

# GREEN-BASED GOVERNANCE AND EXTERNAL PRESSURE: DO THEY INFLUENCE ENVIRONMENTAL DISCLOSURE? EMPIRICAL EVIDENCE FROM ISO 14001 COMPANIES IN MALAYSIA

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## Abstract

**Purpose:** The primary objective of this study is to investigate the synergistic influence of green-based governance and external pressure on the quality of environmental disclosure among ISO14001 certified companies that are publicly-listed in Malaysia.

**Methodology:** Content analyses have been conducted on the 2014 annual and sustainability reports of ninety (90) ISO14001 certified companies.

**Results:** The results of the multiple regression analyses reveal that green-based governance in the form of an effective environmental management system (EMS) and external pressure from industry membership influence the quality of environmental disclosure. The findings of the study signify that a proper EMS system needs to be implemented in order to reduce agency conflicts arising from information asymmetry.

**Implications:** Companies need to have an effective environmental management system such as ISO14001 companies are motivated to provide quality environmental information to reduce information asymmetry and agency conflicts between managers and stakeholders.

**Keywords:** *Environmental Disclosure, Governance, Agency Theory, 14001 Certified Companies, Content Analysis.*

## INTRODUCTION

Traditionally, stakeholders focus on the value for money, product quality, and financial performance of the products or services offered by business organizations. In recent times, however, such a focus has widely shifted to corporate social responsibility (CSR) initiatives, which include companies' concerns towards employees, communities, ethics, and environmental issues (e.g., Dawkins & Lewis, 2003). The companies still have to achieve economic efficiency, but it is not the only indicator of business sustainability (Abdalla et al., 2014). Businesses are urged to act in an environmentally friendly manner and to be socially responsible, hence be good corporate citizens towards achieving the global sustainable agenda (Haynes, & Hudson, 2010).

The concept of CSR encompasses business involvement in social and environmental activities, and this spirit is embraced business management and operations up until the communication of related information to various stakeholder groups. Despite great efforts and calls on business engagement with environmental-based pursuits, the condition of Mother Earth is continuously depleting. In India, for instance, the population growth and economic development have contributed towards numerous environmental problems such as loss of biodiversity, heavy pressure on land, land degradation, forests, and habitat destruction (Anand, 2013). Malaysia, as an emerging economy, is facing environmental issues, which include loss of endangered animal species, deforestation, and pollution. The country's agriculture, forestry, and urbanization have aggressively contributed to the destruction of forests and other thriving ecosystems that have led to environmental disasters, including continuous occurrences of landslides, flash floods, and haze.

Business organizations are the principal group accountable for environmental problems as they are regarded as the key contributors to pollution and other damages to the natural environment (Dunlap & Scarce, 1991). Industrial and business activities cause various problems such as deforestation, soil erosion, loss of biodiversity, and pollution of all kinds such as air, water, noise, marine, and light (Chandok, 2017).

Consequently, substantial efforts have been made by businesses globally to convince stakeholders of their efforts to be environmentally friendly such as through accreditation with ISO14001. Such an effort is essential for effective environmental management, preservation of the natural environment, business image enhancement, as well as efficient operations (Tan, 2003). According to Ang et al. (2014), the main motivating factor for ISO14001 adoption by companies is due to the concern of the top management towards the environment. This is because ISO14001 standards outlines an effective environmental management system that organizations should put in place in the conduct of their businesses in order to remain commercially successful without overlooking their environmental responsibilities and impacts. To this end, this study aims to investigate the influence of green-based governance and external pressure (in the form of

government ownership and industry membership) on the quality of environmental disclosure among ISO14001 companies in an emerging economy such as Malaysia.

ISO14001 companies are used as the sample for this study as the international accreditation obtained by these companies requires such companies to maintain a certain standard of an environmental management system to continue receiving the international certification. Therefore, it is expected that such companies would have in place a green-based governance framework to address environmental issues.

Previous literature has identified a number of influencing factors for companies' commitment to care for the natural environment (e.g., [González-Benito & González-Benito, 2006](#); [Zeng, Dong & Tam, 2010](#); [Lu & Abeysekera, 2014](#); [Yusoff et al., 2015](#); [Darus et al. 2015](#); [Fontana et al., 2015](#)). Among the related factors are company size, resource availability, managerial attitude, industrial sectors, governance, and others. These findings set forth an exciting notion to investigate the quality of the environmental information provided by ISO14001 accredited companies.

