profitability measures. The results also indicated that sustainability reporting has received substantial attention over the past four years in the Nigerian banking industry.

In Malaysia, Kasbun, Teh, and Ong (2016) examined the relationship between sustainability reporting (economic, social and environmental indicators) and financial performance (ROE and ROA) from 2006 to 2013 using 200 public-listed companies in Bursa Malaysia. The study found that economic, social and environmental sustainability reporting is positively associated with the company's financial performance, especially ROE and ROA. All three sustainability reporting indicators were positively associated with ROE in the financial year 2013. The

findings showed that sustainability reporting has improved over the three years. In India, Omnamasivaya and Prasad (2016) investigated the relationship between environmental disclosure practices with financial performance measured by net profit margin (NPM), return on capital employed (ROCE), EPS, DPS, ROA, ROE, price-earnings ratio (PE), dividend payout ratio (DPR), return on shareholders (ROS) and market price per share (MPS) using a sample of 30 companies from the Bombay Stock Exchange. The study found a positive relationship between environmental accounting disclosure index and ROCE, EPS, DPS, ROA, ROE, P/E and MPS but found a negative relationship between environmental accounting disclosure index and NPM, DPR and ROS.

In a more recent study by Wang (2017), the author tested the relationship between firm characteristics and the disclosure of sustainability reporting for Taiwan 50 Index-listed companies. The results showed that seven corporate governance and business characteristics, namely the size of the board of directors, ratio of independent directors, audit committee, ratio of export income, percentage of foreign shareholders' holdings, fixed assets, and firm growth are positively related to the disclosure of sustainability reporting, whereas the percentage of director holdings and stock price per share is negatively related to the disclosure of sustainability reporting. Caesaria and Basuki (2017) also examined the effect of sustainability report disclosure (economic, environmental and social aspect) to firm's market performance. The samples taken were 44 observations from all listed companies in Indonesia Stock Exchange, and the findings showed that economics, environmental, and social aspects have a significant positive influence on the companies' market performance. Additionally, Lins et al. (2017) investigated corporate social responsibility intensity (measured as social capital) during the 2008-2009 financial crisis with firm performance. The findings showed a positive relationship where high-CSR firms experience higher stock returns, profitability, growth and sales per employee relative to low-CSR firms.

In America, using a sample of 95 publicly traded American firms from various sectors in the year 2015 to 2016, Whetman (2018) examined the relationship between corporate sustainability reporting and financial performance of firms. The author found a positive and significant effect of sustainability reporting on a firm's ROE, ROA and profit margin. Diantimala (2018) investigated the effect of financial performance on sustainability disclosure and also tested the effect of sustainability disclosure on firm value using companies listed on the Jakarta Islamic Index. The results illustrated that higher liquidity encourages management to convey more sustainability disclosure. Higher sustainability disclosure also significantly increases firm value. Conversely, the effect of leverage, profitability, and firm size are not significant. Lastly, Johari and Komathy (2019) examined the relationship between sustainability reporting and firm performance using a sample of 100 top companies with proper disclosure for the year 2016 and using ROA, ROE, EPS and DPS in measuring the firm performance. The authors found that sustainability reporting has a positive relationship with firm performance when using ROA and EPS.

Based on the studies above, it was concluded that the financial performance of organizations does have an impact on the entity's disclosure of sustainability practices. Preparing and reporting on the financial performance of an organization is a requirement by the Malaysian legislation, and Malaysian Accounting Standards Board (MASB) whereas sustainability reporting is only mandatory for Malaysian public-listed companies with a market capitalization of RM2 billion and above. Hence, sustainability reporting is currently a voluntary activity for mid-sized and smaller Malaysian companies. With or without mandatory requirements, Malaysian public-listed companies are increasingly reporting on their economic, environmental and social disclosures to gain competitive advantage and to ensure the future survival of the organization. Large public-listed companies in Malaysia received pressure from the societies (legitimacy theory) and various stakeholders (stakeholder theory) as these companies are highly expected to practice sustainability and transparency. Saleh, Zulkifli, and Muhamad (2010) discussed that large organizations' commitments towards sustainability are under intense scrutiny as these organizations have more significant public visibility and higher impact towards their stakeholders. Enacting organizational financial performance and profitability goals through social-environmental and economic performance is possible through sustainability reporting and disclosures (Sisaye, 2011).

