INFLUENCE OF ENVIRONMENTAL DISCLOSURES ON THE FINANCIAL PERFORMANCE OF PUBLIC LISTED MALAYSIAN MANUFACTURING COMPANIES

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ABSTRACT

This study aims to assess the trend of environmental disclosures of publicly listed Malaysian manufacturing companies. It also investigates the relationships among organizational characteristics (control variables), environmental disclosures (independent variables), and financial performance (dependent variables). Based on content analysis our findings involving 120 publicly listed Malaysian companies indicate that most of these companies are cognizant of the importance of environmental disclosures. Results of this study show that environmental disclosures can be divided into pollution abatement and other environmental information. Environmental disclosures are determined to be significantly and positively correlated with financial performance of manufacturing companies.

Keywords: environmental disclosures, sustainable reporting, pollution and non-pollution, financial performance

INTRODUCTION

The sustainability of manufacturing and service operations has been placed on the spotlight, with companies striving to fulfill both the immediate needs of markets and society and their future requirements as an organization

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(Quental, Lourenço and Nunes da Silva, 2011; Seurig, Sarkis, Müller and Rao, 2008). Sustainability means living and working by using methods that meet and integrate existing environmental, economic, and social needs without compromising the well-being of future generations. The transition to sustainable development provides benefits to the current society and ensures a more secure future for children. According to the Organisation for Economic Co-operation and Development (OECD, 2001), sustainability means "linking the economic, social, and environmental objectives of societies in a balanced way" and it takes a long-term perspective "about the consequences of today's activities meeting the challenge of sustainable development requires that the process through which decisions are reached is informed by the full range of the possible consequence and is accountable to the public".

A sustainable report is the most basic form of organizational report, and it presents the economic, environmental, and social aspects of a company's performance. Sustainability reporting uses actual data to promote the value and benefits of green initiatives and to influence consumer behavior (Wagner, 2005; Said, Sulaiman and Ahmad, 2013). A sustainable report is also known as a non-financial report. Therefore, although a company consistently releases its annual report to present its business performance, this report will still be considered non-financial in nature if it fails to include significant components of such performance, including the economic, social, corporate, and environmental effects on the company.

Many companies are now more vigilant about the release of sustainable reports and have been producing annual sustainability reports that have an extensive array of ratings and standard (ACCA, 2014). Therefore, sustainable reporting trends are emerging rapidly, with more companies publishing this type of report. The main reason for these companies preferring to produce sustainable reports is that they intend to be vessels of transparency and accountability. These companies also intend to improve their internal processes, to engage stakeholders, and to persuade investors to invest in their companies (Lungu, Caraiani and Dacalu, 2014).

A company's sustainability performance can be improved if it measures, monitors, and reports the economic, environmental, and social effects on society of this performance. According to the Association of Chartered Certified Accountants' report (ACCA, 2012), Malaysia has the

most number of companies producing sustainability reports, with 49 out of the 128 companies in ASEAN countries producing such reports.

Malaysian companies' commitment to the natural environment is an important variable in facing current competitive scenarios, particularly among publicly listed companies in the manufacturing industry. Several of these companies consider environmental initiatives and practices as a tool that aids the organization to gain a competitive advantage and improve its performance level (Yang, Hong and Modi, 2011; Singal, 2013). Therefore, environmentally sustainable reporting describes how a company manages its influence on the environment, including the provision of an environmental management program. Environmental incidents, such as good reporting practice, cover the performance of a company in this area during both the reporting and previous years (Bursa Malaysia, 2012).

Wilmshurst and Frost (2000) defined environmental disclosures as "those disclosures that relate to the impact company activities have on the physical or natural environment in which they operate." By disclosing environmental information, a company can enhance its reputation and gain competitive advantages to enhance its ability to compete with other companies. Disclosing environmental information also increases a company's reputation and provides vital information to investors. Environmental performance evaluation is a systematic procedure that measures a company's environmental level. This evaluation can be effectively regulated and improve a company's pollution management, ecological, and environmental protection systems. Environmental performance evaluation has been adopted by many countries around the world, including in the United Kingdom, Japan, South Africa, France, and Denmark, among others. A few of these countries have already benefitted from this procedure.

In 2009, Malaysian Prime Minister Dato' Sri Haji Mohammad Najib bin Tun Haji Abdul Razak launched the National Green Technology Policy (NGTP) intended to advance the government's intention to encourage the adoption of green technology in both building and manufacturing industries. NGTP's objectives include the promotion of low carbon technology and the development of sustainability while protecting natural and environmental resources. NGTP also underscores the establishment of a legislative and regulatory framework to support the development of green technologies. In 2010, the Malaysian government announced the provision of a RM1.5

billion green technology fund to promote research and development in environmental sustainability and became committed to reduce carbon emissions by offering a credible reduction of up to 40% intensity by 2020 (Green Tech Malaysia, 2015).

