

Board of Directors' Influence on E-waste Reporting: A Case of Malaysian Public Listed Companies

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Abstract

Purpose: This study aims to understand how board composition can influence the e-waste reporting. In addition, this study also aims to identify the level of e-waste reporting among the selected sample of Malaysian public listed companies (PLC).

Design/methodology/approach: We focused on 58 Malaysian public listed companies as their data were provided in the Thompson Reuters Software regarding Environmental, Social and Governance (ESG), specifically on e-waste reporting. The stratified sampling technique was used and the data for both variables were collected from the Thompson Reuters Software and Annual Report for the year 2018.

Findings: The board duality has a significant negative effect on e-waste reporting within public listed companies in Malaysia. Meanwhile, the other variables have no significant effect.

Research limitations/implications: The sample of the study was limited to 58 companies that provided the ESG report for the year 2018 and the result may not be generalised.

Practical implications: Authors anticipated that this paper may contribute ideas and new focus to the policy makers in strengthening their strategy in protecting the environment of Malaysia and globally.

Originality/value: This paper contributes to a new review and insight of Malaysian public listed companies specifically on e-waste reporting. In addition, proper and sound e-waste management is anticipated to support the Sustainable Development Goals (SDGs) especially SDG 3, SDG 6, SDG 8, SDG11, SDG12 and SDG 14.

Paper type: Research paper

Keywords: E-waste, Board of director, Public listed companies, Corporate governance

Introduction

The Board of Director (BOD) is a vital and an important team in any company. They are collectively responsible for the long-term success of a company and the delivery of sustainable value to its shareholders and stakeholders. They are not only setting the appropriate leadership tone at the top, but they also need to ensure good governance and ethical practices in their company (MCCG, 2021). In addition, good management is a key for successful business -from all perspectives (Tibiletti, Marchini, Furlotti & Mediolì, 2020). Recently, a lot of researches

have focused on the composition of BOD in determining their effects and contributions towards CSR (Tibiletti et al., 2020; Diamastuti, Muafi, Fitri, & Faizaty, 2020), company's performance (Molla, Hasan, Miraz, Azim & Hossain, 2021; Khan, Al-Jabri & Saif, 2019) as well as environmental reporting (Shwairef, Amran, Iranmanesh & Ahmad, 2019; Shahab, Ntim, Yugang, Ullah, Li & Ye, 2019). It shows the importance of their role in ensuring the business successfulness in all perspective. As per stated in MCCG (2021), BOD are responsible to the integration of sustainability of environmental, social as well as governance (ESG) issues.

Hence, public listed companies are required to report on their sustainability which include the company's ESG governance structure, ESG issues, and disclosure of how they manage their ESG issues (KPMG, 2020). It is due to ESG have become important consideration for investors in identifying their effects on risk- return profile of their portfolio (Kweh, Alrazi, Chan, Wan Abdullah, Lee, 2017). In addition, MCCG (2021) suggested that boards need to take more holistic view of the business together with proactive and effective measures to anticipate any ESG risks and opportunities to ensure their companies stay resilient.

Tarmuji, Maelah, and Tarmuji (2016) believed that companies that score high on ESG reporting focused on creating long-term shareholder value. However, KPMG (2020) found that the quality of sustainability reports by public listed companies in Malaysia is unlikely to meet investors' need to assess ESG risk, hence, it increases investors' concern about ESG risks on value creation and preservation. KPMG (2020) did survey and reported ten most common ESG risks discussed among 200 Malaysian public listed companies. The areas that have been discussed most are corporate governance, regulations and compliance with 11.13% score while the area that is less likely to be discussed is waste management, with the percentage of only 3.72%. It shows that low initiative was taken in managing their waste well including electronic waste (e-waste).

