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Board of Directors and Environmental Reporting: Evidence From Plantation Industry

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Abstract
The purpose of this study is to examine the extent of environmental reporting by listed firms in the plantation industry in Malaysia. The relationship between board characteristics and the extent of environmental reporting by listed firms in Malaysia plantation industry is examined for the first three years after the issuance of the new revised Malaysian Code of Corporate Governance in 2012 (MCCG 2012). Three board characteristics have been used to explain the level of environmental reporting by Malaysia's plantation industry firms. The correlation analysis is employed to investigate the relationship between the board characteristics and environmental reporting. This study employs a content analysis method by reviewing 110 annual reports consisting of 37 firms listed in Bursa Malaysia for three years (2013-2015). The result reports that most of the board characteristics are not significantly related to environmental reporting by the firms. Out of six measurements, only the environmental related expenses have a positive relationship with environmental reporting. The results from this study may provide knowledge and empirical understanding concerning the environmental reporting practices by the plantation industry. The policy makers and regulatory bodies such as Bursa Malaysia and Securities Commission may consider formulating guidelines for reporting environmental information to encourage voluntary compliance.
Keywords: Environmental reporting; Plantation industry; Board characteristics.

1. Introduction
The Malaysian Code of Corporate Governance (MCCG) was issued in March 2000; which remarked a significant milestone in corporate governance in Malaysia. There are four areas, focusing on the Board of directors, the director's remuneration, shareholders and accountability and audit. This Code creates strong corporate governance and internal processes among the firms. Malaysia has seen to strengthen its corporate governance framework in line with the development of international and domestic capital markets. The Code had been revised to include several laws and securities; where in its first revision in 2007, the new outlined key criteria in MCCG 2007 are introduced, which are directors' qualification, strengthening the audit committee and improving the internal audit function.

The first revision mainly aims to ensure the board of director and audit committee are strengthening their roles and do their duties effectively. In the year 2012, the Code has revised for the second time, where the focus now is on the board structure and composition. The board is entirely responsible for ensuring the firm has been conducted with full compliance of ethical value and laws. They also are expected to maintain effective governance practices, whereby the compliance with best practices could help the management in adequately controlling the risk in their organisation and set the high standard of internal control. However, in 2017, the MCCG was thirdly revised. The Code is now focused on strengthening the independence of the board, board diversity, transparency in directors' remuneration, strengthen the independence of the audit committee, risk management committee, participation at general meetings.

1.1. Plantation Industry and Environmental Problem
Being an upcoming country towards attaining developed status in the near future, Malaysia is one of the frontline ASEAN countries in economic development. Though comparatively smaller in population, Malaysia could manage to become the third largest economy in South East Asia, after Indonesia and Thailand. Among the countries, Malaysia is one of the important top producers of palm oil. Malaysia is experiencing a robust development in new palm oil plantation and palm oil mills. In Malaysia, there are 41 listed plantation firms in Bursa Malaysia, which play a significant role in the Malaysia economic growth. Comparing with other industries in Malaysia, palm oil

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industry is the fourth contributor to the national economy (after oil and gas, tourism and manufacturing sector)[1]. Under Economic Transformation Program launched in 2010, the Malaysian Government has targeted the palm oil industry to be a major contributor to growth in the country[2]. The beginning achievement can be analysed from the industry overview by Malaysia Palm Oil Board (MPOB) in which as at January 2015, in 2014 there is 0.031 percent increase of palm oil planted area (5.39 million hectares) as compared to 2013 (5.23 million hectares).

The increase of planted area is mainly due to the newly planted area in Sarawak, which takes 102,493 hectares. The contribution on Malaysia's economic growth can be seen from the export activity for palm oil product, which has increased, by 4.5 percent to 25.70 million tonnes in 2013 from 24.59 million tonnes export in 2012. With the steady increase in the production of palm oil, the pollution levels of all the three components namely the air, land and water too have been raising to worrying levels in Malaysia, especially in the state of Sabah. The oil palm mills and plantations lining along the river Kinabatangan are enough to shoot up the Biological Oxygen Demand (BOD) that led to detrimental impacts to flora and fauna thriving around. The pollution effect and wastage from palm oil processing has become a concern by the resident of Keningau, Sabah. The concern is rising when there are more of palm oil processing factory, which will be completed by the year 2008[3].

The state Department of Environment (DOE) Sabah has received critical reports from the resident of Sabah regarding the pollution in the state[4]. As an action to the reports, DOE decided that palm oil mills in the Kinabatangan River Valley area would be monitored. There will be legal action taken since according to the reports, the activities of the palm oil firms has polluted the longest river in Sabah. The basin around Kinabatangan River is the house for 250 species of birds, 50 species of reptiles, 50 species of mammals and a variety of 1,050 flora species. For the period from January 2010 to August 2012, strict actions have been taken. Five court actions were taken against the palm oil mills, which do not comply with the regulations under the Environmental Quality Act 1974. Unfortunately, the pollution still does not change much. In the year 2013 and 2014, Malaysian has experienced a higher awareness of the importance of environmental protection. Due to the event of widespread haze in Malaysia, this causes a serious deterioration in air quality and gives a severe impact on the citizen and tourism industry. Malaysian firms were required to be at least being responsible for the increase in pollution and the associated loss of natural habitat and eco-system.