The internal and external environment of organizations have been argued to be influencing factors of organizations' commitment to their natural environment ([González-Benito & González-Benito, 2006](#); [Darus et al., 2015](#); [Wilmschurst & Frost, 2000](#); [Fontana, D'Amico, Coluccia, & Solimene, 2015](#); [Lu & Abeysekera, 2014](#); [Zeng, Dong, & Tam, 2010](#)). According to [González-Benito and González-Benito \(2006\)](#), internal factors such as company size and resource availability, managerial attitude and motivations, and strategic attitude can encourage environmental practices, while external factors such as industrial sectors and geographical locations can also influence environmental practices.

In this study, internal factors namely, the existence of a green-based governance framework, an environmental management system, and an environmental risk management committee combined with external factors such as government ownership and industry membership are expected to influence the environmental disclosure quality of companies with international environmental certification such as ISO14001 companies. The findings from this study will provide empirical evidence on the state of environmental disclosure of ISO14001 companies in an emerging economy such as Malaysia.

This study contributes to the literature, as it will provide evidence about the determinants of quality environmental information. The results of the study will define the most significant factors that affect the quality of such information. Such findings can assist organizations in strategizing their environmental business practices to gain a competitive advantage in the marketplace. Besides, the results of the study will present the current level of environmental disclosure among public listed companies in Malaysia. The findings will assist the regulators in strengthening the existing environmental disclosure guidelines among ISO14001 public listed companies to ensure greater transparency.

This paper is organized into four sections. The subsequent team proceeds with the literature review and hypotheses development. The third section provides the research methodology, followed by the findings and discussion section. The final section offers the conclusion of the results, including the limitations and future research direction.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Environmental Disclosure and Agency Theory

Corporate Social Responsibility (CSR) is defined as a business commitment towards economic development while improving the quality of life of the society in an ethical and responsible manner ([Cheng & Ahmad, 2010](#); [Yam, 2012](#)). According to [Bursa Malaysia \(2006\)](#), there are four (4) dimensions of CSR, which are marketplace, workplace, community, and environment. The environment dimension, which is the focus of this study, refers to activities directed towards the preservation of the ecosystem and its biodiversity and efforts in managing the business impact towards the environment. The disclosure of environmental information by organizations reflects their commitment to addressing environmental issues. Even though organizations have realized the benefits of environmental disclosure, the quality of this disclosure is still below par ([Sen, Mukherjee, & Pattanayak, 2011](#)). Previous studies found that environmental disclosure practices of firms are still at the infancy stage ([AbdMutalib et al., 2014](#), [Darus, Yusoff, & MohdAzhari, 2013](#); [Innocent et al., 2014](#); [Yusoff et al., 2015](#)). Even ISO certified companies were found to report only a general type of information concerning their environmental management system or disclosing information in qualitative terms ([Sumiani et al., 2007](#)).

Prior studies have also found various factors that motivate firms to disclose environmental information. The firms' size, the board size, and the nature of the business were among the motivating factors that contributed towards the quality of environmental disclosure ([Brammer & Pavelin, 2008](#); [Suttipun & Stanton, 2012](#); [Yusoff et al., 2015](#)). [Huang and Kung \(2010\)](#) and [Darus, Mad, Nejati, and Yusoff \(2016\)](#) revealed that organizations that are transparent in their CSR information meet the demand of various stakeholders as well as improve corporate image, create added value, and eventually achieve a sustainable business development.

In this study, agency theory is used to underpin the arguments for the motivation of organizations to set-up a green-based governance structure to improve environmental disclosure to reduce agency conflicts. According to [Jensen and Meckling \(1976\)](#), agency theory refers to the relationship between one or more persons (the principal) and another person (the agent) in completing some services, whereby the agent will be given some decision-making authority by the principal.

However, the agency conflict arises when there is a misalignment between the interest of shareholders and managers, where the managers act on their benefits rather than maximizing the interest of shareholders ([Jensen & Meckling, 1976](#)). According to [Jensen and Meckling \(1976\)](#), the conflict of interest between shareholders and managers are unavoidable. Thus appropriate governance structure needs to be established to safeguard the shareholders' interest.