Thus, this study believes that organizations with excellent financial performance should respond better by actively disclosing information regarding their sustainable performance through sustainability reports voluntarily rather than to comply with regulatory requirements. Corporate characteristics (i.e. financial performance of organizations) may influence the degree of sustainability disclosure.

To test this relationship, this study examined eight different corporate characteristics which represent the financial performance of organizations: earnings per share (EPS), return on equity (ROE), return on assets (ROA), dividend per share (DPS), market share price, operating expenses, size of company and market capitalisation. It was predicted that higher EPS, higher ROE, higher ROA, higher DPS, higher market share price, higher operating expenses, larger company size, as well as broader market capitalisation would motivate organizations to convey more information in their sustainability disclosure which is represented by the economic, social and governance (ESG) scores.

The following four hypotheses were tested:

2.4. Earnings per Share and Sustainability Disclosure

The EPS measure of financial performance is calculated as a net income divided by the weighted average number of ordinary shares. It is favourable to the organization and shareholders when the organization's EPS is high (Johari & Komathy, 2019; Omnamasivaya & Prasad, 2016; Waworuntu et al., 2014). Thus, the organization will invest in more capital to report and disclose their sustainability practices. If EPS is low, the organisation will not be interested in investing and disclosing more on their sustainability practices. Hence our first hypothesis is as follows:

H₁: There is a positive relationship between EPS and ESG score.

2.4.1. Return on Equity and Sustainability Disclosure

ROE is a measure of financial performance calculated as the net income divided by shareholders' equity. The financial performance of an organization is viewed as an important aspect of sustainability disclosures. If ROE is high (in period of good profitability and economic performance), organization will give higher importance to sustainability disclosures (Johari & Komathy, 2019; Kasbun et al., 2016; Omnamasivaya & Prasad, 2016; Waworuntu et al., 2014; Whetman, 2018). Hence our second hypothesis is as follows:

H₂: There is a positive relationship between ROE and ESG score.

2.4.2. Size of Company and Sustainability Disclosure

Company size is defined as the company's total assets at the year-end. Firm size does influence sustainability disclosure (Diantimala, 2018; Wang, 2017). Larger organizations are more likely to publish and disclosure more information on their sustainability practices compared to smaller organizations. Therefore, we had the following hypothesis:

H₃: There is a positive relationship between the size of the company and the ESG score.

2.4.3. Market capitalisation and sustainability reporting

The investment community uses market capitalisation to determine a company's size (Chen., 2018). The large companies are more visible as they carry out more activities that have an impact on society (Hackston & Markus, 1996). Aerts, Cormier, Gordon, and Magnan (2006) demonstrated that large companies to have more information which allows them to engage more with corporate governance, social and environmental responsibility. Market capitalisation is the market value of a publicly-traded company's outstanding shares. Market capitalisation is considered as one of the variables that influences the sustainability disclosure practices. Loh, Thomas, and Wang (2017) investigated the relationship between sustainability reporting and firm value based on listed companies in

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Singapore. Empirical results suggested that sustainability reporting is positively related to a firm's market value. Therefore, the final hypothesis is as follows:

H₄: There is a positive relationship between market capitalisation and ESG score.

3. RESEARCH METHOD

3.1. Sample Selection

Our search for sample firms started with 107 Malaysian public-listed companies with a market capitalisation exceeding RM2 billion that are involved in mandatory sustainability reporting. This study covered the period from 2014 to 2018. We included these years because Bursa Malaysia launched a new Sustainability Framework to replace the Corporate Social Reporting Framework and amended its listing requirements in October 2015. The changes in disclosure requirements about sustainability practices after the Sustainability Framework was introduced could have been structurally affected the relationships in our study. Refinitiv provided all financial data and ESG scores. The final sample size was 57 companies after eliminating the companies without ESG scores from 2014 to 2018, which consisted of 285 firm-year observations.