Globally, many countries are now using a combination of taxes, incentives, and regulations to encourage companies to adopt environmental management practices and sustainable reporting. In recent years, the Malaysian government has provided more attention to green development to reduce cost and manage environmental waste and pollution. The tax incentive introduced by the Malaysian government encourages manufacturing companies to be more environment friendly by investing in an efficient energy system and energy generation using renewable energy sources (Green Tech Malaysia, 2015).

The increase in awareness among Malaysian companies in environmental issues has led to the intensification in the environmental disclosure level and the demands of stakeholders for company environmental information. Therefore, environmental reporting is now considered one of the strategic issues in business strategy to gain competitive advantage (Klassen and McLaughlin, 1996; Suki, 2013).

Most Malaysian companies are currently under pressure to improve their environmental performance, increase profits, and broaden their market share. Several listed companies prefer to disclose information with a positive influence to demonstrate their competence in managing environmental issues. In a few cases, environmental disclosure information is different from the actual environmental performance information of a particular company (ACCA, 2014; Ong, Teh and Ang, 2014).

Therefore, outsiders such as investors are unaware of the actual situation and information about a company's environmental management capability level. Nevertheless, the extent to which environmentally sustainable reporting will affect the performance of publicly listed company in Malaysia remains an unresolved issue.

Malaysia is still at the infancy level in terms of environmental disclosure, as no legal requirement in this country compels a corporation to provide a public environmental information statement. However, initiatives

are in place to encourage corporations to publish environmental disclosures. For example, the Malaysian Accounting Standard Board issued Financial Reporting Standard 101 to encourage corporations to disclose additional information, i.e., "Environmental Reports and Value Added statements", if management deems that such information will assist the users' economic decisions. The ACCA Malaysia Sustainability Reporting Awards was also established to encourage the voluntary reporting of sustainability, environmental, or social information in Malaysia.

Corporations generally aspire to be more environment friendly. However, this aspiration may actually support stockholder theory or Friedman's (1962) the Friedman doctrine, which indicates that a company should only focus on making profit. Several companies or shareholders are unconvinced with the financial benefits of environment-related initiatives because these types of benefits are difficult to quantify. If a corporation is implementing a decision beyond making profit, then this corporation is deemed to have breached its fiduciary duties to make profits for its shareholders. Therefore, a gap exists between environmental disclosure and a company's financial performance. Accordingly, the questions that arise are as follows: Why are more corporations earning money in environmental management? Why do more companies prefer to provide environmental disclosures voluntarily? Therefore, the objectives of this study are as follows:

1. To determine the levels of environmental disclosures of manufacturing companies in Malaysia

2. To examine the relationship between the environmental disclosures and the financial performance of manufacturing companies in Malaysia

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Theoretical Background: Stakeholder Theory

Stakeholder theory states that companies have responsibilities to their stakeholders apart from earning profit. Argandona (1998) explained that

stakeholders are individuals or groups that have an interest in a company. Stakeholders are divided into two categories, namely, internal and external stakeholders. Internal stakeholders include shareholders, management, and employees, and external stakeholders consist of consumers, suppliers, distributors, investors, governments, banks, environmentalists, and other groups (Argandona, 1998). Based on stakeholder theory, the traditional goal of companies, which is to maximize their profits, is transformed. Considering and benefiting the needs of multiple stakeholders are now among the fundamental obligations of companies (Hasnas, 1998).

Several authors have conducted studies on environmental issues based on stakeholder theory. For example, Cespedes-Lorente, Burgos-Jimenez, and Alvarez-Gil (2003) conducted the following four studies on the natural environment using this theory: (1) The Duty of Stakeholders in Evaluating Companies' Environmental Performance and Environmental Risks, (2) How Stakeholders Influence Companies' Environmental Strategy, (3) How Pressure Influences Environmental Reporting, and (4) The Importance of Developed Environmental Cooperation between the Companies and Stakeholders. However, a challenge is put forward by stakeholder theory: companies that used to maximize its profits exclusively have difficulty in considering the stakeholders' interest in their goal.

Overview of Sustainable Reporting

According to Ioannou and Serafeim (2011), "Sustainability reporting is a new term, which is widely used to explain the communication of the companies' effect on social, environmental, and economic performance." Therefore, sustainability report is a document that provides information to investors, stakeholders, and the general public on a company's activities related to social, environmental, and governance issues.

Burhan and Rahmanti (2012) found that more than half of the largest companies in developed countries, such as those in France, Germany, Japan, the United Kingdom, and the United States, issue a high rate of sustainable reports. Sustainable reporting rates are high in certain industries, such as chemicals and synthetics, pharmaceuticals, electronics, computers, automotive, and oil and gas, because these companies are involved in critical environmental activities. Thompson (2002) explained that the

majority of large publicly listed companies in North America, Japan, and Northern Europe acknowledge the aforementioned obligation and report their sustainability levels accordingly.