Therefore, from the agency theory perspective, the establishment of a green-based governance structure can facilitate the provision of environmental information by the agent to the principal to ensure that the agent is acting in the best interest of the principal. In this study, the existence of a green-based governance structure, specifically the establishment of a sustainable governance framework, a structured environmental management system (EMS), and the existence of an environmental risk management committee (ERMC) in an organization can influence the quality of environmental disclosure. Additionally, the ownership structure of the organization such as being government owned and belonging to a certain type of industry can also influence the quality of the environmental information disclosed ([Buniamin, 2012](#); [Habbash, 2015](#); [Sulaiman et al., 2014](#)).

### Green-based Governance

In the current business environment, firms need to give attention to corporate governance in the context of sustainability as part of their overall corporate governance structure. Such a governance structure is often referred to as sustainable governance. [Jones and Thompson \(2012\)](#) define sustainable governance as a framework used by an organization to monitor a structure and ensure that all resources are well managed for the present and for a long-term sustainable future. In this context, there should be a committee at the highest governing body that is made responsible for decision-making on matters relating to sustainability and strategies related to environmental impacts ([GRI, 2013](#)). Thus, it is expected that organizations that have established a green-based governance framework will disclose more environmental information in their corporate reporting. According to [Habbash \(2015\)](#), there is a positive relationship between an effective corporate governance system and environmental disclosure. As green-based governance is a new concept in Malaysia, this study will investigate the relationship between the existence of green-based governance and its relationship with environmental disclosure.

An environmental management system refers to a formal system adopted by firms, which integrates procedures and processes for execution, monitoring, and reporting of environmental performance ([Mahapatra, Melnyk, & Calantone, 2007](#)). In this study, the environmental management system refers to a system that is used by organizations to assess and measure the environmental impact of their business operations. According to [Othman and Ameer \(2012\)](#), the level of transparency in corporate environmental disclosure has a relationship with the measurement systems used to assess the environmental impact on the earth, water, and air (EWA). The study found that the low level of environmental disclosure among the firms was due to the absence of a measurement system in the company. [AbdMutalib et al. \(2014\)](#) pointed out that firms tend to disclose information on general environmental activities such as environmental campaigns, effective usage of energy and resources, tree planting, and river cleaning activities rather than disclosing the measurement system used to reduce environmental pollution. In this study, it is argued that firms with ISO14001 accreditation and having a sound EMS in place would, therefore disclose better quality environmental information to the stakeholders.

There are various risks related to firms' operations, including environmental risks ([Wong, 2014](#)). However, the effect of environmental risks is often not considered by management as part of its enterprise risk management portfolio. The firms in the current business environment should establish an environmental risk management system to deal with these environmental risks ([Wong, 2014](#)). Therefore, an analysis of environmental management activities from an economic point of view needs to be carried out in terms of the expected value of returns of such activities as well as the risk attached to these returns ([Wagner & Schaltegger, 2004](#)). The Global Reporting Initiative (GRI) provides a guideline for organizations in terms of the identification and management of economic, environmental, and social impacts, risks, and opportunities ([GRI, 2013](#)). In this study, it is argued that the presence of an environmental risk management committee will have a positive relationship with the quality of environmental disclosure.

### External pressures

Previous literature provides mixed findings regarding the predictor variables of environmental disclosure quality in terms of ownership structure ([Fontana et al., 2015](#); [Haji, 2013](#); [Mutakkin & Subramaniam, 2015](#); [Secchi, 2006](#)). [Mbekomize and Wally-Dima \(2013\)](#) found that there is a negative relationship between government ownership and environmental disclosure. Their study revealed that government entities did not have the intention to attract stakeholders by disclosing high levels of environmental information, especially creditors, as they have easy access to various financial sources. On the other hand, [Habbash \(2015\)](#) showed that there is a positive relationship between government ownership and the quality of environmental disclosure. This is because as governments are socially oriented, government-owned companies should be more responsive to the society. In addition, [Gunawan, Djajadikerta, and Smith \(2008\)](#) revealed that state-owned companies disclose higher corporate social disclosure (CSD) than non-state companies as government organizations are politically supported, and are more likely to be responsible towards stakeholders' needs. In this study, it is hypothesized that the government-owned ISO14001 companies would be more motivated to provide quality environmental disclosure due to the pressure placed upon them for being government-owned entities.