2. Literature Review

The environmental reporting, also known as "green reporting" is one of the voluntary reporting practised by many firms apart from the mandatory reporting of the financial statements. In the wake of environmental contribution activity, environmental reporting has received a significant amount of attention from public and stakeholders.

Traditionally, financial information from firms received more intention from shareholders (Qiu *et al*., 2016), Nowadays, the voluntarily reporting of the environmental activities in the annual report become essential to the firms' since they agreed that it is an obligation of the organisation to extend their environmental responsibilities beyond regulatory compliance (Zakaria and Dewa, 2010). However, Ferreira (2004), argued that environmental reporting by the firm in the annual report is merely a public relation exercise. Even though it is a voluntary reporting, this reporting may help in acquiring feedback from the shareholders for firms' future decisions. Due to increasing public, stakeholder and shareholder's concern, firms try to communicate and deliver the information to them through annual general meetings, written and visual media and annual reports. Despite the numerous studies that have been explored regarding the corporate governance practised and environmental reporting, there is still an open question on how far the good internal corporate governance structure has been practised by Malaysian firms. The issue of board effectiveness, especially on board independence, was identified as particularly problematic Malaysian firms (Hassan *et al*., 2008), even after the three-time issuance of MCCG in 2000, 2007 and 2012.

Palm oil industry sector has been widely blamed for causing considerable and colossal damage to the environment. The environmental degradation is identical to the development of South East Asian countries, where the industries involved in the production of palm oil are expected to be responsible for mitigating the harmful effect(Iwami, 2001; Toru, 2001) The global consensuses have recently turned to investigate or examine the efforts taken by the firms by size or volume of care and commitment to protecting the environment. To agree with these expectations, firms have chosen different media to disclose their environmental reporting.

2.1. Corporate Governance Background in Malaysia

Corporate governance is a basic structure that was controlled by the government to protect the stakeholder's interest in the organisation (Mitton, 2002). The primary function of corporate governance is to monitor the internal and external activities of the organisation including objectives, plans, management and corporate reporting. Good and great corporate governance by an organisation can ensure a greater reporting in the annual report by the organisation and also the percentage of transparency may be increased from the organisation towards the shareholder and also stakeholder (Beekes and Brown, 2006).

In 2011, the Corporate Governance Blueprint 2011 (Blueprint) was issued by Securities Commission Malaysia (SC) which put in place the desired for governance landscape in the future. The fundamental reason of

[1] The Economic Transformation PlanAnnual Report 2014, 2015

[2] Which Country.com. Retrieved Feb 02, 2016, from http://www.whichcountry.co/which-country-produces-the-most-palm-oil/

[3] Utusan Online, 30 April 2008 ,Retrieved from http://ww1.utusan.com.my/

[4] Sinar Harian, 30 October 2013, Retrieved from http://www.sinarharian.com.my/

the Blueprint is to enhance strong corporate governance practised to reinforce the self and market discipline as well as to promote the good compliance of laws and values. The revised MCCG 2012 supersedes the 2007 Code and originally a key delivering of the Blueprint.

The MCCG 2012 represents an adoption of a new structure of recommendations from the Blueprint and includes part of the suggestions from the 2007 Code. The focus of MCCG 2012 is to strengthen the Board of director structure and composition by recognizing their roles and responsibilities in managing the business effectively. There are several enhancements that have not been emphasised under MCCG 2007. Therefore, this study focuses particularly on the board of director issues. During the reinforcement of board independence, two different persons should hold MCCG 2012 recommend that the position Chairman and the CEO. This recommendation helps the firms to uphold accountability and facilitates the division or responsibilities. The recommendation helps to avoid the unfettered power of decision and to enforce board independence. The second recommendation by the MCCG 2012 is reinforcing that the board must comprise the majority of independent directors. This recommendation was clearly to improve an effective monitoring oversight and supervise manager more efficiently without the interference of self-interest.

With regards to the several issues highlighted under MCCG 2012 relating to the board of director issues, this study also focuses on the several board's key enhancements as an experimental variable as part of the independent variable.

2.2. Corporate Governance and Environmental Reporting

The board of director is "an economic institution that, in theory, helps to solve the agency problem inherent in managing an organisation" (Hermalin and Weisbach, 2003). Even though the board of director needs to fulfil several regulatory requirements, the main economic function is determined by the organisational problems they help to address. The agency theory framework sees the board of director as the ultimate mechanism of corporate control. They act as the principal on behalf of the owner of the firm to monitor and review the agent (management) in deciding for the future of the organisation. According to Jensen and Meckling (1976), without proper monitoring from the board, the agents (management) may pursue their interest at the expenses of the principal (owner). The director also plays a vital role in enhancing the firm reputation by having good relations with the shareholder. Campbell (2000) , Finds that the level of a firm's environmental reporting is varying perception of the reality of the board of director and change when the chair changes. The directors are more actively in the decision when it comes to the firm's environmental performance. The directors' decision to environmental matters is important since when an owner establish a firm, they hold the moral principles which include attitude to the environmental performance (Post *et al.*, 2015),

3. Hypotheses Development

3.1. Board Characteristics

In the organisation, the board of directors has several responsibilities. The principal role of the board of director is in financial management. However, the board of director is responsible for supervising the implementation of corporate governance practices in the firms. Board of the director is also responsible for protecting the interest of shareholder and company assets where they must ensure the firms have an effective audit function and reliable internal control. The firm also must ensure the structure of the board of directors because it will affect the effectiveness of the corporate governance structure. There are various characteristics for the board of directors. However, this study focuses on the three (3) board characteristics, namely, board capability, board commitment and board responsibility.