Sustainable reporting has become increasingly demanding because it provides useful information to stakeholders who are concerned with the environmental, social, and economic performance of companies (Dwyer and Owen, 2005). The Global Reporting Initiative (GRI, 2006) reported that companies demonstrate their concern toward the development of sustainable reporting by analyzing how organizations perform and report their non-financial matters.

Investors are currently seeking to invest in socially responsible investments, i.e., in companies that follow sound social and environmental practices. In sum, most companies use annual reports as a platform to convey to their stakeholders pertinent information on the environmental and social sustainability of these companies (Thompson, 2002). According to Sumiani, Haslinda, and Lehman (2007), "Current global environmental movements have put great pressure to promote corporate involvement in responsible environmental management."

Burhan and Rahmanti (2012) explained that sustainability reporting consists of three elements, namely, economic, environmental, and social performances. Stakeholders are increasingly becoming interested in learning how companies manage their sustainability reporting, which would potentially create values for them. Hodge et al. (2007) elucidated that organizations adopt a different level of sustainable disclosure, ranging from a simple narrative paragraph within an annual report to specific sustainability report, to disclose more information.

Malaysia is one of the Asian countries that are rapidly progressing and developing but may increasingly experience the tension between economic incentives and the claim for ethical consciousness related to environmental accounting. The rapid rate of urbanization, the development of a particular industry, and the rapid population growth have affected Malaysia's economic, social, and environmental performances (Manaf, 2006). As a developing country, Malaysia is also suffering from deforestation caused by large-scale land development, mining, dam construction, and logging. These

phenomena have resulted in biodiversity loss, erosion, threatened wildlife, river siltation, and water pollution. Other environmental issues in Malaysia include air pollution from industrial and vehicular emissions and raw sewage that may endanger the natural habitat. Air pollution is primarily sourced from motor vehicles, power stations, industrial fuel uses and processes, and open burning practices. To reduce pollution, Malaysian companies need to adopt environmental reporting to encourage the disclosure of their environmental issues and to motivate them to operate a business at a minimum pollution level.

Environmentally Sustainable Reporting

The environment is a critical determinant of the quantity, quality, and sustainability of human activities and industrial development. Burhan and Rahmanti (2012) stated that the increase in global environmental concern transmits the attention of companies toward environmental sensitivity. Internationally, most companies are now more aware of the influence of social and environmental activities on organization performance.

Yongvanich and Guthrie (2006) explained that companies previously adopted traditional financial accounting and reporting, which inadequately measure social and environmental impact. Therefore, companies need to report their environmental sustainability adequately. Henri and Journeault (2008) described the ability of organizations to manage their environmental performance, which will inevitably become strategic issues and competitive advantage for companies.

Sumiani, Haslinda, and Lehman (2007) reiterated that Malaysia is among the rapidly growing Asian countries with an intention to become economically innovative and claiming ethical consciousness related to environmental accounting. Malaysia is also motivated to increase its understanding of both the local environmental position and its economic dependency on environmental accounting and reporting.

In early 2001, the Malaysian government and private agencies exerted effort to develop environmental reporting by presenting various awards, such as the Malaysian Environmental Reporting Awards, the National Annual Corporate Reporting Awards, the Bursa Malaysia Corporate Awards, and

the Prime Minister's Hibiscus Award, to companies that produce this type of report (Haron, Sofri, Chambers, Manasseh and Ismail, 2006). This initiative demonstrates the importance of environmentally sustainable reporting in Malaysia.

Amran (2012) emphasized that most Malaysian companies use the annual report to convey and communicate their environmental issues. This finding shows an increase in the number of pages allocated to environmental disclosure. The largest sector engaged in environmental reporting is the industrial products sector, followed by the plantation, consumer product, trading or services, construction, infrastructure, properties, and finance sectors. The government generally offers open tenders exclusively to companies that are capable of meeting all the government's criteria that emphasize on social and environmental requirements. By complying with these minimum requirements, companies can project their positive image to the government and investors. Many large companies, particularly manufacturing companies involved in socially and environmentally sensitive sectors, such as oil and gas, mining, chemical, automotive, computers, and electronics, prefer to publish environmental reports.

Lopez, Sterner and Afsah (2004) reiterated that how companies disclose their environmental information depends on the manner that this information is conveyed. Companies generally use three methods to convey their environmental information to the public. First, third parties assess the certification of products, firms, processes, or management procedures through eco-labels and International Organization for Standardization (ISO) certifications. The second method is self-certification that has no fixed criteria or any externally independent review, such as corporate social responsibility reports published by companies. The third method is through rating and award schemes received by companies that successfully manage their environmental issues.