3.2. Model Specification

We used the panel data regression model to examine the relationship between ESG disclosure in Malaysian public-listed companies and the corporate characteristics. The regression model was described as follows:

$\text{ESG\_SCORE}_{(i,t)} = \text{EPS}_{(i,t)} + \text{ROE}_{(i,t)} + \%\text{OPE\_EXP}_{(i,t)} + \text{lnTA}_{(i,t)} + \text{lnMKT\_CAP}_{(i,t)} + \text{INDUSTRY dummies} + \text{YEAR dummies} + \mathcal{E}_{(i,t)}$

Table 1 displays the definition of variables in the regression model. We used the ordinary least squares (OLS) regression model to explore the relationship between the ESG score and firm characteristics.

3.3. Dependent Variable

We used the ESG Combined Scores (ESG_SCORE) as the dependent variable. ESG_SCORE was obtained from Refinitiv. ESG_SCORE was calculated by discounting the ESG Score for ESG controversies that impacted the entity. The ESG score is used to measure an entity's ESG performance, commitment and effectiveness on environmental, social and governance. Data in relation to the ESG Combined Score was obtained from company-reported information that is available to the public (Refinitiv, 2019). We used ESG_SCORE to measure the level of disclosure of the sustainability practices of the entity. Table 2 illustrates the ESG Combined Score structure.

3.4. Independent Variables

Factors have been examined in previous studies that influence the level of information disclosed in an entity include earnings per shares (EPS), return on equity (ROE) (Johari & Komathy, 2019) market capitalization (MKT_CAP) (Loh et al., 2017; Sukthomya, 2011)) and company size (TA) (Hossain & Hammami, 2009; Talpur, Lizam, & Keerio, 2018; Vu, 2012; Wallace & Naser, 1995; Zhang, 2013). These variables are used as the proxies of firm characteristics, and we used these variables as independent variables in this study. EPS was measured as a net income divided by the weighted average number of ordinary shares. ROE was measured as the net income divided by shareholders' equity. MKT_CAP was the market value of a publicly traded company's outstanding shares. TA was measured as the natural logarithm of company's total assets at the year-end.

Table-1. Description and measurement of variables.

Variables	Description and Definitions
Panel A: Dependent variable	
ESG_SCORE[a]	Thomson Reuters ESG Combined Score. ESG Combined Score is calculated as the average of the ESG score and ESG Controversies score when there were controversies during the fiscal year.
Panel B: Independent variables	
EPS[b]	Earnings per share is a measure of financial performance calculated as a net income divided by the weighted average number of ordinary shares.
ROE[c]	Return on equity is a measure of financial performance calculated as the net income divided by shareholders' equity.
OPE_EXP[d]	The operating expense ratio is calculated by dividing total operating expenses by net sales.
lnTA[e]	Company size is measured as the natural logarithm of the company's total assets at the year-end.
lnMKT_CAP[f]	Market capitalisation is the market value of a publicly-traded company's outstanding shares.
Panel C: Control variables	
INDUSTRY	Type of industries. Dummy variables for the following industry: construction, consumer, industrial, property, plantation, technology and trading/services.
YEAR	Time. Dummy variables for years from 2014 to 2018
Ɛ	Residual errors

Source:
a. Refinitiv (2019).
b. Johari and Komathy (2019).
c. Johari and Komathy (2019).
d. Frazee (2019); Haanaes, Michael, Jurgens, and Rangan (2013).
e. Hossain and Hammami (2009); Talpur et al. (2018); Vu (2012); Wallace and Naser (1995); Zhang (2013).

f. Loh et al. (2017); Sukthomya (2011).

Table-2. ESG combined score structure.

ESG Combined Score			
ESG Score			ESG Controversies Score
Environmental	Social	Governance	ESG Controversy
Resource use	Workforce	Management	Controversies across all 10 categories are aggregated in one category score
Emission	Human rights	Shareholders	
Innovation	Community	Corporate social responsibility strategy	
	Product responsibility		

Source: Refinitiv (2019).

3.5. Control Variables

In addition to independent variables, we also included the percentage of operating expenses to sales revenue as the control variable in this study. Businesses implementing sustainability in their organisation require a substantial amount of investment initially, but it helps to reduce operating costs in the long term (Frazee, 2019; Haanaes et al., 2013). The Sustainability Framework was launched in October 2015 and companies were required to provide information related to sustainability by the end of 2016 (Bursa Malaysia Securities Berhad, 2015). We predicted that companies investing a substantial amount in implementing sustainability practices would result in an increase in the operating cost ratio of the business. The operating expense ratio is calculated by dividing total operating expenses by net sales. Consistent with previous studies (Ho, Oo, & Kwong, 2017; Ho., 2015; Zaman, Hudaib, & Haniffa, 2011) we included year and industry dummies to control for the unabsorbed effects during the sample period and the industry effect respectively.