Industry membership will usually affect the level of environmental disclosure quality. According to Bursa Malaysia, the high environmental sensitive industries are consumer products, industrial products, properties, constructions, and plantations while the other industries such as hotels, trading/services, and REITS are considered low environmental sensitive industries (Buniamin, 2012; Wilmschurst & Frost, 2000). The quality of environmental disclosures has been found to be higher in environmentally sensitive industries compared to non-environmentally sensitive industries (Buniamin, 2012; Sulaiman et al., 2014). However, there are studies that have found either no association between industry type and the level of environmental disclosure (Mbekomize & Wally-Dima, 2013) or negative relationship between industry membership and corporate social and environmental disclosure (Ismail & Ibrahim, 2008). In this study, it is argued that being ISO14001 environmentally certified companies, pressure from industry members of environmentally sensitive industries would force companies in these types of industries to be in the forefront in terms of the provision of environmental information. Therefore, this study argues that companies in environmentally sensitive industries will provide better quality environmental information. Therefore, the hypotheses developed in this study are as follows:

**H1:** There is a positive relationship between green-based governance and the quality of environmental disclosure.

**H2:** There is a positive relationship between environmental management system and the quality of environmental disclosure.

**H3:** There is a positive relationship between environmental risk management committee and the quality of environmental disclosure.

**H4:** There is a positive relationship between government ownership and the quality of environmental disclosure.

**H5:** There is a positive relationship between companies in highly environmentally sensitive industries and the quality of environmental disclosure.

## RESEARCH METHODOLOGY

### Sample

The sample for this study comprises of Public Listed Companies (PLCs) on the Main Board of the Bursa Malaysia. The total number of companies listed on Bursa Malaysia for the year 2014, based on eight industries, is 725 companies. However, only ISO14001 certified companies are used in this study. The final sample comprises of 90 companies. Table I presents the sampled companies based on industries. ISO14001 certified companies are selected as the sample for the study due to their concerns toward the environment. According to Ang et al. (2014), the main motivating factor for ISO14001 adoption in the companies is due to the concern of top management on the environment. On the other hand, Psomas, Fotopoulos, and Kafetzopoulos (2011) found that the motive behind ISO14001 certification among Greek companies is to obtain a competitive advantage, comply with social requirements, and to be environmentally friendly. Basically, certified firms are more likely to be conscious of the importance of environmental preservation and social sustainability activities.

**Table 1:** Distribution of companies based on industry classification

No	Industry	Number	%
1.	Industrial Products	45	50
2.	Consumer Products	4	4
3.	Construction	7	8
4.	Properties	7	8
5.	Plantations	2	2
6.	Trading/Services	23	26
7.	REITS	1	1
8.	Hotels	1	1
	Total	90	100

### Data Collection

This study primarily uses secondary data obtained from the content analysis of annual reports. Data was gathered from the annual reports, sustainability reports, and the Datastream database. Content analysis was adopted in analyzing the content of the corporate annual reports of the selected listed firms for the year 2014. The content analysis is relevant to be used with the environmental disclosure index that was developed, and it has been widely adopted in prior literature (Gray, Kouhy, & Lavers, 1995). In this study, the firms are divided into high, environmentally sensitive and low environmentally sensitive firms. The classifications of sensitive industries are made by reviewing the works of previous



researchers ([Buniamin, 2012](#); [Wilmshurst& Frost, 2000](#)). Then, the sensitive industries that were selected were matched with Bursa Malaysia's industrial classification.

### Measurement of Variables

The quality of environmental information is extracted from annual and sustainable reports and measured using a disclosure index adapted from [Buniamin \(2012\)](#) and [Sulaiman et al. \(2014\)](#). The environment information disclosed is ranked based on the specificity of each item disclosed. Four (4) data rating scales are used to measure the related level of the extensiveness of the environment information disclosed. A score of zero (0) is assigned if there is no environmental information disclosed; a score of 1 is assigned for qualitative information provided the information given is general in nature; a score of 2 for items that are qualitative in nature and contains specific information; a score of 3 for environmental information disclosed with quantitative information, but non-monetary in nature; and a score of 4 for environmental information disclosed quantitatively and with monetary values ([Yusoff&Darus, 2014](#)). A maximum score that an organization can obtain is sixty-four (64) points, as there are sixteen (16) disclosure items in total with six categories. Table 2 presents the environmental dimensions used in this study and the maximum score possible for each item.

