

# Board Composition and Characteristics' Effect on the Quality of Sustainability Reporting Among Companies in Malaysia

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## Abstract

**Purpose:** This study aims to identify whether the composition and characteristics of board of directors of a company affects the sustainability reporting quality (SRQ) produced by companies in Malaysia.

**Design/methodology/approach:** The methodology applied is longitudinal study and of a causal design. The data used comes from secondary sources and is analysed through content analysis.

**Findings:** The study pits the independent variables, the composition and characteristics of the board of directors, which are board size, board independence, gender diversity, CEO duality, cultural diversity and frequency of board meetings against the dependent variable, the quality of sustainability reporting through a multiple regression test to ascertain the existence of relationship between each independent variable to the dependent variable. The result of the regression analysis shows that board size, board independence and gender diversity were significantly related with the quality of sustainability disclosure, while CEO duality, cultural diversity and frequency of board meetings shows insignificant relationship with the quality of sustainability reporting.

**Research limitations/implications:** This study faces limitations in terms of the sample size used and subjectivity of content analysis method.

**Practical implications:** The findings of this study can provide useful insights to standards and guidelines makers, regulatory and monitoring authorities as well as companies in improving the quality of sustainability reporting. This research sets out to find, based on theoretical assumptions on the importance of SRQ to cater to ethically responsible investors as well as answering the call for sustainable development. It is understood that to achieve better quality levels of sustainability disclosure, having just a compulsory requirement in place is not entirely sufficient, and influencing factors of SRQ needs to be identified and addressed.

**Originality/value:** This research is among the few studies that focuses on the effects of board composition and characteristics on the quality of sustainability reporting in an emerging economy like Malaysia.

**Keywords:** Sustainability Reporting, Board Composition, Board Characteristics

## **Introduction**

### ***Sustainability Practice***

In recent years, sustainability practices have been the rising focus for companies and corporate entities (Linnenluecke, Russel & Griffiths, 2009; Amran, Shiau & Devi, 2014). The beginnings of sustainability practices among companies is said to have happened due to various reasons and circumstances. According to Amran et al. (2014), sustainability practices among companies have prominently gained attention and weight starting with the fall of Enron and various other corporate governance issues and scandals sparked an unprecedented level of distress on investor's confidence (Duff, 2009).

Sustainability in its generality has a broad spectrum of definitions, where a coherent and concrete opinion on what constitutes corporate sustainability cannot be achieved (Linnenluecke et al., 2009). For instance, sustainability practice pits companies to have an emphasis on the pursuit of societal goals alongside their main focus for profitability and corporate growth, basically calling for companies to acknowledge the two to have equal importance (Wilson, 2003) as suggested through the triple bottom line theory. Societal goals in question are closely related to the concept sustainable development, where efforts are made to achieve an impact; either environmentally, economically or socially (Harris & Crane, 2002; Wilson, 2003). These are the three essential aspects of sustainability (Harris & Crane, 2002), where an impact in any of these aspects will contribute towards the sustainable development agenda. Sustainable practices could also be associated to corporate social responsibility (CSR), another term or concept which is used in the context of company's initiative for the society or community (Wilson, 2003). No matter how ambiguous the term sustainability can become in the corporate world, it is commonly agreed (Dutta, Lawson and Marcinko, 2012) that the most notable technical definition of sustainability is as provided by WCED (1987: 43), 'sustainable development is development which meets the need of the present without compromising the ability of future generations to meet their own needs'.

With that being said, the struggle to achieve sustainability comes down to various initiatives taken by companies, either by adapting operations to consume less resources or to produce less pollution (Gonzalez-Benito & Gonzalez-Benito, 2006), enhancing relationship with the communities and other stakeholders (Crane, 2000; Linnenluecke et al., 2009) or incorporating appropriate beliefs and values to nurture a sustainability focused corporate culture (Linnenluecke et al., 2009). There are various factors which motivates companies into pursuing sustainability practices. Studies have found that these motivating factors include pressure placed on organisations to address any environmental or social issues which are direct or indirect repercussions from their activities (Starik & Marcus, 2000), increased awareness on environmental concerns and climate change (Amran et al., 2014) and businesses becoming more complex paired together with global transformation has shaped companies to be responsible citizens and advocate for the sustainability agenda (Amran et al., 2014).

Therefore, it is understood that sustainability is a broad subject with various theories and definitions are given to answer what is sustainability. Due to the broad nature of the subject, in relevance to this study, sustainability practices and impacts that are taken into account falls within the scope provided by the Global Reporting Initiative (GRI, n.d.), which constitutes sustainability practices to activities and initiatives that brings impact either environmentally, economically or socially.

Sustainability practices and sustainability reporting has gain prominence in the academic world (Beare, Buslovich & Searcy, 2014) just as much as it has attracted attention in the corporate world (Linnenluecke et. al, 2009; Amran et. al, 2014). In extension of this, there are understandably multiple perspective and takes in regards of research done over the years concerning matters relating to sustainability practices and reporting. The study conducted by

Beare et al. (2014) suggests that research addressing motivations for reporting, contents of the report, report verification and process of reporting is well established. There is however, an obvious lack in the study of assessing the quality of said report (Kolk, 2004; Amran et. al, 2014).