Most industrial companies are pressured to manage and produce their environmental report to improve productivity and lower costs. This competitiveness inspires companies to improve their efficiency and gain advantage over their competitors. Theyel (2000) and Janakiraman and Jose (2007) argued that investors are more likely to invest in companies with more green record and considered that being environmentally responsible would enable corporations to experience fewer risks and become more

competitive in the long run. Russo and Fouts (1997) stated that gaining a first mover advantage in applying green product markets entails manufacturing companies to maintain their emission to the minimum compared with their competitors. Khanna and Damon (1997) explained that most environment-friendly companies exhibit good performance in terms of having higher rates of return in their investment. Therefore, environmentally sustainable reporting is anticipated to affect the performance of companies.

Environmental Disclosures and Financial Performance

The current relationship between environmentally sustainable reporting and company performance has been analyzed through various studies, which have resulted in different points of view. However, the empirical results of these studies have been inconclusive, and the debate related to this matter is still open and continuing. A few opinions and results from several studies conducted by researchers have presented a different point of view regarding the relationship between environmental disclosure and performance of companies.

Al-Tuwaijiri, Christensen and Hughes (2004) emphasized that good environmental performance is positively correlated with good economic performance and with more extensive and quantifiable environmental disclosure of specific pollution measures and occurrences. However, Yusoff, Lehman, and Nasir (2006) found that no visible link could exist between environmental disclosure and economic benefit because disclosure practices are focused on social concerns rather than on profit considerations. Russo and Fouts (1997); Nakao, Amano, Matsuma, and Genba (2007); and Cohen and Konar (2003) determined that a firm's environmental performance has a statistically significant positive relationship with financial performance. Therefore, sustainability reports are associated with company performance.

Figge and Hahn (2010) argued that environmental disclosure appears as another method to increase the economic value creation of a company that contributes to the financial outcomes. Li and McConomy (1999) and Murray, Sinclair, Power, and Gray (2006) reported a positive association between environmental disclosure and financial performance. Jacob, Singhal, and Subramanian (2010) also discussed the positive relationship between

environmental performance and disclosure of company performance in terms of stock returns in the manufacturing industry.

Klassen and Mclaughlin (1996) explained that improving a company's environmental performance may lead to its profitability and cost efficiency improvement and increased sales performance. To support this argument, Potoski and Prakash (2005) argued that companies that have good environmental performance are perceived to be less risky and encounter infrequent environmental inspections from regulators. Therefore, a company reduces its inspection cost that may lead to additional cost saving.

King and Lenox (2002) determined that environmental performance in terms of reduced emission, waste prevention, and less on-site waste treatment is associated with high financial performance. According to Bewley and Li (2000), most companies today use environmental disclosure to establish their respective image and reputation for credible disclosure, particularly when they need to increase financing. To measure financial performance, most companies use return on assets (ROA) by considering the relationship between environmental disclosure and company performance.

Brammer and Pavelin (2006) reiterated that a company with high profitability is expected to provide managers with a pool of resources that would fund the cost of making environmental disclosures. Moreover, Stanny and Ely (2008) and Archel and Lizarraga (2001) showed that a positive relationship exists between environmentally sustainable reporting and company profit. Therefore, a positive significant relationship existing between environmentally sustainable reporting and company performance is predicted. We propose the following hypothesis:

H1: A positive relationship exists between a company's environmental disclosure and financial performance.

Company Size

Company size can be defined using several measures, such as sales, number of employees, turnover rate, total assets, and revenues. Mbekomize and Wally-Dima (2013) determined that no association exists between the environmental disclosure level and company size, company ownership status, and business industry in companies in Botswana.

Larger companies logically tend to disclose more environmental information than smaller companies because the former is more accountable with respect to environmental issues. Lima Ribeiro and Aibar-Guzman (2010) used companies' turnover rates as the size variable and proved that company size is positively and statistically related to the development level of environmental accounting practices in the Portuguese context. In a parallel study, Bhattacharyya (2014) proved that the extent of environmental disclosure is significantly high for large corporations.

The International Conference on Applied Economics (ICOAE, 2011) agreed that a positive relationship exists between corporate size and the disclosure of environmental information in annual reports. This result may be caused by several reasons. First, large companies have more resources to afford the cost of disseminating environmental information compared with small companies. Second, large companies have a higher agency cost, which requires them to provide more environmental information to reduce the agency gap between the company's management and stockholders (ACCA, 2014). Finally, large companies that seek competitive cost advantage tend to disclose more environmental information.

Galani, Gravas, and Stavropoulos (2011) also proved that large companies that are exposed to more external forces, such as mass media, public opinion, and governments, would be encouraged to reveal more environmental information to users to decrease public pressure.