**Table 2:** Environmental Dimensions and the Number of Items and Maximum Score for Quality Disclosure Index

No.	Dimensions	Items	Score
1.	Corporate commitment	3	12
2.	Environmental management	3	12
3.	Environmental pollution control including Key Performance Indicators (KPI)	7	28
4.	Environmental achievement	1	4
5.	Environmental related financial information	1	4
6.	Negative information and information relating to laws and Regulation	1	4
Total Scores		16	64

Source: ([Buniamin, 2012](#); [Sulaiman et al., 2014](#))

The following measures are used to measure the independent variables. Three independent variables, representing green-based governance, namely green-based governance, environmental management system, and environmental risk management committee are measured by using a dichotomous scale where it takes a value of one (1) if the information is disclosed and zero (0) if the information is not disclosed. The variable for green-based governance is measured based on the Global Reporting Initiative's (GRI) GRI 4 sustainability reporting guidelines ([GRI, 2013](#)) while the environmental management system is measured based on the National Annual Corporate Reporting Awards (NACRA) 2014 checklist ([Othman & Ameer, 2012](#)). The environmental risk management committee is measured using the Global Reporting Initiative's (GRI) GRI 4 sustainability reporting guidelines ([GRI, 2013](#)).

For the external pressure, the independent variable government ownership, a percentage of common corporate shares held by the government is used to measure government ownership. If the government organizations owned more than 51 percent of the common shares of companies, then these firms are considered government-owned companies. Then, a dichotomous scale is used where a score of one (1) is given for government-owned companies while a score of zero (0) is given to private ownership companies ([Suttipun& Stanton, 2012](#)). Lastly, for the variable industry membership, a dichotomous scale where a score of one (1) is awarded for high environmental sensitive industries, while a score of zero (0) is given for low environmental sensitive industries. Based on the eight (8)-industry classification by Bursa Malaysia, the industries are segregated into high or low environmental sensitive industries. Thus, industrial products, consumer products, construction, properties, and plantations are considered high environmental sensitive industries, while trading/services, REITS, and hotels are considered low environmental sensitive industries. The classifications of environmentally sensitive industries are made based on previous studies ([Buniamin, 2012](#); [Wilmshurst& Frost, 2000](#)).

Company size is used as a control variable in the study, and it is measured based on the total assets of the organizations ([Buniamin, 2012](#); [Sulaiman et al., 2014](#)). Table 3 presents the definitions of the independent, dependent, and control variables for this study.

**Table 3:** Definition of Variables

Variable	Definition
A Independent Variables	
1. Green-based Governance	Sustainability governance structures and processes at the board and senior executive level to support and guide sustainability leadership to focus on environmental issues.
2. Environmental Management System (EMS)	Environmental measurement system used by the organization to address and manage its particular environmental impact.
3. Environmental Risk Management Committee	Highest governance body's role in risk management the process and strategic planning towards environmental risks.

4. Government Ownership	Percentage of corporate common stock held by either government or private companies.
5. Industry membership	The sample of companies is separated into either high environmentally sensitive sector or low environmentally sensitive sector.

A multiple linear regression model is used to analyze the relationship between the quality of CSR disclosure and the independent variables. The following regression model is developed to test H1, H2, H3, and H4.

$$(EDQ = \beta_0 + \beta_1(GG) + \beta_2(EMS) + \beta_3(ERMC) + \beta_4(GO) + \beta_5(IM) + \beta_6(CS) + \varepsilon)$$

where,

EDQ is the quality of environmental disclosure;

GG is green-based governance;

EMS is an environmental management system;

ERMC is environmental risk management committee;

GO is government ownership;

IM industry membership;

CS company size; and

et is an error term.

## RESULTS AND DISCUSSIONS

A descriptive analysis was performed separately for both the categorical and continuous variables, as shown in Tables 4 and 5. The results from Table 4 reveal that for the green-based variables, the percentage of disclosure for the items relating to these three variables is very low (less than 10%). The results suggest that even ISO14001 companies have yet to establish a separate governance framework to address issues related to the environment. As for the ownership structure, twenty-four (24) percent of the sampled companies were government-owned, and the majority of the companies are categorized as environmentally sensitive (72.2%).