3.2. Board Capability

Capability refers to the ability of the board of director to implement and integrate all the resources that they have to achieve the organisation goals (Quintas, 2002). However, in the opinion of Dosi *et al.* (2003), capabilities are the ways of doing or properties of collective knowledge that organisation recognised through action (Wheelen and Hunger, 2005), and capabilities rely on the organisation ability to exploit its resources. Board of director for ensuring that the organisation is meeting the objective that has set by the top management as well as developing the business strategies (Arfken *et al.*, 2004; Peterson and Philpot, 2007). When the objective fails to be met by the organisation, the ability of the board members will be questioned. According to Campbell and Vera (2008), the qualification and experience by each of the board members are heavily crucial for the effectiveness of a board. Board of directors in the organisational are hired probably because of their ability. Bhagat *et al.* (2010), said the ability required in the board itself consists of two characteristics, which are observable characteristics and unobservable characteristics. The observable characteristics (e.g. educational background and work experience) are considered on the representation of their intellectual orientation, values and knowledge-based. These observable characteristics may influence the decision-making and managerial orientation. Further, education is often viewed as a good representation for human capital, intellectual competence and knowledge base (Wailerdsak and Suehiro, 2004) Meanwhile, unobservable characteristics are quite challenging to measure in the board itself (e.g. leadership and management skill). Therefore, the relationship between board capability and environmental reporting is examined by two hypotheses below:

H1: There is a positive effect on the board education and environmental reporting among firms in the plantation industry.

H2: There is a negative effect on the board interlock and environmental reporting among firms in the plantation industry.

3.3. Board Reputation

As reputation is rooted in the director historical behaviour, the reputation can change abruptly if the past behaviour of the director has been observable. According to Lange *et al.* (2011), the director reputation may influence the organisation's relationship with its stakeholder. Negative board reputation has several consequences in the organisation operating and undesirable for the organisation. A study by Amir *et al.* (2014), the personal characteristics and psychology of directors reflected and influenced the corporate outcomes. The author found an organisation with negative board reputation has reduced the organisation operating performance and increase earnings volatility. Also found by Bhuiyan *et al.* (2014), when the board of director background indicates a lack of integrity, auditor charge abnormally higher audit fees. The research found when an organisation has a negative reputation board of director; the organisation may have negative profitability and poor financial reporting quality. For board reputation there are two proxies has been used which are boards' independence and board's duality. Board independence is measured by the reputation of the director. This because by using the status of independency, the director may be evaluated the capability in monitoring the firms under their directorships (Masulis and Shawn, 2017). The duality of role or best known as CEO duality is often viewed as the situation that weakens the Board's monitoring role and allows the CEO to entrench their position within the organisation by compromising the Board's ability to discipline the management (Desender, 2011). Therefore, two hypotheses are developed to examine the relationship between board reputation and environmental reporting is examined below:

H3: There is a positive effect on the board independence and environmental reporting among firms in the plantation industry.

H4: There is a positive effect on the board duality and environmental reporting among firms in the plantation industry.

3.4. Board Commitment

The connection between performance and commitment has engaged for a long time. As the focus of this study is board commitment. The commitment was defined as "the relative strength of an individual's identification with involvement in particular organisations" (Mowday and Steers, 1979). Being trusted by shareholders owning the business in different sizes, the board members have to serve with utmost honesty and trustworthiness to the stakeholders and which is a reflection of a commitment. For instance, the directors' committed to meeting the value for the time spent on by the members, keeping abreast of new ethics and updating current operational processes around the business world (Meslin, 1994)

Whicher *et al.* (2009), found that any generalisation on the role of board members remained an uneasy task due to too many factors posing the paradigms to shift. However, the findings would help to pursue further avenues in drafting effective commitment role of the board members in the future.

The board meeting and environmental cost are examined to measure the commitment of the board towards the firms. Attendance of board during the meeting is non-financial-measure (Hodge and Piccolo, 2005). As such, the board should demonstrate their commitment to variety and inclusion through active participation the meeting held by the firm annually. The amount spends by the firms on environmental reporting also may indicate the commitment of the board towards the organisation in archiving their mission. Therefore, below hypotheses are developed to examine the relationship between board commitment and environmental reporting

H5: There is a negative effect on the board meeting and environmental reporting among firms in the plantation industry.

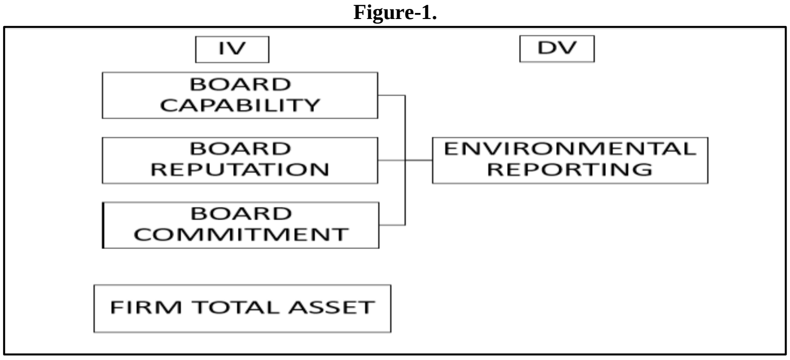
H6: There is a positive effect on the environmental expenses and environmental reporting among firms in the plantation industry.