It is undeniable that there is past research done on the matter albeit few in quantities when compared to the other research agenda as stated, especially studies which are focused in the Asia-Pacific region excluding Australia (Amran et. al, 2014). Furthermore, the studies done on assessing the quality of sustainability report is not comprehensive, where the research done only studies certain specific factors or variables to be linked to the quality of sustainability report, and no published work has been found which relates board composition and corporate governance factors specific to a company's board to the quality of sustainability reporting. Therefore, the aim of this research is to investigate whether the board composition and characteristics effects the quality of sustainability reporting produced by companies in Malaysia.

### ***Sustainability Reporting***

The practice of reporting sustainability policies and/or impact have been around for quite some time, with the first separate environment report was released in 1984 (Kolk, 2004). The rising trend in the number of sustainability reports produced globally is clearly seen through various published reports (Kolk, 2004; Sawani, Zain & Darus, 2010).

Various terminology is used to in place of sustainability reporting. Other terms include environmental report, environmental, social and governance report (ESG), corporate social responsibility report (CSSR), corporate citizenship report and also sustainability report. There are disputes on the acceptance to interchangeably use these terms as some authors (Amran et al., 2014; Kolk, 2004) have generalized these terms to describe sustainability reporting, while there are other authors (Nor Shahira & Rosmiza, 2017) which emphasis on the differences that each terminology brings and therefore uses each term specifically in the context that they meant. Terminology aside, the technical definition for sustainability reporting as given by WBCSD (2002: 3), sustainability reporting is 'public report by companies to provide internal and external stakeholders with a picture of the corporate position and activities on economic, environmental and social dimensions'. Simply put, companies published these reports in order communicate with their stakeholders, to inform them of the efforts and measures undertaken by the company to either pursue or embrace the sustainability agenda and also the impact that their organization has made based on the three essential aspect of sustainability, either on environment, economic or social.

In conducting this research, the companies analysed have used different terms or names for their sustainability report. Some terms as listed above are used by various companies in the sample. In relevance to this study, the various terms associated with sustainability reports are used interchangeably, and is understood to describe or meant as sustainability report, where the report is understood to be published by the respective companies to communicate their sustainability efforts and impacts made.

### **Literature Review**

#### ***Sustainability Reporting Quality***

The dependent variable for this research is sustainability reporting quality (SRQ). Sustainability report as mentioned above is produced by companies to communicate their initiative to embrace sustainability as well as the impact resulting from said initiatives towards any of the main aspects of sustainable development, let it be either economic, environment or social. The quality of the report produced by corporate entity encompasses various aspects, as

there is multiple aptitude that constitutes a quality sustainable report. The state of the quality of these reports is not critically acclaimed, as there are issues in regards to the imbalance between the motivations for the management to uphold accountability and transparency versus gaining managerial advantage (Owen, Swift, Humphrey & Bowerman, 2000). There are also arguments which commends the higher incentive for managers to withhold information to deliberately hinder the observability of their performance (Karamanou & Vafeas, 2005), thus creates an obstacle for decision making stakeholders, specifically ethical or socially responsible investors (Clarkson, Li, Richardson & Vasvari, 2008).

According to Amran, Shiau & Devi (2014), to evaluate on what constitutes a report of acceptable quality should see that the report is sufficiently providing accurate and transparent information. The rise of criticism on the report itself and to address the issue of investor's confidence in corporate reporting, efforts are made to have the reports produced to be verified by assurance providers, commonly by independent auditors (Boiral, Brotherton & Heras-Saizarbitoria, 2017). A report of acceptable quality is also expected to be produced in accordance to acceptable standards and guideline, most commonly by following the Global Reporting Initiative (GRI) Standards (Boiral et al., 2017). In essence, a sustainability report that can be considered to be of an optimum quality should be accurate, transparent, accountable and verified.

The evaluation to determine the quality of the sustainable report produced by companies is done by using the same index established by Amran et al., (2014). The index used to rate the state of quality of a sustainability report includes a few particulars, which are the use of standards in preparing the sustainability report, presence of verification and assurance for the produced report, engaging stakeholders in regards to the report preparation, obtained certification and awards in relation to sustainable development in respects to the company and its operations, and disclosure on initiatives taken on a company and industry level. The presence of these aspects in a company's sustainability report will establish it as a sustainable report with sufficient quality.

### ***Board Composition and Corporate Governance Elements***

The study centers on factors that potentially have influences on the quality of sustainability reporting produced by a company. Thus, the factors that are focused on for this paper are board composition and the corporate governance elements relating to a board of directors. Agency theory provides a premise where a party acts on behalf of another party (Shapiro, 2005). In the corporate world, this theory has become synonymous with the relationship between the shareholders of a company, as principals and the managers of the company as agents (Davies, 2000), alongside other relationship that makes up the principal/agent relationship set, the other two being the relationship between majority and minority shareholders, and the relationship between a company's controller (managers or majority shareholders) and non-stakeholders. In the context of this writing, the relevant relationship among the principal/agent set is the first relationship. It is understandable that the controllers of a company, i.e. the managers or agents, are in most cases the board of directors and therefore, the board of directors owes a fiduciary duty towards the company's shareholders (Black, 2001). As the highest governing body in a company, the board of directors has the power to hire or dismiss the management and decide on their compensation, serves to resolve conflicts of interest among decision makers, ensure any decisions that are collective made is in the best interest of the company (Baysinger & Butler, 1985).