**Table 4:** Descriptive Statistics for Categorical Variables

Variables	Information Disclosed	
	Frequency	Percent (%)
Green-based governance	6	6.7
Environmental Management System	7	7.8
Environmental Risk Management Committee	3	3.3
Government Ownership	22	24.4
Industry Membership	65	72.2

The results from Table 5 reveal that the maximum score for the total quality of environmental disclosure is 12.00 out of a possible maximum score of 64 with a mean score of 4.28. The results reveal very low disclosure quality even among ISO14001 certified companies. The results suggest that even though these companies are disclosing environmental information but the quality of the information disclosed in the context of the usability of such information to stakeholders needs to be further improved. The finding is consistent with a study by [Sónia Maria da Silva and Aibar-Guzmán, \(2010\)](#) which revealed that environmental certification held by firms did not affect the quality of environmental disclosure. [Sumiani et al. \(2007\)](#) pointed out that even ISO14001 certified firms tend to report either general or qualitative type information.

**Table 5:** Descriptive Statistics for Continuous Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Total Assets (RM)	90	32,307	110,650,200	4,942,412	14,957,898
Quality of Environmental Disclosure (total score)	90	0	12	4.28	2.274

Pearson correlation coefficients are used to test the levels of association between the quality of environmental disclosure and the independent variables (green-based governance, environmental management system, environmental risk management committee, government ownership, and industry membership).

The results from Table 6 reveal that industry membership is moderate and positively correlated with the quality of environmental disclosure with a correlation of 0.460. This indicates that organizations in high environmental sensitive

industries will disclose on average a higher level of environmental information compared to organizations in low environmental sensitive industries. The control variable, the total asset, is slightly negatively correlated with the quality of environmental disclosures at -0.255. Surprisingly, the results of the correlation analysis reveal that larger organization disclose lower quality of environmental disclosure. However, none of the other factors, green-based governance, environmental management system, environmental risk management committee, and government ownership are significantly associated with the quality of environmental disclosures.

**Table 6:** Pearson Correlation Coefficients

	Green-based Governance	Environmental Management System	Environmental Risk Management Committee	Ownership status	Industry membership	Total Assets	Quality of Environmental Disclosure
Green-based Governance	1						
		-.078	.199*	.366**	-.033	-.076	.164
		.234	.03	.00	.378	.239	.061
Environmental Management System		1					
			.177*	.028	-.098	.428*	.148
			.047	.397	.18	0	.082
Environmental Risk Management Committee			1				
				.038	.115	-.037	.169
				.36	.14	.366	.056
Ownership status				1			
					-.398**	.093	-.013
					0	.193	.453
Industry membership					1		
						.330*	.460**
						.001	.000
Total Assets						1	
							-.255**
							.008
Quality of Environmental Disclosure							1

Table 7 presents the multiple regression analysis for this study. Tests for multicollinearity are performed, and the results reveal that no multicollinearity exists between the independent and dependent variables. The multiple regression results from Table 7 reveal that the value for the adjusted  $R^2$  is 0.294 which indicates that 29.4% of the variation in the quality of environmental disclosure is explained by the variation in all the predictors' variables. The model is significant at 0.01, with an F-value of 7.175.

**Table 7:** Multiple Regression Results for Quality of Environmental Disclosure and its Determinants

Dependent Variable: EDQ			
<b>R Square =0.342, Adjusted R<sup>2</sup> =0.294, F =7.175, Sig. = 0.000</b>			
Variables	Coefficients	t-statistics	p-value
(Constant)		4.489	0.000
Independent Variables			
Green-based Governance	0.13	1.311	0.193
Environmental Management System (EMS)	0.293**	2.893	0.005
Environmental Risk Management Committee	0.023	0.247	0.806
Ownership Status	0.139	1.32	0.19
Industry Membership	0.47**	4.536	0.000
Total Assets	-0.228*	-2.177	0.032

\*Significant at 0.05 level, \*\*Significant at 0.01 level

The findings from Table 7 reveal that two (2) variables, *EMS* and *Industry membership*, have significant relationships with the *quality of environmental disclosure*. The variable *EMS* has a positive and statistically significant relationship with the *quality of environmental disclosure* ( $\beta_2 = 0.293$ , t-statistic = 2.893). Therefore, H2 is accepted. The finding is consistent with [AbdMutalib et al. \(2014\)](#), who argued that the existence of a measurement system to reduce the environmental pollution could improve the quality of sustainability reporting. The results of this study suggest that the presence of a proper environmental management system such as those available among ISO14001 companies helps the companies to assess the environmental impact of their business operations and influences the managers as agents of the organizations to provide environmental information to the stakeholders.