4. Research Methodology

4.1. Conceptual Framework

With regard to the above issue, this study offers to clarify whether the board characteristics as shown in Figure 1 such as board capability, board reputation and board commitment can be used to give sufficient signal to the plantation industry in Malaysia regarding the level of environmental reporting within their industry.

Figure-1.



4.2. Sample and Data Collection

This study adopts a longitudinal research design to examine the level of environmental reporting in Malaysia. A sample from the plantation industry is selected for the first three years (2013, 2014 and 2015) after the revised of MCCG 2012. Plantation industry was chosen to represent the top industry where Malaysia is one of the top exporters and dominate the growth of Malaysia. The plantation firms are screened based on its core activity, which is palm oil production. Palm oil industry has been the contributors to the Malaysia pollution. Therefore, this study analysed the board characteristics, particularly on their capability, reputation and commitment towards the environmental reporting the firms in the plantation industry. Thus, several testing methods are employed such as a descriptive analysis, correlation matrix and logistic regression analysis to test the hypotheses that have been developed between all independent variables and dependent variable. As of 31st December 2015, there are 37 plantation firms listed in Bursa Malaysia for the three years. However, one of the firms did not publish their 2015 annual report. Thus that makes only 110 annual reports, which were analysed.

This study employs environmental reporting (ENV) as the dependent variable where the primary objective is to examine it is the reporting variability and explain how environmental reporting is influenced by the board capability, reputation and commitment. The dependent variable of environmental reporting is measured based on previous studies on latest environmental reporting (Burgwal and Viera, 2014; Gao and Connors, 2011; Nik Ahmad and Ahmed Haraf, 2013; Sartawi *et al.*, 2014). The measurement for environmental reporting is adapted from the index proposed by Clarkson *et al.* (2008) and Nik Ahmad and Ahmed Haraf (2013). The content analysis is measured by a scoring technique. Each item reported by the firms will be rewarded as "1", while "0" will be assigned if otherwise. Finally, each firm will be given a total score for environmental reporting (Al-Tuwaijria *et al.*, 2004; Clarkson *et al.*, 2008).

The definitions and measurements of the variables used in this study are listed in Table 1.

Table-1. Summary of Variables Measurement

Variables	Acronym	Measurement
Dependent Variable		
1 - Environmental Reporting	ENV	Total disclosure '1' if reported and '0' if not reported.
Independent Variable		
2 - Board Capability	B_CAP	
2.1 - Board of Education	B_EDU	Dichotomous: '1' if has finance and accounting education background and '0' otherwise.
2.2 - Board Interlock	B_INTER	A number of board hold position as directors' in other firms divided a total number of director on the board.
3 - Board Reputation	B_REP	
3.1 - Board Independence	INED	The proportion of INED over total board size.
3.2 - Duality of Role	DUALITY	Dichotomous: 1 if the CEO and Chairman positions held by the same person and 0 if CEO and Chairman are two different people.
4 - Board Commitment	B_COMM	
4.1 - Board Meeting	B_MEET	A number of meeting attandance devided total of the board meeting.
4.2 - Environmental Cost	ENV_COST	Enviromental expenses devided total expnses exclude finance expenses.
Control Variable		
5 - Firm Size	LN_ASSETS	Total Asset

4.3. Example of Environmental Disclosure by Category

A1 – Governance structure and management systems. This category refers to the existence of an internal management system to assist the firm in implementing their environmental policies Clarkson *et al.* (2008). Six items contained in this category. 15 firms out of 37 reported that they have environmental management systems (EMS) within the three years. Out of 666 scores, the sample firms only scored 26 for A1 items. This showed that most of the firms do not have an established EMS. An example of such disclosure is:

> *"The Group places great emphasis on the quality of the oil palm products it produces. To do so, it maintains coordination and co-operation between the estates and the mills to achieve common targets for the year and imposes strict FFB grading standards on external crops. During the year 2015, both mills completed the gap analysis for ISO 9001:2008 (Quality Management System) and ISO 14001:2008 (Environmental Management System)* (Sarawak Plantation Berhad, 2016)*."*

A2 – Credibility. This category refers to disclosure of the activities by the firms that have earned the respect of its stakeholders (Clarkson *et al.*, 2008). This category contains ten items. However, only 26 firms, reported within the three years. An example of the disclosure is:

> *"Out refinery (under Green Edible Oil Sdn Bhd) and one of our palm oil mills (Kretam Palm Oil Mill) have attained ISCC (International Sustainability and Carbon Certification) certification, under which they are required to monitor all aspect of their operations where green-house gases*

may be emitted, and to work towards reducing them accordingly (Kretam Holding Berhad, 2016)*."*

A3-Environmental performance indicator (EPI). This category is the most not significant in the index since no firms disclose the indicator of their environmental performance. This support the previous study that Malaysia firm has a poor quality environmental disclosure (Nik Ahmad and Ahmed Haraf, 2013).