RESEARCH METHODOLOGY

Sampling and Data Sources

The sample population in this study comprised all manufacturing companies listed in Bursa Malaysia in 2012. This study used a simple random sampling technique to draw a sample of 120 companies (over 47%) out of the 254 manufacturing companies listed in Bursa Malaysia. The sample companies have reported their environmental management processes, such as through sustainability reports.

The sample was derived from publicly listed companies, as a previous study showed that large companies tend to disclose their environmental information. Manufacturing can be defined as the production of goods or items by using machines, equipment, and labor force. Manufacturing activities vary from handicraft items to technology gadgets. Therefore, the term "manufacturing" is applied to the process of industrial production, in which raw materials are transformed into finished goods and are ready for sale. In the current study, the annual reports of selected companies are used as a major source of data from which environmental reporting can be obtained.

Content Analysis

Content analysis of annual reports is a technique for gathering data. This technique involves codifying qualitative and quantitative information into pre-defined categories to derive patterns in the presentation and reporting of information. The researcher can obtain the data by observing and analyzing the content or message of an advertisement, newspaper articles, letters, and other similar sources. This method examines the message itself and involves the design of a systematic observation and recording procedure for quantitative description of the manifest content of communication. Content analysis also measures the extent of emphasis on or emission of a given analytical category.

In accordance with previous studies, environmental disclosure of companies can be categorized into four components (i.e., evidence, news type, location in report and environmental sub-themes) that provide insights into the extent and nature of the information disseminated (Mokhtar and Sulaiman, 2012). In the first part, evidence refers to environmental disclosure in terms of monetary, non-monetary (i.e., volume) and declarative forms. Environmental disclosure can also be classified as good, bad, or neutral. Five categories (i.e., chairman's letter, mission statement, director's report, operations review and others) are included in the location where environmental information is disclosed. Environmental policy and environmental audit are under the environmental sub-themes. Environmental policy is the specific environmental procedure set by companies to address environmental issues, while environmental audit is the evaluation performed by companies to identify environmental compliance.

Companies' annual reports were obtained from their respective websites to measure environmental disclosure quantity. Thereafter, these documents are analyzed to verify the existence of any environmental information by referring to the GRI guidelines. GRI was selected as the main guideline to evaluate environmental disclosure. Note that the GRI reporting framework is internationally recognized and extensively used around the word to provide guidance for sustainability reporting. After determining the related information, the number of words was counted by selecting, copying, and pasting on Microsoft Word to obtain the precise number of words disclosed. The use of this word processor aims to reduce human error in counting.

An environmental disclosure score checklist was adapted from Sulaiman, Abdullah and Fatima (2014) to examine the environmental disclosure quality. If an indicator is disseminated completely, then it will obtain a score of 1. However, if no information is related to the aforementioned indicator, then the undisclosed indicator will have a value of 0. Thereafter, all points obtained are added to determine a company's environmental disclosure quality.

RESULTS AND DISCUSSION

Respondent Company Profiles

Table 1 shows the types of industries that presented their environmental disclosures in 2012. Majority of environmental disclosures come from the plastic and rubber industries, which comprise 22.5% of the total companies selected for this study. This result could be attributed to the fact that companies belonging to the plastic and rubber industries could be using and producing several dangerous substances and other chemicals that might have an effect on human health and the environment. Therefore, most of these companies disclose environmental information in their respective annual reports to demonstrate their sincere commitment to protect the environment and reduce pollution. The metal industry accounts for 20% of the companies in this study, followed by the machinery and transportation equipment industries at 14.2% and 8.3%, respectively. The remaining industries, such as wood, cement and concrete, ceramic wall and floor tile, and others, account for a combined 35% of the total sample.

Table 1 also presents the location of the surveyed companies in Malaysia. Majority of the sample is from this country's central region, comprising more than 50% of the total companies involved in this study. The central region is composed of Kuala Lumpur, Selangor, and Negeri Sembilan, and it the heartland of Malaysia's industry and commerce. The eastern coastal region (including Pahang, Terengganu, and Kelantan) comprises a mere 1.7% of the total companies because the states in this region are more focused on the plantation industry rather than manufacturing. The central region is Malaysia's most developed, where many factories are located, particularly in Selangor. This region is characterized by excellent infrastructures, such as airports, seaports, highways, and other modern facilities developed by the federal government.

Selangor managed to attract investments in the manufacturing industry amounting to RM 8.74 billion, with RM4.2 billion of which coming from foreign direct investments and RM4.5 billion from domestic direct investments. A total of 263 projects were approved, and these projects created approximately 20,750 job opportunities in various sectors, particularly in the manufacturing industry (Selangor State Investment Arm, 2011). The considerable concern of companies about the environment is due to the increasing awareness on the importance of protecting the environment through proper waste management, energy saving, and recycling, among others. The remaining respondent companies are located in the northern region (Kedah, Penang, Perak, and Perlis), southern region (Malacca and Johor), and Sabah and Sarawak, which comprise 23.3%, 14.2%, and 10%, respectively, of this study' sample population.