The depth of importance of the duties of the board of directors calls for regulations in respect to achieving an appropriate board composition and also to ensure adequate corporate governance practice within the board. An appropriately composed board should have the right

group of people, with adequate mix of skills, knowledge, experience and independent elements that is aligned to the organization's objectives and strategic goals (MCCG, 2017). In Malaysia, regulations such as Malaysian Code of Corporate Governance (MCCG) and Companies Act 2016 (CA) contain provisions which govern a company's board of directors. This comes down to the acceptable board composition as well as adequacy of corporate governance practice. The identified independent variables are board size, board independence, gender diversity, CEO duality, cultural diversity and frequency of board meetings.

### **Board Size**

Board size in all simplicity means the number of members that makes up a company's board of directors. MCCG is silent on the exact number of directors required to be on a board, but CA (2016) states that the minimum number of directors to be present on a board is 1 for a private company and 2 for a public company. Despite the minimum required number being low, a board should be large enough to contain a balance number between insider and outsider directors, to avoid any bloc or proneness to any side of a decision (Raheja, 2005). A board should also have enough members to allow for a member to only take up a position in one committee exclusively for example exclusively being a part of the audit committee. The need for decisions to be made in the best interest of both the company and stakeholders depends on no one side of the board having dominance, thus a large enough board is needed for said purpose. Thus comes the rationale of the size of a board can influence on having a balanced priority on stakeholder's interest, specifically in demand for information, therefore plays a hand in determining the SRQ. Previous studies have shown a significant links between board size and disclosures (Allegirni & Greco, 2013; Schiehl, Terra & Viktor, 2013).

### **Board Independence**

A board independence is determined by the ratio of independent directors to managing directors present on a company's board. A board of directors includes two types of members, insider directors, who are usually the company's key management personnel, understandably non-independent and outsider directors who are more independent but less informed on the company's projects and activities (Raheja, 2005). The literature by the same author deduced that there is a possibility of managing directors to propose agendas for the board's approval that are not in the best interest of the company, but is advantageous to themselves. Therefore, it is imperative that independent directors to have adequate knowledge to know the workings of a company, and assess decisions made to be the best on behalf of the stakeholders. It is established that insider directors are more likely to side with the CEO, while outsider directors are more independent and objective when assessing CEO's proposals and decisions (Fama & Jensen, 1983).

The importance place on this particular aspect of the board is quite clear with provisions from MCCG (2017), which states that for large companies, the board is to be made of a majority of independent director. The guideline also states that an independent director is not only independent in terms of background and activity, but is also free to exercise their directorship duty without influence from the management.

Therefore, this particular aspect of the board can influence decisions made, including the dedication level put into SRQ by a company, thus explains the rationale of board independence as a variable. Previous research by Samaha, Khlif & Hussainey (2015) and Muttakin, Khan & Subramaniam (2015) indicates that there is a significant influence by board independence on disclosure.

### **Gender Diversity**

The percentage of women taking up managerial roles have been on the rising trend globally (Catalyst, 2019). Gender diversity within a board of directors purports the inclusion of women as directors on a company's board. Despite the rising numbers, women remain under-represented when it comes to occupying top leadership positions in companies (Cook & Glass, 2014) which leads to various guidelines enacted to reduce the company's board needs to be occupied by women, and other companies are encouraged to do so too.

Inclusion of women in a company's top decision making process is said to potentially produce a more impactful and critical decision. This is so as women have shown greater perception towards risk (Ciocirlan & Peterson, 2011). Studies have also shown that meeting the critical mass for women on a board will enhance governance (Konrad, Kramer & Erkut, 2008). In the context of this research, where the focus would be on the effects on SRQ, a study by Fernandez-Feijoo, Romero & Ruiz-Blanco (2014) established that women prioritise to care for the need of others, which qualities are highly associated with CSR and having a more sustainable conscience that can be projected into their endeavors. Pairing their tendency towards these qualities, female directors may have significant say in a board, which in turn can possibly influence the SRQ.

The review on past publications in respect to gender diversity has shown that past research did find links between gender diversity and disclosure of information from various aspects, including CSR disclosure (Fernandez-Feijoo et al., 2014; Liao, Luo & Tang, 2015).

### **CEO Duality**

The concept of CEO duality suggests that the position of chairperson of a board and the position of a company's CEO is filled by the same individual.

In regards to the concerns of corporate governance and the threat of conflict of interest, MCCG (2017) has provisions in relation to CEO duality, whereby the guideline states that there need to be a separation between the two roles to promote accountability and facilitate division of responsibilities between them. The guideline also elaborates on each role's responsibility, where a chairperson leads the board as a whole and collectively oversees the management while a CEO focus on the business and day-to-day management activities. However, from a legal standpoint, the CA does not deliberately disallow CEO duality, therefore it is permissible to have the same person occupying the two positions. These corporate governance concern arises as there may be an objectivity problem (Dalton & Kesner, 1987) when a single person accommodates both positions, as both positions comes with different responsibilities.

The concern which hovers over the concept of CEO duality is the risk of dominance within the board (MCCG, 2017) and CEO entrenchment (Finkelstein & D'Aveni, 1994) where effective monitoring is no longer possible (Dalton & Kesner, 1987). In the context of this study, CEO duality, which could potentially inhibit collective decision making may bring both positive and negative influence on the SRQ, and either way, it is understandable that CEO duality can be an influencing factor to SRQ.

Previous studies have shown that there is a negative relationship between CEO duality and disclosures (Kamarudin, Ismail & Samsudin, 2012; Samaha, Khlif & Hussainey, 2015).