4. RESULTS

Table 3 presents the descriptive statistics for the test variables in our research model. The average ESG_SCORE of 42.924 for the sample firms was within a range between zero and 84.997. The statistics showed

that the degree of disclosure of sustainability practices by companies increased from 2014 to 2017. The increase in the average ESG_SCORE was due to the amendments to the Main Market Listing Requirement in Malaysia.

The sustainability amendments that issued by Bursa Malaysia Securities Berhad required companies with a market capitalisation of RM2 billion and above to disclose a narrative statement of the management of material economic, environmental and social risks and opportunities (Sustainability Statement) in their annual report issued for fiscal years ending on or after 31 December 2016. Companies with market capitalisation of less than RM2 billion, were required to disclose a Sustainability Statement in their annual report issued for the financial year ending on or after 31 December 2017 (Bursa Malaysia Securities Berhad, 2015).

The 57 sample companies used in this study had started disclosing sustainability information to the public before the sustainability amendments were issued. The level of sustainability disclosure has increased after the sustainability amendments were issued. This phenomenon is consistent with the legitimacy theory that Malaysian-public listed companies had started practising sustainability voluntarily before the Sustainability Framework was introduced to comply with the expectations set by the society rather than to comply with the regulatory requirement. Pressure from stakeholders resulted in increased in the degree of sustainability disclosure from 2014 to 2018 after the introduction of the Sustainability Framework.

Table-3. Descriptive statistics.

Variable	Year	Mean	Std. Dev.	Min	Max
ESG_SCORE	All	42.924	23.682	0.000	84.997
	2014	42.148	20.118	0.000	73.265
	2015	46.203	18.220	0.000	73.391
	2016	50.551	18.177	0.000	79.371
	2017	53.518	18.190	0.000	84.997
	2018	21.830	28.653	0.000	81.385
ROE	All	20.439	44.403	–58.400	314.390
	2014	23.585	45.416	–2.540	301.540
	2015	22.066	44.009	–3.360	285.780
	2016	20.679	47.024	–30.640	314.390
	2017	18.981	43.492	–58.400	284.530
	2018	16.818	43.205	–51.980	258.540
MKT_CAP	All	21358499.000	21015009.000	382674.000	106000000.000
	2014	20936558.000	20029762.000	1793047.000	85455505.000
	2015	20655982.000	19844584.000	1408683.000	81998711.000
	2016	20589481.000	20066431.000	845318.000	83584239.000
	2017	23007735.000	22737215.000	608293.000	106000000.000
	2018	21607100.000	22855695.000	382674.000	105000000.000
TA	All	61171700.000	127000000.000	235326.000	806000000.000
	2014	54217683.000	112000000.000	235326.000	639000000.000
	2015	58976582.000	123000000.000	447087.000	707000000.000
	2016	61932023.000	128000000.000	723693.000	735000000.000
	2017	64061467.000	133000000.000	863063.000	764000000.000
	2018	66768943.000	141000000.000	883541.000	806000000.000
%OPE_EXP	All	0.830	0.136	0.455	1.278
	2014	0.811	0.120	0.492	0.991
	2015	0.821	0.121	0.492	1.037
	2016	0.842	0.147	0.487	1.278
	2017	0.835	0.142	0.455	1.131
	2018	0.842	0.150	0.460	1.181

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The mean of ROE was 20.439. The mean of ROE had reduced by 28.691% from 2014 to 2018 (2014: 23.585; 2018: 16.818).

The mean of %OPE_EXP was 0.830. The mean of %OPE_EXP had increasied by 3.822% from 2014 to 2017 (2014: 0.811; 2018: 0.845).