A4-Environmental spending. This category is exclusively cover environmental; monetary expenditure spends by the firms. Example of environmental expenditure:

"Replanting expenditure which represents cost incurred in replanting old planted areas are charged to the income statement in the year in which is incurred (Kretam Holding Berhad, 2014)*. Oil palm replanting expenses 2013 is Rm12, 159,000* (Kretam Holding Berhad, 2014)*."*

"As for replanting expenditure, RM95.4 million was charged out to the income statement for FY2015 compared to RM71.9 million for the previous financial year (IOI Corporation Berhad, 2016)*."*

A5 – Vision and strategy claim. This category refers to the general environmental policies, strategies, plans and statement reflect the environmental commitment. Most of the firms had disclosed in this category. For example:

"In December 2014, our subsidiary, Kuala Lumpur Kepong Berhad ("KLK") launched its Sustainability policy. The policy brings together and expands on KLK's current sustainability commitments and practices. The policy focuses on the following main area which are ;

- *No Deforestation;*
- *Protection of Peat Areas;*
- *Driving of positive socio-Economic Impact for People and Communities; and*
- *Continuous Stakeholder Engagement.* Batu Kawan Berhad (2016)

A6- Environmental profile. In this category, the most disclosure is on "an overview of how the business operations and products and services impact the environment". Example of such disclosure is:

"In the Group's downstream operation, IOI Oleochemicals ("IOI Oleo") has also embarked on green energy by harvesting solar energy for electricity generation. Since obtaining the grant from the Sustainable Energy Development Authority ("SEDA") for 0.5 MW generation with a feed-in tariff ("FiT") that commenced on 31 December 2013, IOI Oleo's solar energy panels, installed on warehouse rooftops, have generated about 707,779 KWh electricity and savings of 422 MT of CO2 which is equivalent to the need to plant 1.4 million sq m of forest. This green initiative is estimated to cut energy costs by at least 40% while significantly greening the environment by reducing emissions of harmful gasses such as CO2, nitrogen and sulphur oxides (IOI Corporation Berhad, 2016)*."*

"Devote our continuous efforts to accident prevention, by conducting Hazard Identification, Risk Assessment and Risk Control (HIRARC) on all our operations (United Plantations, 2014)*."*

A7-Environmental initiatives. This category covers the disclosure of firm's initiatives to enhance the environmental productivity of their operation such as internal rewards and awards, scholarships, donations and employee training programs such as:

"HSP has also invested more than RM2.3 million in providing six years of primary national curriculum to approximately 847 children on the estate, and RM0.5 million to fund the Group's "Hap Seng Group D-Code" programme (Hap Seng Plantations Holdings Berhad, 2016)*."*

"In 2015, HSP has implemented a standardised health and safety programme by job type across all HSP operations. This is to ensure that all workers receive standardised hours of training for each specific job task. HSP has also implemented a policy that two workers are required to complete a task safely. However, the severity rate during the year increased to 3.0% despite the LTA being lower at 2.7% (Hap Seng Plantations Holdings Berhad, 2016)*."*

5. Results and Discussion

5.1. Descriptive Analysis

Table 2 provides the descriptive statistics for the three years 2013 to 2015. The study shows that the maximum firms are having a board of director with accounting background education is 77% and there also listed firms not having a board with an accounting background (23%). Board interlock reported that 68% of the board of director holds a position as director in other firms.

The average board independence of Malaysian firms is 0.46. This result describes that most of the firms in the plantation industry have an approximately half proportion of INED sit in the Board even though there are some firms do not have INED in the Boards. DUALITY reported that 5% is still having director holding two most crucial position in firms and the remaining 95% exercise the separation position between Chairman and CEO. For board meeting, the average attendance is 94% of the board is attended their firms yearly annual meeting only 72% of the firms not archive 100% attendance with a standard deviation of 6%. In environmental cost, the higher cost incurred by the firm for their environmental expenses is 91% over their total expenses. The maximum score of 36% for environmental reporting indicates the level of environmental reporting by firms in the plantation industry is still at a low level. Only a few firms are reporting their environmental activities in their annual report, and there are no firms archived more than 50% in disclosure.

Table-2. Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
B_EDU	0	1	0.77	0.47
B_INTER	0	1	0.68	0.25
DUALITY	0	1	0.05	0.21
INED	0	1	0.46	0.18
B_MEET	0.72	1	0.94	0.06
ENV_COST	0	0.91	0.11	0.1887637
LN_Assets	10,154,351	899,878,100	267,745,710.90	302,887,504.40
ENV	0	0.36	0.1207	0.07976

5.2. Multiple Linear Regression Analysis

Table 3 represents the relationship between environmental reporting and six measurements of board characteristic (board education, board interlock, board independent, board duality, board meeting, and environmental cost). The model is significant at the p-value <0.1 and p-value <0.01 (Shrestha and Chen, 1998), with and adjusted R square of 0.136. The adjusted R square value reported that all experimental variables explained almost 5% variation of environmental reporting and the F-value of 2.294 is significant (p-value <0.1 and p-value <0.01). However, the result of adjusted R square is lower than other studies that also investigate the relationship between board characteristics and environmental reporting. The lower result may be due to different independent variables used since this study emphasised on the new key enhancements of MCCG 2017. Although the value of adjusted R is considered low, it seems statistically significant. It is suggested that the model was undertaken of board characteristics and environmental reporting is good predictive for current Malaysian data. The outcome reported that only the environmental cost has a significant relationship with environmental reporting while the other variables fail to provide a significant relationship. The results of hypotheses testing are described below, and a summary of the decisions are presented in Table 4.