The company size classification is based on the total asset, consistent with Bewley and Li (2000). Table 4 shows that from the total sample of 120 manufacturing companies, 68.3% are medium, 9.2% are small, and 22% are large companies. The high percentage of small and medium enterprises (SMEs) in this study is due to the fact that SMEs in Malaysia comprise 97.3% of the total business establishments in 2013; large companies contribute a mere 2.7% for the same year. SMEs in the manufacturing industry, at approximately 95.4%, are the second largest group of companies after those in the service industry. These firms are predominantly engaged in wearable apparel, food products, fabricated metal, and printing and reproduction of recorded media (SMEs Census, 2011).

Table 1: Types of Industry

INDUSTRIES	FREQUENCY	PERCENTAGE (%)
Plastic and rubber	27	22.5
Metal	24	20
Machinery	17	14.2
Transportation equipment	10	8.3
Wood	9	7.5
Cement and concrete	7	5.8
Electrical equipment and appliance component	5	4.2
Ceramic wall and floor tile	5	4.2
Others	16	14.2
TOTAL	**120**	**100**
LOCATION	**FREQUENCY**	**PERCENTAGE (%)**
Central region	61	50.8
Northern region	28	23.3
Southern region	17	14.2
Sabah and Sarawak	12	10
East coast region	2	1.7
TOTAL	**120**	**100**
TOTAL ASSETS	**FREQUENCY**	**PERCENTAGE (%)**
$10 million to $100 million (small)	27	22.5
$100 million to $1 billion (medium)	82	68.3
Greater than $1 billion (large)	11	9.2
TOTAL	**120**	**100**

Table 2 shows the high awareness of the sample companies about environmental issues. Majority of the 84.2% of the total companies reported environmental disclosures, and the remaining 15.8% did not disclose their environmental information in their annual reports. From the 101 companies that presented their environmental information, 56.7% come from medium-sized manufacturing companies, followed by small-sized companies at 19.2%. The remaining companies are large firms, and they account for 8.3%. The reason for this distribution is that most of the sample companies are

categorized as SMEs. All of these companies realized that they needed to become more transparent and accountable to their stakeholders and investors by providing useful information. Note that the information is focused on both the financial and non-financial performances, such as the companies' commitment to environmental issues.

Most of the companies that reported environmental disclosure are located in Malaysia's central region (43.3%), as the government has implemented more regulations related to environmental issues in this developed region. The intense competition among manufacturing companies also forces them to disclose their environment-related activities to attract the attention of investors. Companies located in the northern region follow at 18.3% and the remaining companies from the southern region and the Sabah–Sarawak–Labuan region at 13.3% and 9.2%, respectively. None of the companies from Malaysia's east coast reported environmental disclosures. Therefore, the manufacturing companies in Malaysia's eastern coastal region have less environmental protection awareness.

Table 3 summarizes the detailed categories of environmental disclosures presented in the annual reports. This table also shows that environmental disclosures are divided into two groups, namely, pollution abatement and other environment-related information. Each of the items in both groups plays a significant role in explaining the environmental disclosure of Malaysia's publicly listed manufacturing companies. For the pollution abatement group, the highest environmental disclosures are affected by various activities, such as waste management, investment in eco-friendly facilities, recycling, energy saving, conservation, water pollution, and air pollution. The remaining activities, such as noise pollution, restoration/rehabilitation, and renewable resources, also contribute to environmental disclosure. The environment-related information group also contributes to force companies to disclose their environmental information, such as through environmental education, impact, management, and policy; paperless environment; and environment-friendly products. Table 2 shows the other activities for this group.

Table 2: Level of Environmental Disclosure

PARTICULARS	DISCLOSURE				TOTAL
	NON-DISCLOSURE	PERCENT (%)	DISCLOSURE	PERCENT (%)	
Disclosure	**19**	**15.8**	**101**	**84.2**	**120**
Size					
Large	1	0.8	10	8.3	11
Medium	14	11.7	68	56.7	82
Small	4	3.3	23	19.2	27
Total	**19**	**15.8**	**101**	**84.2**	**120**
Location					
Northern region	6	5	22	18.3	28
Central region	9	7.5	52	43.4	61
Southern region	1	0.8	16	13.3	17
East coast region	2	1.7	0	0	2
Sabah and Sarawak	1	0.8	11	9.2	12
Total	**19**	**15.8**	**101**	**84.2**	**120**
ISO certification					
ISO	0	0	23	19.2	23
Non-ISO	**19**	15.8	78	65	97
Total	**19**	**15.8**	**101**	**84.2**	**120**