The main objective of waste management is to minimise the amount of unusable materials as well as to minimise potential health risk and environmental hazards. E-waste is one of the growing wastes due to the changes in innovation of technology and electronic device with an increasing demand among consumers for high-tech products (Nik Azman & Mohd Salleh, 2020; Islam et al., 2021). It may endanger human health and may cause bad environmental quality if e-waste is discarded without sound manner due to the presence of toxic and hazardous materials (Global E-waste Monitor (GEM), 2020). Ministry of Environment and Water of Malaysia anticipated that Malaysia will generate 24.5 million units of e-waste in 2025 while globally, GEM (2020) estimated that e-waste is projected to grow to 74.7 Mt by 2030. There are two main types of e-waste generation sources, which are from industrial sector and household e-waste. Hence, this study will focus on the e-waste from the perspective of industrial sector.

Objective of the Study

This paper aims to contribute new insight on e-waste management among Malaysian companies. At present, there is a small number of published studies that discuss on the influence of board of directors in e-waste reporting. This paper is expected to be used in enhancing policy and regulation regarding e-waste management. Therefore, it is aimed to identify the factors that contribute to the e-waste reporting among public listed companies in Malaysia that indirectly will contribute to global sustainability as per promoted by the United Nations especially SDG3, SDG6 and SDG12. Hence the purposes of this study are:

- 1) To observe the level of e-waste reporting among Malaysian Public Listed Companies.
- 2) To identify the relationship between board characteristics and e-waste reporting among Malaysian Public Listed Companies.

Literature Review and Hypothesis Development

E-waste and Board Characteristics

Environmental reporting is a disclosure of information about the company activities' that provide environmental impact to the industries. This encompasses the legal provisions and regulations as well as the management practices on the said regulation framework (Environmental Reporting, 2021). Despite the rapid growth of environmental reporting throughout the world, Malaysia is still considered as far left behind (Buniamin, 2012). Many initiatives have been taken to encourage more companies to disclose their environmental reporting. One of the initiatives taken by Bursa Malaysia is to require all the companies under Main Market and ACE Market Listing to prepare the sustainability-related disclosure (Sustainability Report, 2020, 2021).

In the emerging countries, stakeholders, institutional and corporate governance play important roles to ensure successful disclosure of environmental reporting (Elijido-Ten et al., 2010; Ienciu, 2012). Company has the responsibility to provide the stakeholders with the environmental report (Shwairef, Amran, Iranmanesh & Ahmad, 2019). Stakeholders for example the investors, communities, and customers understand the necessity and the possible development of environmental impact due to e-waste. Hence, environmental reporting is positively affecting the society awareness and concern, as they demand more companies to be honest and disclose their environmental activities (Deegan et al., 2002). Therefore, the influence that the board of directors has is needed to ensure that company is able to provide the environmental reporting to the stakeholders.

Agency Theory

The agency theory occurs when there is a problem that arises between the separation of ownership and control in the organisation which causes the information asymmetry between the managers and shareholders (Yang & Morgan, 2011). According to Tan (2014), the board of director is the control mechanism that is able to monitor the behaviour of the organisational management. This control mechanism includes board diversity, board independence, board meeting, board size, CEO duality and CSR committee. To fulfil the best interest of the shareholders, the management of the organisation is responsible to report the environmental information (Buniamin et al., 2011) including the e-waste reporting.

Board Diversity

Board diversity is to encourage heterogeneity in the boardroom which means by having female representation on board (ACCA Global, 2021). Khan, Khan, and Saeed (2019) discovered a positive relationship between the number of women on board and non-financial reporting quality. Other researcher also found a positive relationship between women on board and shareholder protection (Byron & Post, 2016). Thus, the following hypothesis was established:

H1: Board diversity has a significant effect on the e-waste reporting

Board Independence

A good corporate governance means having a large number of independent director or non-executive director on board (Welford, 2007). According to Haniffa and Cooke (2005), independent director is more responsible in their roles in ensuring that the company protects the interest of the stakeholders. Thus, having an independent director will be able to influence positive impact on the environmental reporting (Shwairef et al., 2019). Previous studies have shown the positive correlation between the number of independent non-executive directors and the level of environmental reporting (Akhtaruddin et al., 2009). However, Barako et al. (2006)

found a negative relationship between the non-executive directors and level of voluntary reporting. Thus, the following hypothesis was created:

H2: Board independence has a significant effect on the e-waste reporting

Board Meeting

Board meeting is the frequency of board meeting within the financial year (Mohd Salleh & Othman, 2016). According to Pizzi, Rosati and Venturelli (2020), the board of director should be directly involved in the environmental and non-financial issues. Thus, it is imperative for the board of director to frequently meet to discuss on the issues (Liao et al., 2018). Previous studies found that there is a positive correlation between the number of meetings toward the quality of non-financial reporting (Jizi, 2017; Kent & Stewart, 2008). However, both Pizzi, Rosati and Venturelli (2020) and Giannarakis (2014) found that board meeting is insignificantly affecting the non-financial reporting. Thus, the following hypothesis was established:

H3: Board meeting has a significant effect on the e-waste reporting

Board Size

Board size is total number of directors who sit on board (Mohd Salleh & Othman, 2016). According to Wincent et al. (2013), the number of directors on board has the ability to affect the organisation's competency. Previous study also mentioned that having larger board size with experienced directors will be able to provide various values on board (Buniamin et al., 2008). Thus, they are able to influence the management to disclose report on the environmental information. Past researchers also found that the board size has a positive effect on the environmental reporting (Abeysekera, 2010 & Allegrini & Greco, 2013). Shwairef et al. (2019) also stated that experienced directors from diverse backgrounds that come from larger board have the ability to understand the importance of environmental reporting in the current competitive market. Thus, the following hypothesis was developed:

H4: Board independence has a significant effect on the e-waste reporting

CEO Duality

CEO duality refers to the position of CEO and Chairman held by one person (Mohd Salleh & Othman, 2016). By having CEO duality, the company's conflict will be able to be reduced as the executive manager has better control over the company (Davis et al., 1997). However, previous research showed that CEO duality lessens the monitoring roles of the board of director hence reduce the company performance (Tibiletti, Marchini, Furlotti & Medioli, 2020). Thus, the following hypothesis was created:

H5: CEO duality has a significant effect on the e-waste reporting

CSR Committee

Company that operates in competitive market will fulfil the shareholder's interest (Lenciu et al., 2012). According to Mackenzie (2007), CSR committee will be involved in establishing the policies and standard, monitoring the performance and reporting on the environmental matters. Thus, having the CSR committee in the company shows that the company is serious about their responsibility toward the environmental and social issues (Godos-Díez et al., 2018). Shwairef et al. (2019) found that the presence of CSR committee leads to a high level of environmental reporting. CSR committee is also able to implement better environmental activity strategies in the company (Peters & Romi, 2012). This indicates that having CSR committee is an added value to the company as they will genuinely report on the environmental related issues. Thus, the following hypothesis was established:

H6: CSR committee has a significant effect on the e-waste reporting

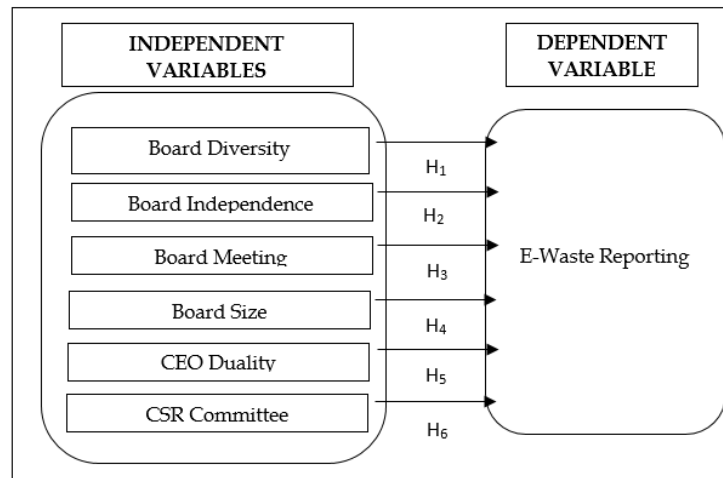


Figure 1: Theoretical Framework

Methods

In certifying the reliability and validity of the data of this study, a proper analysis has been carried out by using SPSS version 24 starting with descriptive until regression analysis in answering all the objectives of this study. This study has used stratified sampling technique, which was formed based on specific characteristic in population – PLCs that listed in the Main Market of Bursa Malaysia Berhad. 789 of the listed companies have been validated on their ESG reports in the Thompson Reuters’ software. However, only 58 companies provided the ESG reports for 2018 and they have been selected as the sample of this study. The year 2018 had been chosen as the observation year due to the data in Thompson Reuters’ software that are available up to year 2018 in March 2020.

The dependent variable— e-waste reporting (e-waste) was extracted from the ESG report in Thompson Reuters’ Software. The dependent variable was measured based on the company’s initiative to “*recycle, reuse, reduce, substitute, treat or phase out e-waste and also any other initiatives that the company has put in place to reduce e-waste. The company that scores high in this section is considered to have a positive polarity as the higher the value of e-waste reduction, the better the company is managing their e-waste.*” Meanwhile, the independent variables focus on the characteristics of the board of directors in validating their role towards the e-waste management in their company. The measurement for all the characteristics that were adopted from previous study is as per below:

Table 1: Independent Variables Measurement

Independent Variables	Measurement	References
Board Diversity (Diversity)	Number of female directors as to total board members (%)	Hoang, Przychodzen, Przychodzen & Segbotangni (2021) & Naciti (2019)
Board Independence (Independence)	Number of non-executive directors to total directors (%)	Tibiletti et al. (2020); Allini, Manes Rossi & Hussainey (2016)
Board Meeting (Meeting)	Number of board meetings per year	Pizzi, Rosati, & Venturelli (2020) Jizi (2017); Giannarakis (2014)
Board Size (Size)	Number of directors that sit on the board	Chams & Garcia-Blandon (2019) & Busco, Malafrente, Pereira &

		Starita (2019)
CEO Duality (Duality)	A dichotomous variable of value 1 indicates that the CEO and chairman of the company is the same person, and value 0 if otherwise.	Hoang et al. (2021); Shahab, Ntim, Yugang, Ullah, Li & Ye (2019); Naciti (2019).
CSR Committee (Committee)	A dichotomous variable of value 1 indicates that the company has a board-level CSR committee, and value 0 if otherwise.	Shwairef et al. (2019); Godos-Díez et al. (2018)

Findings

Based on the results shown in Table 2, the e-waste reporting reported that the range is 21.60 to 97.30 and the mean value reported is 58.062. Thus, this indicates that PLCs in Malaysia in 2018 has a positive polarity in e-waste reduction. For diversity, the maximum value is 57% and the mean value was reported at 26%. Averagely, the composition of female directors was reported at only a quarter of board composition even there is a company that has a majority of female directors. For independence, the minimum and maximum value reported are at 20% and 91% respectively. It indicates that there is a company that has the majority of their board of directors is non-independent even the mean reported is just at 59%. For meetings, the companies are reported to have 4-21 board meetings a year and averagely reported at 8 times annually. For size, the board composition is between 5 to 13 directors and reported to have 8 board of directors averagely. For duality, there are 46.6% companies that have the same person being the CEO and the chairman of board of directors is and only 10 companies that have a director in their CSR committee to monitor the waste reduction closely. Based on the result shown in Table 2, all data are normally distributed because the standard skewness value is within +/-1.96 and the standard kurtosis value is of +/- 2.00 (Rahman & Ali, 2006). Thus, this study used Pearson's correlation analysis.