### **Cultural Diversity**

Diversity on a board comes in various forms, for example gender diversity as elaborated before. Apart from that, a diversified board should be made up of directors with different cultural backgrounds, hence, cultural diversity. The differences in interpretation and understanding of cultural diversity needs to be addressed, as the term is ambiguous, which could mean varying race, ethnicity, beliefs, culture, nationality and even language (Belfield, 2012). For the purpose

of this study, cultural diversity will refer to differences in nationality, whereby a person with foreign citizenship is acting as a director for a Malaysian based company.

Provisions under MCCG (2017) states that in appointing directors, candidacy should come from a diversified pool, as a diverse board can offer better depth and breadth. A multinational team can bring significant increase to performance (Rodrigues, 2014) as a diversity allows for heterogeneity of experience and ideas (Fields & Keys 2003). Diversity can also bring cultural sensitivity, local knowledge and insights (Reynolds, 2019) to the board. Therefore, it is possible that the presence of a foreign director can have an influence on a board’s insight, and thus may become an influencing factor on SRQ.

Previous literature has found links between the presence of foreign director and improvement of disclosure levels (Dewayanto, Kurniawanto, Suhardjanto, & Honggowati, 2017).

### Frequency of Board Meetings

Board meeting is a platform where the board of a company meets to discuss prevalent matters of the company, regarding prior events, present situation and forward looking matters. Board meeting frequency is therefore means the number of times such meeting is arranged to take place over the course of a company’s financial year. Board meetings which enables discussion and changes of insights and thoughts are important to the overall effectiveness and efficiency of the board. Board meeting also helps in ensuring directors, especially outsider directors to stay informed on all developments that are taking place in the company (Eluyela, Akintimehin, Okere, Ozordi, Osuma, Ilogho & Oladipo, 2018). Members of the board, the directors, are required to attend these meetings, for one to ensure that they are aware of the current situation within the company, also to achieve full collective decision making by the board (Takagi, 2009) and in some cases to avoid removal or reinforce eligibility for reappointment (Eluyela et al., 2018).

Due to the fact of board meeting being the platform of discussion, dissemination of insider’s information to outsider directors, and collective decision making, the significance of the arranged assembly of directors is quite clear. Thus, higher number of meetings would provide more opportunities to discuss various matter, sustainability matters included, therefore could lead to the board reaching unanimous agreement on importance of sustainability and SRQ. Which is why, the number of board meetings held is listed as a variable.

Previous studies concluded that board meetings are indeed associated with the levels of disclosure of various information (Allegrini & Greco, 2013), which includes aspects of compensation disclosure & CSR disclosure (Jizi, Salama, Dixon & Stratling, 2014).

### Theoretical Framework and Hypotheses Development

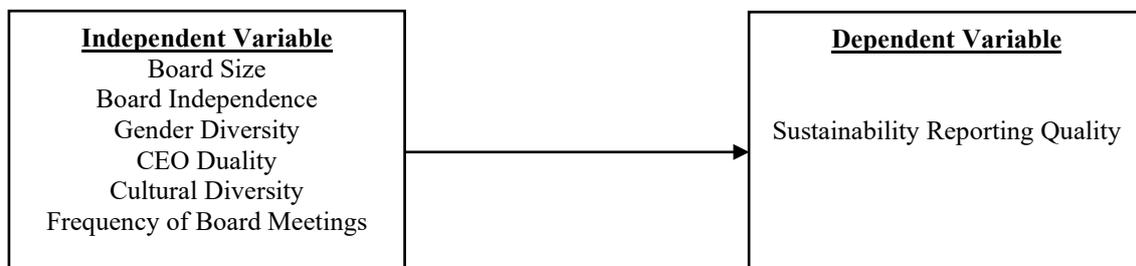


Figure 1: Theoretical Framework

- H<sub>1</sub>** – There is a significant relationship between the board size and sustainability reporting quality.
- H<sub>2</sub>** – There is a significant relationship between board independence and sustainability reporting quality.
- H<sub>3</sub>** – There is a significant relationship between gender diversity and sustainability reporting quality.
- H<sub>4</sub>** – There is a significant relationship between CEO duality and sustainability reporting quality.
- H<sub>5</sub>** – There is a significant correlation between cultural diversity and sustainability reporting quality.
- H<sub>6</sub>** – There is a significant relationship between the frequency of board meetings and sustainability reporting quality.

In defense of the hypotheses developed, it is argued that corporate management has a significant hand to play in the reporting process, whereby information is only disseminated to stakeholders only if it brings good reputation or positive impact to the organization, rather than committing to absolute transparency (Belal, 2002; Owen et al., 2000). Therefore, the hypotheses which pits the board of directors as variables which may have an influence on sustainability reporting quality is relevant, whether for one, the board of directors plays a significant role in influencing the outcome of the reports and if so, their attributes will become significant influencing factors as well.

### **Method**

The research design is based on the nature of research, which in the context of this study is to confirm the possibilities of a relationship between board composition and characteristics with the quality of sustainability reporting, therefore qualifies this study to be of a causal design. Causal research design focuses on studying a situation or problem, finding the relationship between variables. Thus, the causal research design is chosen as it is seen as the most suitable method usable to answer the research question of the influence of board characteristics and composition on the quality of sustainability reporting. Previous research concerning the topic of sustainable development, reporting, initiatives and the factors influencing them obtained results showing the relationship between the two factors through causal design (Amran et al., 2014; Fernandez-Feijoo et al., 2014; Toms, Hasseldine & Massoud, 2007; Kiliç & Kuzey, 2017).