Table-3. Multiple Linear Regression

Dependent Variable	Independent Variables	β	t	Sig.
ENV	(Constant)	2.815	2.773	0.007
	B_EDU	0.04	0.298	0.767
	B_INTER	0.075	0.731	0.467
	DUALITY	-0.314	-1.362	0.176
	INED	-0.048	-0.475	0.636
	B_MEET	-0.018	-0.184	0.854
	ENV_COST	0.182	1.778	***0.078
	LN_ASSETS	-0.353	-2.77	*0.007
R-Squared (R^2)		0.136		
Adjusted R Square		0.077		
Durbin Watson		1.76		
F		2.294		
Sig		0.033		
*** Regression is Significant at the 0.10 level * Regression is Significant at the 0.01 level				

5.3. Board Education and Environmental Disclosure

H1 predicted that the B_EDU would have a positive effect with ENV where it will increase the environmental disclosure due to the accounting knowledge by the board of director. However, the result of this study is not synchronising with the previous study (Jaya *et al.*, 2016; Said *et al.*, 2013). The previous study found that director with accounting background has a significant relationship with environmental reporting. A director needs to have key skills and knowledge where the knowledge is the understanding of one director to the information on such as principal and understanding of the challenges faced by the firms' business and disclosure. As shown in table 4.4, B_EDU had an insignificant relationship with environmental reporting and reported a Sig. value 0.767, with p-value > 0.05.

5.4. Board Interlock and Environmental Disclosure

H2 predicted that the B_INTER would have a negative effect with ENV. However, based on table 4.4, B_INTER had an insignificant relationship with environmental reporting and reported a Sig. value 0.467, with p-value > 0.05. This finding matched with the study by Ahn *et al.* (2010). B_INTER does not have a significant effect on the environmental reporting since director with multi directorship may still give a good opinion toward the decision to every firm that they have directorship.

5.5. Duality and Environmental Disclosure

H3 is predicted DUALITY will have a positive effect with ENV. Meanwhile, this study provides no significant relationship of role duality of board members to the environmental reporting by the firm with a Sig. value 0.176, with p-value >0.05. This finding is consistent with the previous study (Yanesari *et al.*, 2012), The result indicated that the existence of duality is not associated with effective monitoring control system where the duality of the director may not influence environmental reporting by the firms.

5.6. Independent Executive Directors and Environmental Disclosure

H4 is predicted INED have a positive effect on ENV. However, based on the analysis INED is not significant firms to have high degree disclosure regarding the environmental reporting with a Sig. value 0.636, with p-value >0.05. This finding is consistent with the previous study by Rao and Tilt (2016),This might indicate that the firms in the sample have an independent director only for compliance and complementary purpose (Trireksani and Djajadikerta, 2016).

5.7. Board Meeting and Environmental Disclosure

H5 is predicted B_MEET have a positive effect on ENV. If the board attend all the meeting held every year, it may increase the environmental reporting. However, this study found that there is no significant relationship between these two variables; where Sig. value 0.854, with p-value >0.05. This result is supported by Liao *et al.* (2015), Even though the attendance at board meeting is fully attended by the director, the effective monitor of the firm's environmental reporting is influence by other factors such as external ownership can take the place of board monitoring action and the efficient direction among director can be attained when board is greater in number (Buniamin *et al.*, 2011).

5.8. Environmental Cost and Environmental Disclosure

H5 is predicted ENV_COST to have a positive effect on ENV. The cost incurred for the environmental purpose will increase the environmental reporting. The result has been supported by the regression of these two variables is Sig. value 0.078 with p-value < 0.10. This result in supported by Villiers and Staden (2012). This result significant result may be due to the reason this variable is newly selected to become part or element testing with environmental reporting. Thus, further study with a different method in the future may have different result and views regarding this variable.

Table-4. Summary of Hypotheses Testing

	Research Hypotheses	Decision
H1	Board education have a positive effect on the environmental reporting among firms in the plantation industry.	Not Supported
H2	Board interlock has a negative effect on the environmental reporting among firms in the plantation industry.	Not Supported
H3	Board independence has a positive effect on the environmental reporting among firms in the plantation industry.	Not Supported
H4	Board duality has a positive effect on the environmental reporting among firms in the plantation industry.	Not Supported
H5	A board meeting has a negative effect on the environmental reporting among firms in the plantation industry.	Not Supported
H6	Environmental expenses have a positive effect on the environmental reporting among firms in the plantation industry.	Supported

6. Conclusion

The study examines the relationship of the board of directors towards the extent of environmental reporting among firms in the plantation industry. The result reported that the environmental reporting by listed firms in Malaysia plantation industry is in the low level. The maximum scoring of environmental reporting is only 36%, and there are also firms not reporting any environmental activities or information in their yearly annual report. This result is consistent with the study by Nurhayati *et al.* (2016), Buniamin *et al.* (2011), Silva and Guzma´n (2010). In the analysis of the annual report, the study found that firms are more concern with highlighting financial performance as compared with environmental reporting activities. Meanwhile, environmental reporting is still at its minimal disclosure due to Malaysia has not made environmental reporting as a mandatory reporting for listed firms. In the analysis of environmental reporting, some of the firms in the sample reporting their environmental concern through the Corporate Social Responsibility part in the annual report. It is difficult to find firms reporting their environmental reporting at the director statement pages since the reporting is minimal.