Table 2: Descriptive & Normality Analysis

	Min.	Max.	Mean	Std. Deviation	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
Diversity	0.00	57.00	25.966	12.287	0.545	0.314	0.047	0.618
Independence	20.00	91.00	59.379	15.901	0.238	0.314	0.086	0.618
Meetings	4.00	21.00	8.552	4.350	1.103	0.314	0.460	0.618
Size	5.00	13.00	8.983	1.772	-0.012	0.314	-0.582	0.618
E-Waste	21.60	97.30	58.062	22.122	0.674	0.314	-1.267	0.618
	Frequency		Percentage					
	Yes = 1	No = 0	Yes = 1	No = 0				
Duality	27	31	46.6	53.4	1.781	0.314	-2.052	0.618
Committee	10	48	17.2	82.8	1.781	0.314	1.212	0.618

Table 3 shows the summary of the correlation analysis result. It shows that all variables have a relationship and the highest correlation is between size and duality at 0.304. Thus, it indicates that there is a significant medium positive correlation because the correlation value is 0.30 to 0.49 (Cohen, 1988). In addition, the correlation between duality and e-waste has a significant negative relationship at 0.05 level. The smallest correlation is the correlation between

committee and e-waste at 0.002. Thus, there is no multicollinearity between the variables since the correlation values in this study are all below 0.9 (Pallant, 2005) as shown in Table 3.

Table 3: Pearson’s Correlation Analysis

	Diversity	Independ.	Meetings	Size	Duality	Committee	E-Waste
Diversity Correlation	1						
Independ. Correlation	0.022	1					
Meetings Correlation	0.221	0.183	1				
Size Correlation	-0.037	0.010	0.215	1			
Duality Correlation	0.031	-0.029	0.073	0.304*	1		
Committee Correlation	0.185	-0.005	-0.185	-0.047	-0.060	1	
E-waste Correlation	-0.007	0.208	0.074	-0.194	-0.282*	0.002	1

*Correlation is significant at the 0.05 level (2-tailed)

In this study, regression analysis was used to test hypothesis 1 to hypothesis 6. The model employed in this study is as follows;

$$\text{E-waste it} = \beta_0 + \beta_1 (\text{Diversity}) \text{ it} + \beta_2 (\text{Independence}) \text{ it} + \beta_3 (\text{Meetings}) \text{ it} + \beta_4 (\text{Size}) \text{ it} + \beta_5 (\text{Duality}) \text{ it} + \beta_6 (\text{Committee}) \text{ it} + \varepsilon \text{ it}$$

As indicated in Table 4, the tolerance and VIF values of all the variables used in this study satisfied the multicollinearity assumption because all these tolerance values are greater than 0.1 and all the VIF values are lesser than 10. R square indicates the percentage of the variability in the dependent variable by the independent variables. As shown in the Table 4, the result shows that diversity, independence, meetings, size, duality and committee have explained for 14.1% of the variance of e-waste among public listed companies in Malaysia for the year 2018. In addition, the result showed that the model in this study is well specified with the F value of 1.399 and the level of $p = 0.005$. Thus, there are sufficient evidences to conclude that there is a significant linear relationship between board characteristics and e-waste reporting at 95% confidence level. On the other hand, the standardised coefficient or beta value reports the contribution of independent variables to explain the dependent variable. Large beta value will indicate the major contribution of variables on the dependent variables. In this study, the result shows that the largest beta value is duality.

This study hypothesised the board characteristics—board diversity (H1), independence (H2), meetings (H3), size (H4), duality (H5) and committee (H6) that have a significant effect on the e-waste reporting. Table 4 presents the coefficient value of each independent variable. The result shows that the board characteristics have no significant effect on the e-waste reporting except for board duality. Therefore, hypothesis 1,2,3,4 and 6 are not supported. However, the result shows that board duality has a significant negative effect on e-waste reporting. This means that for every unit, the increment in board duality will result in the decrement of every unit e-waste reporting. The standard coefficient of board duality is -0.238 and the t-value is indicated at -1.714. Since the p-value is 0.088 ($p < 0.10$), there is a sufficient evidence at 90%

confident level to conclude that board duality has a significant negative effect on e-waste reporting. Therefore, hypothesis 5 is supported.