Another relevant research design applied to the research done is longitudinal study. This research design involves repetition in observing or studying the same variables over multiple periods of time, and can be either short-term or long-term. The study observes data from the same set of variables, which are board characteristics & composition and sustainability reporting quality, in a period consisting of two years, 2016 and 2018. Previous study published on sustainability and its influencing factors also uses longitudinal study (Rodrigues, 2014; Bravo & Reguera-Alvarado, 2018).

For the purpose of this study, the population chosen are companies listed on the main market of Bursa Malaysia, where in the period when the data for the research is collected, the number of companies listed is 772. Listed companies are preferred for this study because of convenience in terms of obtaining data. Information pertaining to public listed companies are relatively easy to be obtained. Public listed companies are legally required to publicly publish their reports, in which the data for this study comes from, which in conclusion makes it easier for the purpose of data collection. Other information on the companies, such as market

capitalization, number of shares issued and outstanding as well as other market related statistics are also readily available, which helped the sampling process.

The selected sample consists of 100 companies chosen among the companies in the population during the period 2016 and 2018. The sample is taken from the selected period of 2016 and 2018 because: (1) the publishing of sustainability statement was made compulsory in 2016, thus is concluded that the best period to start where data should start to be available; and (2) the period of 2018 was chosen to see if there is an improvement in terms of quality of sustainability reports produced after 2 years it was made compulsory. Non-probability sampling method is used, specifically purposive sampling. The samples are chosen based on the company's market capitalization on Bursa Malaysia as of 2018, where the top 100 biggest company based on market capitalization was chosen as sample for this study. The period is selected because Bursa Malaysia made it a requirement for public listed companies to make sustainability related disclosures beginning at financial year end (FYE) 2016 (Bursa Malaysia, 2015). Choosing the 100 biggest companies is also due to the likelihood of these companies to engage in sustainability reporting practices, as well as potentially having a large number of shareholders expecting a proper disclosure may also motivate these companies to engage in sustainability reporting activities.

Out of the 100 companies selected, 16 companies were excluded from the sample. These 16 companies are from the financial services and REITs sectors, which conforms to different regulatory requirements. Out of the 84 companies, 5 companies have missing disclosures for FYE 2016 and 1 company is missing disclosure for FYE 2016 and FYE 2018, and therefore eliminated due to insufficient data. This brings the total companies in the sample to 78, which brings to the total number of company's year observations to 156 sustainability related disclosures.

Table 1: Sampling Breakdown

<b>Top 100 companies by market capitalization</b>		<b>100</b>
Financial services and REITs	(16)	
Insufficient data	(6)	
		(22)
Total sample for one year		78
Total sample for two years (2016 & 2018)		156

Previous study relating to the subject of sustainability reporting or disclosure have used content analysis in obtaining information (Amran et al., 2014; Fernandez-Feijoo et al., 2014). Secondary data sources simply mean data that is compiled by other parties other than the researcher or user, where it can be records, reports, censuses etc. Content analysis is a method of data collection, primarily associated to be used with secondary data, where information is obtained through the study and analysis of documents to identify and determine the presence of keywords, concepts, themes, characters or phrases within the document.

In the context of this study, data collection is done through content analysis of secondary data, whereby the secondary data in question are mostly reports published by the respective companies. These reports include annual reports and sustainability related disclosure such as sustainability reports. Annual reports and sustainability reports are chosen because these are publicly available information, produced by companies to communicate their performance, and disclose information, both financial and non-financial. It is understandable by this that the

companies will use their published report to convey information, which includes their initiatives and impacts in respect to sustainability. Past studies have also used annual reports (Rodrigues, 2014) and standalone sustainability disclosure (Amran et al., 2014) to obtain data for research which focuses on sustainability disclosure.

In analysing the annual reports for data, a unit of analysis needs to be identified in order to have a basis to quantify the sustainability reporting quality. This study in particular uses theme as the recording unit. Theme was chosen as the unit of analysis as it brings several advantages, namely in regards to convenience to coding the whole narrative of sustainability reporting, without the constraint of having to allocate meaning by word, sentence or paragraph.

### ***Measurement of variables***

#### **Dependent Variable**

This research focuses on sustainability reporting quality (SRQ) as the dependent variable. The SRQ is measured using an index adopted from a previous study by Amran, Shiau & Devi (2014), which measures the quality of discretionary disclosures about environmental policies, performance and inputs as well as social performance.

Table 2: Sustainability Reporting Quality Index

No	Items
1	Adoption of sustainability reporting guidelines
2	Independent verification/ assurance about information disclosed in the sustainability report
3	Periodical independent verifications/ audits on environmental and/ or social performance and/ or systems
4	Certification by environmental and/ or social (labor) program by independent agencies
5	Product certification with respect to environmental impact and/ or product safety
6	External CSR-related award
7	Stakeholder engagement in sustainability reporting process
8	Participation in voluntary CSR-related initiatives endorsed by Department of Energy and/ or Department of Employment and industry relation in respective country
9	Participation in industry specific association/ initiatives to improve environment and labor management practices
10	Participation in other environmental and/ or labor organizations/ associations to improve environmental and/ or labor practices

Source: Adopted from Amran, Shiau & Devi (2014)

The process of capturing sustainable disclosure from the annual reports and sustainability reports is as follows: (1) the entire report is read at the beginning to acquire a basic understanding of the sustainable information being disclosed; and (2) each sustainable disclosure is identified based on the SRQ index, and recorded in the coding sheet. For each item in Table 2, a point was allocated if relevant information is present in the source. A maximum score of 10 points is obtained if all items are disclosed in the sustainability related disclosure, either in the annual report or standalone sustainability report. The total score is then divided by the total number of items, i.e. 10; to convert the value into total percentage.