Table 3: Categories of Environmental Disclosure

ENVIRONMENTAL DISCLOSURE	NO	PERCENT (%)	YES	PERCENT (%)	TOTAL
Pollution abatement:					
Water pollution	73	60.8	47	39.2	120
Noise pollution	96	80	24	20	120
Air pollution	79	65.8	41	34.2	120
Waste management	53	52.5	67	47.5	120
Restoration/Rehabilitation	102	85	18	15	120
Investment in eco-friendly facilities	68	56.7	52	43.3	120
Recycling	58	59.2	62	40.8	120
Energy saving	63	52.5	57	47.5	120
Renewable resources	99	82.5	21	17.5	120
Conservation	52	56.7	68	43.3	120
Other environment-related information					
Environmental education	75	62.5	45	37.5	120
Environmental impact	61	50.8	59	49.2	120
Environmental management	42	41.7	78	58.3	120
Environmental policy	45	45	75	55	120
Environmental award	119	99.2	1	0.8	120
Environment-friendly product	73	60.8	47	39.2	120
Paperless environment	76	63.3	44	36.7	120
ISO certification	97	80.8	23	19.2	120
Compliance with guidelines	93	77.5	27	22.5	120
Material handling	90	75	30	25	120
Zero burning policy	108	90	12	10	120

Regression Result

Table 4 presents the relationship between the independent variables (pollution abatement and other environment-related information) and the dependent variables (ROA and return on equity (ROE)) used in this study. According to this table, the strong relationship between both variables and the value is positive, thus indicating a perfect positive correlation between pollution abatement and other environment-related information and ROA. All variables are generally below 0.7, which indicates that no variable caused undue influence on the results and that the data are free from the multicollinearity problem.

Table 5 shows the coefficient correlation value between the independent and the dependent variables. The coefficient of determination (R-square) is 0.258. This result indicates that only 25.8% of the ROA variation is explained by the variation of environmentally sustainable reports. The remaining 74.2% is explained by other factors.

Table 6 shows that the value of F for the first model presented in the ANOVA table is 3.629, and the probability of 0.03 is smaller than 0.05. Therefore, this regression model can be accepted and can proceed for analysis. Table 8 presents the result of the t-test for the hypothesis. Table 5 shows that the coefficient of the independent variable value is 0.320 for pollution abatement; this value indicates the negative association with the dependent variable. The coefficient value for other environment-related information is positive at 0.420, and the coefficient value for size is 0.524. Therefore, environmental disclosure has a positive and significant association with a company's financial performance. The hypothesis that environmental disclosure is associated with the company's performance (ROA) is accepted.

Table 4: Person Correlation Matrix

	ROA	ROE	Size	Pollution Abatement
ROA	1			
ROE	0.199**	1		
Size	0.239	0.359	1	
Pollution Abatement	0.025*	0.027*	0.327	1
Other Environmental Related Information	0.158	0.103	0.156**	0.000

* Correlation is significant at the 0.05 level (two-tailed)
** Correlation is significant at the 0.01 level (two-tailed)

Table 5: Regression on ROA and Independent Variables

Variables	Coefficient	t	Sig.
Pollution abatement	0.320	0.2036	0.044
Other environment-related information	0.420	2.679	0.008
Size	0.524	4.536	0.158
R-squared: 0.258 Adjusted R-square: 0.242 F-value: 3.629 Sig.: 0.030			

For the second model, Table 6 shows the relationship between the independent variables (pollution abatement and other environment-related information) and the dependent variable (ROE) used in this study. Table 6 also shows that the strong relationship between both variables and the value is positive. This result indicates a perfect positive correlation between pollution abatement and other environment-related information with ROE.

The adjusted R-square value of 0.132 in Table 6 shows that 13.2% of the ROE variation is accounted for by the variation of environmentally sustainable disclosure. The remaining variation at 86.8% is explained by other factors.

The value of F is 2.970 and the probability is 0.05. This finding means that the second regression model can be used and applied for the analysis. Table 8.3 shows that the coefficient of the pollution abatement value is 0.340.

This value means that the variables have a negative association with the dependent variable (ROE). The coefficient for other environment-related information value is 0.382, which indicates that it has a positive association with the dependent variable. Environmentally sustainable disclosure can be inferred to have a positive and significant association with a company's financial performance. Therefore, the hypothesis that environmentally sustainable reporting has an association with a company's performance (ROE) is accepted.