The mean of MKT_CAP was RM21.358 billion for the sample firms; it was between RM382.674 million and RM106 billion. The average TA of RM61.171 billion for the sample firms was within the range between RM235,326 million and RM806 billion. Past literature showed that companies investing a substantial amount in implementing sustainability practices eventually led to dramatically lower cost and higher yield (Frazee, 2019; Haanaes et al., 2013). It is costly to shift business to be environment-friendly initially. The high initial upfront conversion costs may have to come at the company's expense in term of smaller profit margin on its products (Joseph, 2019).

Table 4 presents the correlation matrix for the test variables. The results showed that EPS, ROE, lnTA and lnMKT_CAP were significantly correlated with ESG_SCORE. There was no evidence to show that there was a multicollinearity problem among the independent variables since the correlations of all these variables were below 0.700 (Hair, Black, Babin, & Anderson, 2010). We also calculated the variance inflation factor (vif) and the results in Table 5 show that all variables were within the acceptable limit of 10 (Hair et al., 2010; Wooldridge, 2013).

Table-4. Correlation matrix.

Variable	ESG_SCORE		EPS		ROE		%OPE_EXP		lnTA		lnMKT_CAP
ESG_SCORE	1.000										
EPS	0.145	**	1.000								
ROE	0.108	*	0.328	**	1.000						
%OPE_EXP	-0.073		-0.279	**	-0.313	**	1.000				
lnTA	0.210	**	0.101	*	-0.291	**	-0.080		1.000		
lnMKT_CAP	0.233	**	0.412	**	0.206	**	-0.367	**	0.563	**	1.000

Notes:

(a) Description and measurement of variables refer to Table 1.

(b) ***, **, * indicate pearson correlation significant at 1% (p<.01), 5% (p < .05) and 10% (p < .10) levels respectively.

Table-5. Variance inflation factor (VIF).

Variable	VIF	1/VIF
nMKT_CAP	2.200	0.455
lnTA	1.960	0.509
ROE	1.520	0.658
EPS	1.310	0.762
%OPE_EXP	1.250	0.799
Mean VIF	1.650	

Table 6 presents the results from 5 types of panel analytic models: (1) Pooled Ordinary least square (OLS) model; (2) Fixed effect (FE) model; (3) Random effect (RE) model; (4) Two-stage least square (2SLS) model and (5) 2SLS with heteroskedasticity model. Column 1 of Table 6 presents the Pooled OLS regression result of ESG_SCORE on EPS, ROE, lnTA, lnMKT_CAP and %OPE_EXP. The results showed the explanatory power with R^2 of 0.369, meaning the independent variables explained 36.90% of the variation in ESG_SCORE. Column 1

of Table 6 shows that lnMKT_CAP and %OPE_EXP had a positive relationship with ESG_SCORE. lnMKT_CAP and %OPE_EXP were significantly related to ESG_SCORE at the 1% and 5% level of significance. However, EPS, ROE and lnTA were not statistically significant in relation to the ESG_SCORE.

Column 2 and Column 3 of Table 6 present the result of the RE model and FE model respectively. We used the Breusch-Pagan test to test for the presence of random effects. The null hypothesis for the Breusch-Pagan test was that the data were homoskedastic and the alternative hypothesis was that the data were heteroskedastic. In the RE model, the error variances were not equal (Adkins & Hill, 2011; Wooldridge, 2013).

Table-6. Regression of ESG_SCORE on EPS, ROE, lnTA, lnMKT_CAP, %OPE_EXP.