### Independent Variables

The focus of this research is to investigate the board’s composition and characteristics as influencing factors, therefore will look at these factors as independent variables. The independent variables identified are board size, board independence, number of women directors on the board which constitutes gender diversity, CEO duality, number of foreign directors on the board, and frequency of board meetings. The data relating to independent variables are collected mainly from the annual reports of the companies. Table 3 lists the independent variables and proxies.

Table 3: Measurement of Independent Variables

Acronym	Variables	Measurement of Variables
BSize	Board size	Total number of directors on board
BIndp	Board independence	Percentage of independent directors on board
Wob	Gender diversity	Percentage of women directors on board
Dual	CEO duality	Dummy variable: 1 = if an individual hold both CEO and chairperson position; 0 = otherwise
Foreign	Foreign directors	Percentage of foreign directors on board
BMeet	Frequency of board meetings	Total number of board meetings held for the period

Source: Adopted from Allegirni & Greco, 2013; Samaha et. al, 2015; Muttakin et. el., 2015; Fernandez-Feijoo et al., 2014; Kamarudin et al., 2012; Dewayanto et al., 2017; Jizi et al., 2014

In order to test the hypothesis developed, multiple regression analysis, which is a statistical analysis tool that is used in order to determine how multiple independent variables relate to the dependent variable. In the context of this study, the analysis of sustainability reporting quality of public listed companies is based on the following multiple regression model:

$$SRQ = \beta_0 + \beta_1 BSize + \beta_2 BIndp + \beta_3 Wob + \beta_4 Dual + \beta_5 Foreign + \beta_6 BMeet + \varepsilon$$

### Results and Discussion

#### *Descriptive Analysis*

Table 4 shows the descriptive analysis done on the independent variable used in this study. Among the 78 companies analysed, the lowest number of directors on a board is 5 and the highest is 16, whereby on average, there are 8 (mean = 8.72) directors that makes up a company’s board. Next, statistics shows that the percentage of independent directors’ ranges from 23% to 80%, and the average percentage of board independence is at 50% with a mean of 50.28, which means that the compliance to the requirement by MCCG (2017) is fulfilled.

Gender diversity, represented by percentage of women present on the board, varies from 0 to 57%, with an average of 19%. This means that on average, the companies in this research only has short of a fifth of the board to be occupied by women, which does not fully comply with the requirement set by MCCG that requires a third of the board to be women.

As for cultural diversity, the analysis shows that the minimum percentage of foreign directors on the board is 0% and the highest percentage is 92%. The average percentage of the board

occupied by foreign directors in the sample companies is 12%, which shows that on average, just over a tenth of the directors in the studied companies are occupied by directors of different nationality.

The number of board meetings carried out during a period by the companies varies from 4 to 21, and an average frequency of 6 (mean = 6.94). As for CEO duality, the variable is dichotomous, measured by giving a 1 if CEO duality is practiced, and 0 otherwise. Out of the total 156 observations of the total of 78 companies for two years, it is found that only 12 observations show the practice of CEO duality, which translates to 7.69% of the total observations. This in extension means that majority of the companies (92.31%) is abiding by the requirements of not allowing CEO duality.

Table 4: Descriptive Analysis

Variables	Min	Max	Mean	SD	Skew	Kurtosis
BSize	5.000	16.000	8.724	2.151	.647	.317
BIndp	23.080	80.000	50.281	12.468	.136	-.523
Wob	0.000	57.140	19.133	12.279	.547	.566
Foreign	0.000	92.860	12.652	19.975	1.799	3.031
BMeet	4.000	21.000	6.940	3.345	1.834	3.676
SRQ	0.000	90.000	45.640	22.780	-.481	-.521
Dichotomous Variable	1			0		
Dual	12		7.69%	144		92.31%

### Regression Analysis

For this study, a multiple linear regression analysis was utilized using SPSS in order to test the hypotheses developed, which concerns about the relationship between sustainability reporting quality (SRQ) and the board composition & characteristics. Results from the multiple regression analysis are included below, with  $R^2$  and adjusted  $R^2$  in Table 4.3 while the coefficients and significance of the independent variables are shown in Table 4.4.

To put it simply,  $R^2$  shows goodness-of-fit for a linear model. A model is said to fit a set of data well if the differences between observed value and the model's predicted value are small. In technical terms, R-squared is a statistical measure of how close the data are fitted to the regression line. A common understanding regarding R-squared is, the higher the value, the better the model fits the data. Table 4.3 shows that in the context of this research, the value of  $R^2$  is 16.8% which is deemed acceptable.

Table 5: Model Summary

### Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.410 <sup>a</sup>	.168	.135	21.191
a. Predictors: (Constant), BMeet, BIndpd, Foreign, Dual, BSize, Wob			

Multiple regression analysis is used to explain the relationship between a continuous dependent variable, in this case the SRQ with  $\geq 2$  independent variables. The correlation between the independent variable and the dependent variable is said to be significant if the results shows a p-value of  $< 0.1$ . Table 4.4 shows an overview of the multiple regression test.