Table 4: Regression Analysis

Dependent Variable		E-Waste				
R square		0.141				
Adjusted R square		0.040				
F		1.399				
Sig.		0.233				
Model	Standardised coefficient	t	Sig	Tolerance	VIF	
(Constant)		3.146	0.003			
Diversity	-0.031	-0.228	0.820	0.887	1.127	
Independence	0.186	1.405	0.166	0.963	1.038	
Meetings	0.097	0.678	0.501	0.822	1.217	
Size	-0.145	-1.038	0.304	0.860	1.162	
Duality	-0.238	-1.741	0.088*	0.901	1.109	
Committee	0.006	0.045	0.965	0.908	1.102	

* represents statistical significance at 0.10 level

Discussion and Conclusion

The first objective of the study is to measure the level of e-waste reporting among public listed companies in Malaysia. The mean score in the descriptive analysis for the e-waste reporting is 58.062. It indicates that among 58 companies, most of the public companies are moderately managing their e-waste and they score only 40-60 percent of e-waste reporting.

The second objective of the study is to examine the relationship between board characteristics and e-waste reporting among Malaysian Public Listed Companies. This study found that board diversity, board independence, board meeting, board size and CSR committee have no significant relationship with e-waste reporting. Even though women have a tendency to report more and in details in reporting matters, the board duality may not have a significant impact towards e-waste reporting because the majority of board composition are male directors and only 25% are female directors reported from the population. This study reported that there is 59% independent director on board. The appointment of majority independent director may be caused by complying matters like MCCG but these independent directors have no influence towards e-waste reporting. Other than that, the board meeting has no significant impact towards e-waste reporting and it might be because of all meetings conducted are focusing more on the performance of management rather than the voluntary report on e-waste. Next, the board size has no significant impact on e-waste reporting and it might be because of the awareness among board of directors regarding the importance of e-waste reporting is not too high and they concern more on other reporting. From the result, only 10 public listed companies have a director in the CSR committee. This means that majority of the public listed companies have no director level in their CSR committee for close monitoring in CSR matters. This study found that there is no significant relationship between CSR committee and e-waste reporting because the committee might focus on physical corporate social responsibility activities to the public rather than to report on e-waste matters.

This study has found that there is a significant negative relationship between board duality and e-waste reporting. Meaning to say, the more companies increase the board duality, the less the companies are managing their e-waste, and that will result a small number of e-waste reporting. The result of the study is consistent with the previous study (Tibiletti et al., 2020). Even the

CEO duality is able to reduce the conflict, there is less control mechanism because the position of CEO and chairman held by one person lead to less performance in managing e-waste. Thus, hypothesis 5 is supported.

In conclusion, public listed companies in Malaysia are practicing to manage e-waste and are providing e-waste reporting to the public moderately. The separation of CEO and chairman is a crucial step in monitoring the management of the organisation to fulfil the best interest of the shareholders.

Theoretical, Practical and Social Implications

The result of this study contributed to support the Agency Theory that CEO duality may reduce the performance of the management of PLC in delivering the best interest of the shareholders in e-waste reporting. Besides, the findings of this study may provide a new and fresh insights to the policy maker toward the betterment of policy and guideline regarding the e-waste management and environment in Malaysia.

Limitations and Suggestions for Future Research

There were only 58 PLCs as sample of this study, it is considered small as compared to the total number of public listed companies in Malaysia. Thus, the result cannot be generalised as a whole. Hence, authors would like to suggest, in getting some better findings, future research need to increase the number of companies and the year of observation. In addition, researchers may make comparisons on e-waste reporting between Malaysian and other countries' listed companies.

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