	Column 1		Column 2		Column 3		Column 4		Column 5	
	Pooled OLS		Random Effect		Fixed Effect		2SLS		2SLS with Heteroskedasticity	
	Coef.		Coef.		Coef.		Coef.		Coef.	
	Std. Err.		Std. Err.		Std. Err.		Std. Err.		Robust Std. Err.	
	t-value		t-value		t-value		t-value		t-value	
Constant	-71.609		-94.831		-286.232		-97.971		-97.971	
	24.686		28.464		128.064		26.039		25.725	
	-2.900	***	-3.330	***	-2.240	**	-3.760	***	-3.810	***
EPS	1.151		1.481		3.699		-0.286		-0.286	
	2.607		3.020		8.812		2.776		3.230	
	0.440		0.490		0.420		1.960		-0.090	
ROE	0.052		0.052		0.133		0.070		0.070	
	0.033		0.039		0.186		0.036		0.029	
	1.580		1.340		0.710		1.960	*	2.410	*
lnTA	-1.106		-1.083		9.663		-1.538		-1.538	
	1.489		1.729		8.973		1.582		1.547	
	-0.740		-0.630		1.080		-0.970		-0.990	
lnMKT_CAP	6.274		6.498		8.944		7.120		7.120	
	1.971		2.242		4.723		2.087		2.037	
	3.180	***	2.900	***	1.890	*	3.410	***	3.490	***
%OPE_EXP	32.857		31.447		20.528		37.094		37.094	
	12.347		13.976		26.669		12.867		12.079	
	2.660	**	2.250	**	0.770		2.880	***	3.070	***
YEAR	Yes		Yes		Yes		Yes		Yes	
INDUSTRY	Yes		Yes		Yes		Yes		Yes	
R square	0.369				0.790		0.375		0.375	
F-value	11.260	***	-		86.340	***	9.410	***	12.250	***
Wald chi-square	-		152.500	***	-		-		-	
Observation	285.000		285.000		285.000		285.000		285.000	
Breusch-Pagan LM test [Chi-square/(p-value)]	1.77//(p-value=0.092)				-		-		-	
Hausman test (Chi-square)					-1371.500					

Notes: Description and measurement of variables refer to Table 1. ***, **, * indicate significant relationship at 1% (p<.01), 5% (p < .05) and 10% (p < .10) levels respectively.

Column 2 of Table 6 shows that the chi-square of 1.77 with the p-value > 0.05; thus, we did not reject the null hypothesis which led us to conclude that random effects were not present. In other words, there were no individual company-specific effects in the data. Therefore, it was more appropriate to use a Pooled OLS model in this study than the RE model.

We used the Hausman test to check for any correlation between the error components and the independent variables and control variables in the RE model. The null hypothesis for the Hausman test was that there was no correlation between error components and independent variables and control variable. If there as no correlation between the error components and the independent variables and control variable, the coefficient estimates from the RE and FE are consistent, but FE was inefficient and we used the RE model.

Table-7. Regression of EPS and ROE on independent variables and control variable.

		Column 1		Column 2	
		DV: EPS		DV: ROE	
		Coef.		Coef.	
		Std. Err.		Std. Err.	
		t-value		t-value	
Constant		-2.469		35.537	
		0.555		45.769	
		-4.450	***	0.780	***
EPS		-		13.415	
		-		4.770	
		-		2.810	***
ROE		0.002		-	
		0.001		-	
		2.810	**	-	
lnTA		-0.053		-18.614	
		0.035		2.521	
		-1.540		-7.380	***
lnMKT_CAP		0.232		19.597	
		0.044		3.460	
		5.320	***	5.660	***
%OPE_EXP		-0.326		-37.813	
		0.287		22.801	
		0.258		-1.660	*
YEAR		Yes		Yes	
INDUSTRY		Yes		Yes	
R square		0.424		0.372	
F-value		15.350		12.340	

We also used the Hausman test to test for endogeneity (Adkins & Hill, 2011; Wooldridge, 2013). The chi-square in the Hausman test was less than zero. The Hausman test statistic can be less than zero if the explanatory variables are considered endogenous (Schreiber, 2008). Table 4 shows that ROE variable was endogenous as it was significantly correlated with other independent variables in the research model at the 1% level of significance.

Column 1 of Table 7 shows that ROE and lnMKT_CAP were significantly related to EPS. Column 2 of Table 7 shows that EPS, lnTA, lnMKT_CAP and %OPE_EXP were significantly related to ROE.

We used the Two-Stage Least Square (2 SLS) model to rectify the endogeneity bias in the regression model. In the first-stage regression, we obtained the fitted value, i.e., EPS. EPS is a statistically significant explanatory variable, with a t-statistic of 2.81 (Column 2 of Table 7) or an F-value of 7.91. Hence, EPS was used as the instrument variable in this regression model.

Endogeneous variable ROE was placed with the instrument variable, EPS from outside the regression model in the second-stage regression. Column 4 of Table 6 shows the results of the second-stage regression. The standard errors in Column 4 of Table 6 were higher than the standard errors obtained from Pooled OLS regression.