Table 6: Regression on ROE and Independent Variables

Variables	**Coefficient**	**t**	**Sig**
Pollution abatement	**0.340**	**−2.156**	**0.033**
Other environment-related information	**0.382**	**2.419**	**0.017**
Size	**0.483**	**6.527**	**0.432**
R-squared: 0.148 Adjusted R-square: 0.132 F-value: 2.970 Sig.: 0.050			

DISCUSSION

In this study, the results of the hypothesis testing support the association of environmentally sustainable reporting with the financial performance of manufacturing companies in Malaysia, as all the variables show significant values. This result also indicates that environmental disclosures, which comprise pollution abatement and other environment-related information, influence a company's performance measured using ROA and ROE.

These results describe the behavior of manufacturing companies in Malaysia in terms of reporting their environmental information through the companies' annual reports. The results also reflect the perspective and perception of Malaysian companies on the importance of reporting environmental information to the public. The public may have a good perception of the companies because of their ability to manage the environmental performance aspects properly. Moreover, the results illustrate that most manufacturing companies are concerned with and realize the importance of reporting their environmental information to exhibit their

positive attitude to protect and save the environment. This type of behavior provides a positive effect for a company's future growth.

By disclosing environmental information, a company may also attract the attention of investors to consider their investment and retain its existing shareholders and make them loyal to the company. Moreover, a company with a good environmental performance will experience better financial performance in the future because of its ability to manage its environmental factors. In turn, this ability can lead to decreased environment-related costs and increased profit.

The aforementioned finding is consistent with previous studies that also obtained the same result, i.e., a positive and significant relationship between a company's environmentally sustainable reporting and financial performance. This result was proven by Al-Tuwaijiri, Christensen, and Hughes (2004); Russo and Fouts (1997); Nakao, Amano, Matsuma, and Genba (2007); King and Lenox (2001); Cohen and Konar (2003); Klassen and Mclaughlin (1996); Stanny and Ely (2008); and Archel and Lizarraga (2001).

The results of the current study are consistent with those of Bozena, Jens, and Eklund (2003); Sumiani, Haslinda, and Lehman (2007); Burnett and Hansen (2007); and Gregor and Polona (2006). However, the present study failed to prove the hypothesis that company size could influence the company to disclose environmental information, as the results indicate an insignificant relationship between company size and environmental disclosure. The current results also show that company size is not a factor that can influence manufacturing companies to disclose their environmental information.

On the basis of the findings of this study, we are optimistic that we can elucidate the concept of company management. The reason is that stakeholders nowadays demand the inclusion of policies oriented toward environmental protection in a company's strategic management. The present study also demonstrates that managing and improving the environmental performance of a company will automatically link to a better financial performance in the future. This environmental issue should be considered when a company is establishing its strategic management policies to make

the company more competitive in the industry. If this matter is ignored, then a company will definitely experience loss of long-term competitiveness.

CONCLUSION

This study supports previous findings related to the relationship between environmentally sustainable reporting and the financial performance of manufacturing companies in Malaysia. The research sample in this study is 120 publicly listed manufacturing companies operating in Malaysia and taken from Bursa Malaysia. Environmental disclosure is evaluated by performing content analysis developed in previous studies. The results of our analysis indicate that environmentally sustainable reporting is positively associated with the financial performance of a manufacturing company measured in terms of ROA and ROE.

This study determined that most manufacturing companies in Malaysia have realized the importance and benefits of disclosing environmental information in their annual reports. The majority of these companies exert effort to demonstrate their sincere commitment toward the environment by producing environment-friendly products, recycling, investing in environment-friendly facilities, and providing education to employees and others to protect the environment and prepare a better life for future generations. Companies should realize that generating profit is not the only purpose of establishing a business. Caring for and being responsible for the environment have become significant aspects of running a business to build and increase a company's good image, increase profitability, and bring the benefit to the entire stakeholders of the company.

The management of a company should consider the opinions and needs of stakeholders to make them feel confident and secure with the company. Without the stakeholders' credibility and trust in a company, the company will have difficulty operating and standing firmly in the markets. Environmental disclosure is also important to investors to guide them to become selective in making their investment decisions and not to merely focus on the company's financial performance. Investing in profitable and socially responsible companies is better than investing in companies with high profitability but have been neglecting the environment. In conclusion,

the results of this study may influence companies to improve their financial performance by properly managing their environmental sustainability.

Limitation and Recommendations of the Study

The small sample size is the main limitation of this study. Thus, a low rate of publishing sustainability reports was detected in conducting this study. The primary reason for this low rate is that most of the companies involved still use corporate social responsibility as a medium to report their environmental information. In the future, the number of companies publishing sustainability reports will eventually increase because of the high demand from stakeholders and of the environmental concern among the public.

Therefore, future studies should use a large sample size to obtain better results that will be more relevant and useful in the future. Moreover, future studies should consider expanding the number of industries to be analyzed and not only focus on the manufacturing industry but also on other industries that are relevant to this study. Future researchers should also consider a longer time frame to evaluate the relationship between a company's environmental disclosures and performance, as sustainable performance may influence a company's long-term financial performance.

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