Table 6: Multiple Regression Analysis

Variables	Coefficients <sup>a</sup>			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	-2.696	11.646		-.231	.817
BSize	2.731	.868	.258	3.145	.002
BIndpd	.295	.144	.161	2.050	.042
Wob	.265	.154	.143	1.726	.086
Dual	-5.252	6.594	-.062	-.797	.427
Foreign	-.041	.087	-.036	-.474	.636
BMeet	.797	.561	.117	1.421	.157

a. Dependent Variable: SRQ

This regression analysis model is based on the quality of sustainability reporting published either in annual reports or through standalone sustainability reports. The dependent variable is measured using an index developed by Amran, Shiau & Devi (2014), which contains 10 items that constitutes the SRQ, and a point is allocated for each item present in the company reports analysed, to maximum of 10 points and then converted into continuous data. Based on Table 6, out of the six variables, three were found to be positively associated with SRQ, which are board size, board independence and gender diversity shows a significant value of less than 0.1.

### Results – Hypotheses Testing

#### Board Size

**H<sub>1</sub>** – There is a significant relationship between the board size and sustainability reporting quality.

Based on the result obtained through running the multiple regression test, it shows that board size has a positive and significant relationship with the sustainability reporting quality. This means that the higher the number of directors on a board, the better the SRQ levels will be. Table 6 shows that the coefficient value of board size is positive at  $p < 0.01$  significant level, with  $t = 3.145$  and  $p = 0.002$ . Therefore, the hypothesis **H<sub>1</sub>** is supported as board size does show significant relationship with sustainability reporting quality.

The findings show that a larger board is more likely to engage in sustainability reporting at a higher quality level. Guidelines and standards in Malaysia are silent on the exact number of directors to present on a board, however, it should be large enough to balance out the number of insider and outsider directors. Agency theory provides that the board is to act on behalf of stakeholders of the company, which means to abide by or try to fulfill stakeholder's demand for information. However, controllers of the company, i.e. the managers or insider director may find it more advantageous to keep information disclosure to the acceptable minimum. Thus, there needs to be enough directors to uphold the needs of stakeholders, while ensuring the board is prioritizing accountability and transparency. The results obtained through the analysis is consistent with previous studies (Allegirni & Greco, 2013; Schiehl et al., 2013) which also concludes that board size does have a positive and significant relationship with disclosure levels.

#### Board Independence

**H<sub>2</sub>** – There is a significant correlation between board independence and sustainability reporting quality.

The findings from the regression test done shows that there is a positive and significant relationship between board independence and the sustainability reporting quality. Referring to Table 6, it indicates that the coefficient value of board independence is positive at  $p < 0.05$  significance level, with  $t = 2.050$  and  $p = 0.042$ . This shows that there is a significant and positive relationship between board independence and sustainability reporting quality, thus with the identification of this result, hypothesis  $H_2$  can be supported. This means that the higher the percentage of independent directors on a board, the higher the likelihood of sustainability reporting quality.

It is noted that board independence is the percentage of independent director on the board of a company. On the board, there are insider directors who are most likely the company's key management personnel and outsider directors, i.e. the independent directors. As mentioned before, the board acts as agents for the stakeholders but there are cases where insider directors gain more incentive from withholding information demanded by stakeholders. It is also worth noting that there are cases where insider directors' forwards proposals that are not in the best interest of the company. With that being said, it is crucial to have enough outsider director to ensure the stakeholder's interest are put first, or at least will try to be prioritized, which includes fulfilling stakeholders demand for information, specifically for socially responsible investors who will demand better sustainability information. The hypothesis is further supported as the findings of the analysis is consistent with previous studies (Samaha et. al, 2015; Muttakin et. el., 2015) that significantly links board independence to disclosure of information.

### **Gender Diversity**

**H<sub>3</sub>** – There is a significant relationship between gender diversity and sustainability reporting quality.

For gender diversity, the research finds that sustainability reporting quality is positively related to the percentage of women directors on the board. The results disclosed in Table 6 shows that the coefficient value of percentage of women on board is positive at  $p < 0.1$  significant level ( $t = 1.726$  and  $p = 0.086$ ). The findings support hypothesis  $H_3$ , as there is a significant and positive relationship between gender diversity and sustainability reporting quality, which suggest that if the number of female directors on a board increase, the more likely the sustainability reporting quality to increase as well.

Previous studies have shown that the inclusion of women in top decision making process can have a positive impact on disclosure of sustainability reporting, as women are prone to prioritize to care for the need of others as well as having tendency to project these qualities in their activities and work (Fernandez-Feijoo et al., 2014). Inclusion of women is also shown to have impacts on good governance which includes accountability and transparency (Ciocirlan & Peterson, 2011). Pairing these two together would certainly show the potential influence women has on the board to prioritize sustainability reporting quality, which the result of this study has shown to be true, consistent with the results of past studies by Fernandez-Feijoo et al. (2014). The hypothesis is also supported as the findings are consistent with the conclusion drawn from previous studies (Fernandez-Feijoo et al., 2014; Liao et al., 2015), which posits that there is a significant relationship between gender diversity and information disclosure level.

The call to include more women on the board of directors have been on the rising trend (Catalyst, 2019), but the numbers still remains low which indicates that women are still under-represented on the highest level of management, which the findings of this research does show with an average of only 19% of a board is occupied by women, as opposed to the minimum one third requirement by MCCG (2017). This particular finding is consistent with the results of past study by Cook & Glass (2014).