In particular, this study is the extension of many studies that may help to determine whether board characteristics have an impact on greater environmental reporting in Malaysia. The study extends the examination by looking into board capability, board reputation and board commitment effect on the environmental reporting by Malaysian plantation industry with reference to the relationship between board educations, board interlock, board duality, board independence, board meeting and environmental cost with environmental reporting in the annual reporting of the firms. The result showed that there is no significant impact on board characteristics in environmental reporting by the firms in the Malaysian plantation industry. The adverse result may be due to the small size sample used in this study. However, one of the measurements for board commitment is a positive relationship with the level of environmental reporting which is environmental cost. The board of director needs to be aware that when the firms incurred certain cost on the activity, the disclosure in their annual report will also increase (Villiers and Staden, 2012).

This study provides some contribution toward the environmental reporting by Malaysian firms. As this study only focuses on the firms listed under plantation industry because of the environmental issue, the empirical understanding and knowledge about the environmental reporting in both "hard disclosure" and "soft disclosure" are limited to the specified industry. This could help stakeholders in considering the environmental issue as their top priority before investing in any firms. By addressing the environmental issue, a trust would be easily gained and helped to increase environmental awareness among the public especially among stakeholders, shareholders and environmental activists. This result indicates a signal that companies are in the condition to improve its voluntarily reporting on the environmental issue as it reflects an effort to have a good reputation among other firms.

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References

Ahn, S., Jiraporn, P. and Kim, Y. S. (2010). Multiple directorships and acquirer returns. *Journal of Banking & Finance,* 34(9): 2011-26.

Al-Tuwaijria, S., Christensen, T. and Hughes, K. (2004). The relations among environmental disclosure, Environmental performance, and economic performance, A simultaneous equations approach. *Accounting, Organizations and Society,* 29(5–6): 447-71.

Amir, E., Kallunki, J. P. and Nilsson, H. (2014). Criminal convictions and risk taking, Empirical evidence from Sweden. *Australian Journal of Management,* 39(4): 497-523.

Arfken, D., Bellar, S. and Helms, M. (2004). The ultimate glass ceiling revisited, The presence of women on corporate boards. *Journal of Business Ethics,* 50(2): 177-86.

Batu Kawan Berhad (2016). 2015 Annual Report. Available: http://www.bursamalaysia.com

Beekes, W. and Brown, P. (2006). Do better-governed Australian firms make more informative disclosures? *Journal of Business Finance and Accounting,* 33(3-4): 422–50.

Bhagat, S., Bolton, B. and Subramanian, A. (2010). CEO Education, CEO Turnover, and firm performance. Available: http://ssrn.com/abstract=1670219 or http://dx.doi.org/10.2139/ssrn.1670219

Bhuiyan, M. U., Habib, A. and Rahman, A. R. (2014). Problem directors and audit fees. Available: https://ssrn.com/abstract=2349196

Buniamin, S., Alrazi, B., Johari, N. H. and Rahman, N. R. (2011). Corporate governance practices and environmental reporting of companied in Malaysia, Finding possibilities of double thumbs up. *Management Journal,* 32: 55-71. Available: https://pure.uniten.edu.my/en/publications/corporate-governance-practices-and-environmental-reporting-of-com

Burgwal, D. V. and Viera, R. J. (2014). Environmental disclosure determinants in Dutch listed companies. *Revista Contabilidade and Finanças,* 25(64): 60-78.

Campbell (2000). Legitimacy theory or managerial reality construction? Corporate social disclosure in Marks and Spencer Plc corporate reports, 1969-1997. *Accounting Forum,* 24(1): 80-100.

Campbell and Vera, A. M. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics,* 81(8): 435-51.

Clarkson, P., Li, Y., Richardson, G. and Vasvari, F. (2008). Revisiting the relation between environmental performance and environmental disclosure: an empirical analysis. *Accounting Organization and Society,* 33(4-5): 303-27.

Desender, K. (2011). *On the determinants of enterprise risk management implementation. In Enterprise IT governance, business value and performance measurement.* IGI Global. 87-100.

Dosi, G., Levinthal, D. A. and Marengo, L. (2003). Bridging contested terrain, Linking incentive-based and learning perspectives on organizational evolution. *Industrial and Corporate Change,* 12(2): 413-36.

Ferreira, C. (2004). Environmental accounting, The Portuguese case. *Management of Environmental Quality, An International Journal,* 15(6): 561-73.

Gao, L. S. and Connors, E. (2011). Corporate Environmental Performance, Disclosure and Leverage, An Integrated Approach. Accounting and Finance Faculty Publication Serie, Paper 6.

Hap Seng Plantations Holdings Berhad (2016). 2015 Annual Report. Available: http://www.bursamalaysia.com

Hassan, C. H. M., Abdul Rahman, R. and Mahenthiran, S. (2008). Corporate governance, transparency and performance of Malaysian companies. *Managerial Auditing Journal,* 23(8): 744-78.

Hermalin, B. and Weisbach, M. (2003). Boards of director as an endogenously determined Institution, A survey of economic literature. *Economic Policy Review-Federal Reserve Bank of New York,* 9(1): 7-26.

Hodge, M. M. and Piccolo, R. F. (2005). Funding source, board involvement techniques, and financial vulnerability in nonprofit organizations: A test of resource dependence. *Nonprofit Management and Leadership,* 16(2): 171-90.