The analysis also finds that the coefficient for the variable *industrial membership* is positive and statistically significant ( $\beta_5 = 0.47$ , t-statistic = 4.536), suggesting that companies in high environmental sensitive industries tend to disclose environmental information. Hence, Hypothesis 5 is supported. Firms in highly environmentally sensitive industries are bound by various environmental regulations, and also face a higher pressure from their stakeholders. In addition, they are also exposed to various risks and criticisms ([Dragomir, 2010](#)). Thus, these situations force them to disclose environmental information ([Sónia Maria da Silva & Aibar-Guzmán, 2010](#)). The findings are consistent with [Buniamin, \(2012\)](#) who found a significant relationship between the quality of environmental reporting and environmental sensitivity. In addition, [Huang and Kung \(2010\)](#) also revealed that organizations in highly sensitive industries such as chemical, metals, petroleum, and paper industries have a higher possibility of facing environmental legislation. Thus they tend to produce extensive disclosures compared to organizations from less environmentally sensitive industries. The results of the multiple regression analysis, however, indicate that there are no significant relationships between the variables *green-based governance*, *environmental risk management committee*, *government ownership*, and *environmental disclosure quality*. Thus, H1, H3, and H4 are rejected.

## CONCLUSION

The reasons for integrating CSR as a part of a business operation by organizations remain a debatable and elusive topic, and a subject of interest to researchers. The aim of this study is to investigate the influence of green-based governance and external pressure on the quality of environmental disclosure among ISO14001 companies in an emerging economy such as Malaysia. The results of the study revealed that the quality of environmental disclosure, even among ISO14001 firms in Malaysia is still low. The study indicates that most of the firms have not put in place an overall green-based governance structure, which includes having a green-based governance framework, an environmental risk management system, and an environmental risk management committee. This result is consistent with the study by [Sónia Maria da Silva & Aibar-Guzmán, \(2010\)](#) who found that environmental certification did not affect the level of environmental disclosure. [Sumiani et al. \(2007\)](#) revealed that the level of environmental disclosure among ISO14001 companies in Malaysia was still in the infancy stage.

The results of the multiple regression analysis revealed that the variable environmental management system (EMS) has a significant relationship with the quality of environmental disclosure. Findings by [Othman and Ameer \(2012\)](#) supported the result of this study as they found that the level of transparency in corporate environmental disclosure (CERD) has a strong relationship with the measurement systems. According to [Nehrt \(1996\)](#), an organization that invests in pollution-reducing technology should gain financial advantage, as it will ensure better environmental performance. However, this could be because of compliance with the requirement of ISO14001 where these companies are required to maintain a certain standard of the environmental management system to continue receiving the international certification. Therefore, such a relationship could signify that the environmental management system that had been put in place is merely a compliance platform towards achieving the accreditation. Such measures cannot be seen as an avenue by these companies to surface innovative processes to improve their environmental practices.

The multiple regression results also revealed that industry membership has a significant positive relationship with the quality of environmental disclosure. The results suggest that peer pressure within the industry rather than pressure from regulators seemed to motivate managers to improve their environmental disclosure. Therefore, peers of the industry concerned should exert pressure on industry members to improve environmental practices within the industry. This is especially relevant among industries that are classified as environmentally sensitive industries. According to [Sulaiman et al. \(2014\)](#), high environmental sensitive firms have a greater tendency to disclose a high level of corporate environmental information.

The results of the study provide support of arguments under the agency theory where companies that have an effective environmental management system such as ISO14001 companies are motivated to provide quality environmental information which in turn helps to reduce information asymmetry and agency conflicts between managers and stakeholders. Therefore, organizations should strategize their businesses and should consider investing in environmental measurement systems to monitor and reduce their environmental impact on the organizations, which will in turn result in better quality environmental information provided to stakeholders.

This study was carried out for one year. Future research could undertake a longitudinal study to examine the trend of environmental disclosure among these ISO14001 certified companies. This will allow for a better interpretation of results. Future studies could also incorporate interviews with the management of these companies to better understand



their environmental practices and subsequently, their reporting decisions. Despite these limitations, the findings from this study contributed to filling the gaps in the literature on the environmental commitment of ISO14001 companies in Malaysia.

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