**CEO Duality**

**H<sub>4</sub>** – There is a significant relationship between CEO duality and sustainability reporting quality.

As for CEO duality, the results show that there is no significant relationship between CEO duality as the independent variable with sustainability reporting quality. Referring to Table 6, the findings show that the relationship between CEO duality and sustainability reporting is not significant with  $p = 0.427$ , thus showing  $p > 0.1$  and the relationship is negative as  $t = -0.797$ . This maybe so because the percentage of companies practicing CEO duality is low at only 7.69% (12 out of 156), thus it may not be a comprehensive representation for CEO duality as an influencing variable. With this finding, hypothesis H<sub>4</sub> does not stand and is therefore not supported, as there is no significant relationship between CEO duality and sustainability reporting quality. Previous study (Kamarudin et al., 2012) reviewed shows a consistent result with the analysis done in terms of direction of the relationship but differs when it comes to the magnitude of the relationship, where past research shows significant relationship while this study's analysis shows otherwise. The reason for this may be similar as stated, as upon review of the past publishing, it is worth noting that the sample size used is significantly larger at 3017 samples (Kamarudin et al., 2012) compared to 156 used in this research.

**Cultural Diversity**

**H<sub>5</sub>** – There is a significant correlation between cultural diversity and sustainability reporting quality.

The results for cultural diversity show that there is no significant relationship between the percentage of foreign director on board with sustainability reporting quality. Table 6 shows that the coefficient value of percentage of foreign director on board to be negative and insignificant to sustainability reporting quality as  $p > 0.1$  ( $t = -0.474$  and  $p = 0.636$ ). Thus, with said result, hypothesis H<sub>5</sub> cannot be supported as there is no significant relationship between cultural diversity and sustainability reporting quality. The idea with foreign directors may have an impact on company's prioritization of disclosing quality sustainability information is due to perhaps their country of origin may have better practices in regards to sustainability reporting, such as European and American companies (Amran et al., 2014; Linnenluecke et al., 2009). However, their influence may be limited as they are in fact, a minority among other directors, with an average of only 12% of the board. This may cause difficulties in getting their influence across or simply their say diminishes in contrast to other board members. Other study suggests that there is a significant relationship between the degree of presence of foreign directors with disclosure, yet the result of this study in particular shows inconsistency with previous results (Dewayanto et al., 2017). Possible causes of misalignment in result could be due to difference in research focus, population or sample factors.

**Frequency of Board Meetings**

**H<sub>6</sub>** – There is a significant relationship between the frequency of board meetings and sustainability reporting quality.

The regression analysis done shows that the relationship between the frequency of board meetings arranged for the financial year with sustainability reporting quality is insignificant. The findings of the regression analysis as shown in Table 6, shows that the number of board meeting has a positive and insignificant relationship with sustainability reporting quality, as  $p = 0.157$ , which is beyond the acceptable significant level of  $p < 0.1$  and  $t = 1.421$ . The findings indicate the hypothesis H<sub>6</sub> is not supported as there is no significant relationship between sustainability reporting and number of board meetings held. The rationale of having board meeting frequency as an independent variable is due to the fact that board meetings are

important discussion platforms for directors to discuss important issues in the company as well as make decisions collectively. Thus, it may be a suitable platform for sustainability agenda to be brought forward and the chances of the sustainability agenda to be highlighted should be better as the number of meeting increase. However, the result shows that this is not the case, as the relationship between frequency of board meeting with sustainability reporting quality is insignificant. The findings are inconsistent with past studies (Jizi et al., 2014) which concluded that there is indeed significant relationship between the number of board meetings and disclosure level. The reason for the difference may be due to the difference of research focus, where the literature reviewed focuses on remuneration and CSR disclosure rather than the quality and extent of the disclosures.

### **Conclusion**

This study focuses on the objective of identifying whether board composition and characteristics has any effects or influence on the sustainability reporting quality using multiple regression analysis. The population for this research is the public listed companies listed on the main board of Bursa Malaysia, and a sample of the top 100 public listed companies by market capitalization is chosen.

The spotlight placed on sustainability reporting is because of the importance placed of the rise of attention placed on sustainability agenda, including sustainable development, CSR practices and sustainability initiatives, not just among governments and environmental advocates, but also among corporate entities as society begins to question irresponsible business operations and policies that are happening. The demand for information on sustainability practices has also been on the rise as more and more socially responsible investors are emerging, paired with new regulations which makes sustainability disclosure a requirement, it makes sense to focus a study on company's sustainability publishing's, and specifically for this study, the sustainability reporting quality and factors that has an influence on it.

The multiple regression analysis done yields findings that shows board composition and characteristics were indeed associated with sustainability reporting quality. In short, board composition and characteristics, specifically board size, board independence and gender diversity were significantly related with the quality of sustainability disclosure. The results show that half of the variables result are consistent with prior studies while findings for CEO duality, cultural diversity and frequency of board meetings are inconsistent with past studies. While the study promotes the understanding of sustainability reporting in the Malaysian public listed companies, it is limited in two ways. First, this study only examines sustainability reporting in one country. Future research should seek to enlarge the current sample to further investigate the nature of sustainability reporting and enhance the comparability between nations. Second, the method of analysing the content of annual reports and standalone sustainability reports merely detects the presence or absence of a particular sustainability item from a predetermined checklist. A more robust method should be utilised to measure both the quantity and the quality of IC disclosures.

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