IOI Corporation Berhad (2016). 2015 annual report. Available: http://www.bursamalaysia.com
Iwami, T. (2001). Economic development and environment in Southeast Asia: an introductory note. *International Journal of Social Economics,*, 28(1): 605 - 22.
Jaya, T. E., Septiarini, T. and Arafat, Y. (2016). Educational background of the board of commissioners, Leverage, Profitability and voluntary disclosure. *Review of Integrative Business and Economics Research,* 5(2): 260-71.
Jensen, M. and Meckling, W. (1976). Theory of the firm, Managerial behaviour, Agency costs and ownership structure. *Journal of Financial Economics,* 3(4): 305-60.
Kretam Holding Berhad (2014). 2013 annual report. Available: http://www.bursamalaysia.com
Kretam Holding Berhad (2016). 2015 annual report. Available: http://www.bursamalaysia.com
Lange, D., Lee, P. and Dai, Y. (2011). Organizational Reputation, A Review. *Journal of Management,* 37(1): 153-84.
Liao, L., Luo, L. and Tang, Q. (2015). Gender diversity, board independence, Environmental committee and greenhouse gas disclosure. *The British Accounting Review,* 47(4): 409-24.
Masulis, R. and Shawn, M. (2017). Reputation incentives of independent directors, Impacts on board monitoring and adverse corporate actions. Retrieved from ECGI - Finance Working Paper No. 353/2013.
Meslin, F. (1994). Judging the ethical merit of clinical trials. *IRB Journal,* 16(4): 6-10.
Mitton, T. (2002). A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics,* 64(2): 215-41.
Mowday, R. and Steers, R. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior,* 14(2): 224-47.
Nik Ahmad, N. and Ahmed Haraf, A. (2013). Environmental disclosure of Malaysian property development companies: towards legitimacy or accountability? *Social Responsibility Journal,* 9(2): 241-58.
Nurhayati, R., Taylor, G., Rusmin, R., Tower, G. and Chatterjee, B. (2016). Factors determining social and environmental reporting by Indian textile and apparel firms, A test of legitimacy theory. *Social Responsibility Journal,* 12(1): 167-89.
Peterson, C. and Philpot, J. (2007). Women's roles on U.S. Fortune 500 boards, Director expertise and committee memberships. *Journal of Business Ethics,* 72(2): 177-96.
Post, C., Rahman, N. and McQuillen, C. (2015). From board composition to corporate environmental performance through sustainability-themed alliances. *Journal of Business Ethics*, 130(2): 423–35.
Qiu, Y., Shaukat, A. and Tharyan, R. (2016). Environmental and social disclosures, Linki with corporate financial performance. *The British Accounting Review,* 48(1): 102-16.
Quintas, P. (2002). Managing knowledge in a new century. *Managing Knowledge*: 1-14. Available: https://www.researchgate.net/publication/42789152_Managing_knowledge_in_a_new_century
Rao, K. and Tilt, C. (2016). Board diversity and CSR reporting, An Australian study. *Meditari Accountancy Research,* 24(2): 182-210.
Said, R., Omar, N. and Abdullah, W. N. (2013). Empirical investigations on boards, Business characteristics, Human capital and environmental reporting. *Social Responsibility Journal,* 9(4): 534-53.
Sarawak Plantation Berhad (2016). 2015 annual report. Available: http://www.bursamalaysia.com
Sartawi, I. I., Hindawi, R. M., Bsoul, R. and Ali, A. J. (2014). Board composition, firm characteristics, and voluntary disclosure, The case of Jordanian firms listed on the Amman stock exchange. *International Business Research,* 7(6): 67-82.
Shrestha, K. and Chen, S. S. (1998). Validity of the short- and long-run Fisher relationships, An empirical analysis. *Managerial Finance,* 24(8): 64-76.
Silva, M. S. and Guzma´n, B. A. (2010). The influence of the Portuguese environmental accounting standard on the environmental disclosures in the annual reports of large companies operating in Portugal, A first view (2002-2004). *Management of Environmental Quality, An International Journal,* 21(4): 414-35.
Toru, I. (2001). Economic development and environment in Southeast Asia, An introductory note. *International Journal of Social Economics,* 28(1): 605-22.
Trireksani, T. and Djajadikerta, H. G. (2016). Corporate governance and environmental disclosure in the Indonesian mining industry. *Australasian Accounting, Business and Finance Journal,* 10(1): 18-28.
United Plantations (2014). 2013 annual report. Available: http://www.bursamalaysia.com
Villiers, C. and Staden, C. V. (2012). New Zealand shareholder attitudes towards corporate environmental disclosure. *Pacific Accounting Review,* 24(2): 186-210.
Wailerdsak, N. and Suehiro, A. (2004). Top executive origins: Comparative study between Japan and Thailand. *Asian Business & Management,* 3(1): 85-104.
Wheelen, T. and Hunger, J. (2005). *Strategie management and business policy.* 10th edn: Prentice Hall: Upper Saddle Rive.
Whicher, D., Currie, P. and Taylor , H. (2009). Factors that influence institutional review board members. *IRB, Ethics and Human Research,* 31(5): 15-19.
Yanesari, A. M., Gerayli, M. S., Ma'atoofi, A. R. and Abbas Abadi, A. (2012). Board characteristics and corporate voluntary disclosure, An Iranian perspective. *Archives Des. Sciences,* 65(5): 478-84.
Zakaria, S. and Dewa, N., 2010. "Corporate social responsibility (CSR) reporting in six Malaysian financial institutions." In *Oxford Business & Economics Conference Program, United Kingdom.* pp. 1-27.