We were also concerned about the heteroskedasticity in the data and Column 5 of Table 6 shows the robustness results. All standard errors in Column 5 of Table 6 were robust against heteroskedasticity. The robust standard errors were slightly smaller than the non-robust standard errors in the 2SLS regression model. This means that the variance of error terms was small, and the correlation between the variance of error terms and the exogenous variables were insignificant (Adkins & Hill, 2011; Wooldridge, 2013). This result was consistent with the results show in the Breusch-Pagan test (Column 2 and Column 3 of Table 6).

Column 5 of Table 6 presents the 2SLS regression result of ESG_SCORE on ROE, lnTA, lnMKT_CAP and %OPE_EXP. The results showed the explanatory power with R^2 of 0.375, meaning the independent variables explained 37.50% of the variation in ESG_SCORE. Column 5 of Table 6 shows that ROE, lnMKT_CAP and %OPE_EXP had a positive relationship with ESG_SCORE. lnMKT_CAP and %OPE_EXP were significantly related to ESG_SCORE at the 1% level of significance. ROE was significantly related to ESG_SCORE at the 10% level of significance. This result was consistent with our prediction that profitable company with large market capitalisation and companies investing a substantial amount in implementing sustainability practices have a higher degree disclosure of sustainability information to the stakeholders. We did not reject hypotheses H_2 and H_4.

However, lnTA was not statistically significant to the ESG_SCORE, suggesting that lnTA does not influence the level of disclosure of sustainability information. Thus, we had to reject hypothesis H_3.

5. DISCUSSION AND CONCLUSION

5.1. Discussion

In this study, the results showed that ROE has a significant influence on the ESG_SCORE which was consistent with the results from Waworuntu et al. (2014); Kasbun et al. (2016); Omnamasivaya and Prasad (2016); Whetman (2018); Johari and Komathy (2019). This suggests that profitable companies were actively integrating sustainability practices into their businesses and were willing to embark on the sustainability reporting journey. Thus, these companies eventually disclose more information related to sustainability practices to stakeholders. We also found that lnMKT_CAP has a statistically significant and positive relationship with ESG_SCORE. Our result supported the findings of Loh et al. (2017), Aerts et al. (2006) and Hackston and Markus (1996) that companies with large market capitalisation carry out more activities that have an impact on the society and need more information to enable them to engage more with sustainability practices.

The stakeholder theory supports this argument that Malaysian public-listed companies actively report and practice sustainability to meet the expectation from stakeholders rather than meeting the regulatory requirement.

The control variable %POE_EXP in this study has a significant influence on the ESG_SCORE, supporting the findings of Frazee (2019) and Haanaes et al. (2013). This suggests that companies implementing sustainability in their businesses require a substantial amount of investment initially to achieve their sustainable development goals and therefore have more information disclosed in the sustainability report. Our findings were supported by the legitimacy theory that companies achieve legitimacy when they are responding to the needs of the society, i.e. invest

substantial amount to implement sustainable development goals and result higher degree of disclosure of sustainability information.

5.2. Conclusion

Our study, used EPS, ROE, lnTA and lnMKT_CAP to proxy for corporate characteristics and the ESG_SCORE to proxy for the level of disclosure of sustainability practices. We also included %OPE_EXP as the control variable in this study. There is evidence showing that ROE, lnMKT_CAP and %OPE_EXP have a significant impact on the level of disclosure of sustainability practices. This suggests that a profitable company and company with large market capitalisation are willing to invest and put in effort in implementing the sustainability reporting initially. This results in a higher percentage of operating cost to sales revenue at the beginning stage of embarking on the journey of sustainability reporting. Companies investing a substantial amount in implementing the sustainable practices result in more information related to sustainable development to be disclosed to the stakeholder and eventually obtain a higher ESG Combined Score.

This study was subject to several limitations that need to be considered in future research. First, there were other factors that encourage an entity to embark on or invest in sustainability reporting effort, i.e., nature of the source of an organisation, its force, its geographical application and institutional scope. We suggest that these factors to be considered for future study.

Second, we used a quantitative research method and secondary data to explore the determinant of sustainability reporting effort. This method may not reflect the real phenomenon. We suggest using a qualitative research method to explore the determinant of sustainability reporting effort by including other attributes such as the tone at the top and stakeholder engagement in future research.

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