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RESEARCH ARTICLE

The Effect of Environmental Disclosure Practices on Firm Performance of Malaysian Listed Firms

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ABSTRACT

The lack of mandatory environmental disclosure guidelines for Malaysian public-listed firms leads to selective reporting, potentially resulting in stakeholder mistrust and uncertainty about the authenticity of the firms' environmental practices. The aim of this study is to assess the effect of environmental disclosure on financial performance. Sample of 428 public listed firms in Bursa Malaysia in year 2016 were used in this study. All data were collected from annual report and Osiris databased. The statistical evidences to conclude environmental disclosure has insignificant relationship with financial performance in term of economic value added (EVA), market value added (MVA), return on equity (ROE) and return on assets (ROA). If environmental disclosure does not influence financial performance, it suggests that stakeholders especially investors may not assign it significant value. Companies may prioritize market conditions over sustainability and other considerations. Enhanced communication or policies may be required to underscore its significance. Subsequent research should encompass firms across all sectors, extend over longer durations, and employ diverse financial performance indicators to enhance precision and understanding. Researchers may also compare results across nations and industries to enhance comprehension of the impact of environmental disclosure on financial success.

INTRODUCTION

In these years, environmental problems such as climate change and global warming had gaining attention of people around the world as it will affect the future of mankind. In the circumstances of developing countries such as Malaysia, it also faces some environmental problems like soil erosion due to excessive felling of forest and water pollution that result from discarding hazardous waste by irresponsible industries. Hence, it triggers the public concerns about the problems and then raises the awareness of exercising environmental activities and its disclosures among business communities in Malaysia. For instances, according to Tan Sri Mustafa Mansur, he stated that although it was only 14 firms engaged in "Prime Minister's Hibiscus Award (PMHA)" in year 1996, but the number of firms participated was increased huge to 60 in year 2017 (Coveted PM hibiscus award, 2017). This award is granted as an appreciation and affirmation on the efforts that firms devote in practicing environmental activities and disclosures. Apparently, it showed that firms in Malaysia are getting improvement of realization and awareness on exercising environmental activities and its disclosures.

In the light of legitimacy theory, Lindblom (1994) states that environmental disclosures is a means that used by firms to alter the belief and perception of public towards itself. In other words, public will change their view about the firm and firms itself can also gain recognition and confidence from public through exercising environmental disclosures. So perhaps this is the reason that firms in Malaysia put efforts in exercising environmental disclosures and activities recent years. It can be believed that disclosures about the environment information in firm's annual report will tell the public that it cares about the current environment issues and will strive to do more activities that beneficial to the environment. Hence, people will recognize it as a good corporate entity in society and build confidence towards it. When people are confident, they will more likely to buy its product and services from environmental care firms, thereby boost the firm's profits. Besides, investors worldwide will also more likely to invest in the firms due to the good reputation, thereby provided sufficient resources for the firms to expand and grow in the competitive market nowadays. It will also help to boost the firm's stock price and thus create value to its shareholders. As a result, firms will have a better firm performance in terms of market value added and return on equity.

A guideline on environment disclosure has been stated in CSR reporting. It was released by Bursa Malaysia to public listed firms in 2006, but it is only stated instructions and it does not stipulate what content of CSR practices should public listed firms included in yearly reports. So, it means management of firms can decide which information to be revealed in yearly reports. Perhaps they may favour to include positive information which could attract investors and build reputation, but avoid negative information which could harm the image of the firms. They may also decide not to reveal environmental information as there is no mandatory requirement for them to reveal information that connected with their environmental practices. It may result a problem to stakeholders as they may not understand and trust on the environmental information which disclosed by firms. It implies stakeholders may unable to discern whether firm use disclosure as a means to please stakeholders or it truly practices environmental activities. Because of this possibilities, Malaysia Accounting Standards Board (MASB) require public listed firms to prepare an environmental report in order to stimulate them practice in environmental reporting and promote a greater transparency in information disclosures.

A very good example is Sime Darby Sdn. Bhd., which is a public listed conglomerate in Malaysia, become a role model for others to simulate as it performs great environmental disclosures and activities. Sime Darby has been given "Best Overall Sustainability Reporting Award" in year 2017 as it performs great in disclosing environmental information in its yearly report (Lim, 2018). Sime Darby is said to deserve to have this recognition because it actively engages in environmental activities and understand well the importance of environmental disclosures on financial performance. From the standpoint of Sime Darby, this award helps it to build a good prestige and image. As a result, it will attract investors around the world to make investment in the firms and thus firms will have adequate capital to fulfil its business objectives. Moreover, as it makes a full and distinct environmental disclosures in its yearly report, public will know exactly how the firm conduct its business and gain other information related to environment. When public recognizes the firms with greater transparency through environmental disclosures, they will feel more confident and will trust on the firms. Consequently, it can raise the sales and profits of the firms.

There are plenty of studies which employed profit-based measurement such as return on equity (ROE) and return on assets (ROA) as measurement of financial performance in order to study the relationship between environmental disclosures and financial performance among the firms in well-developed countries such as U.S. and U.K (e.g. Dragomir, 2010) as well as developing countries such as Malaysia (e.g. Ong et al. 2015). Yet, researchers seldom use value-based measurement such as market value added (MVA) and also economic value added (EVA) as measurement of financial performance. Specifically, as EVA take consideration of risk of firms, it can provide investors a more comprehensive understanding on real economic profit that created by firms. So, because of researchers seldom employ EVA and MVA, shareholders will not know whether firms have created value to it apart from profit maximization. To put it in another way, shareholders will not know

whether firms have created value to it after spending money in environmental activities and disclosures, provided that financial performance measured by ROA or ROE only. So, it is not only hard to know the importance of environmental disclosures on financial performance, but also difficult to notice the relationship between environmental disclosures and financial performance on the circumstances of public listed firm in Malaysia. Therefore, it is vital to carry out this study to help Malaysian citizens and enterprises gain understanding about the impact of environmental disclosure on financial performance. Then, it also helps to inspire enterprises to actively practice in disclosing environmental information and activities, thereby create a better environment for future generations and promote economy growth in Malaysia.

2.0 LITERATURE REVIEW

2.1 Environmental Reporting in Malaysia

In the world today, globalization has caused a lot of environmental problems such as acid rain, climate change, air and water pollution as well as global warming. It triggers the concerns of public as these problems had threaten the life of animals, plants and human being. Also, natural disasters such as tsunami, earthquake and flash floods which happened frequently are like an alarm, awake the awareness and consciousness of public towards its natural environment.

In Malaysia context, the same things happened. It is because development in Malaysia is progressing at a fast rate, resulted some environmental problems such as soil erosion, water and air pollution. Since these get the attention of public, public tend to demand firms to disclose information related to environment. It is because they would like to know the consequences of business conducts and actions taken by enterprises to solve environmental issues. Thus, although there is no mandatory regulations to force enterprises to practice environmental disclosures, but firms are getting more willing to disclose environmental information voluntarily in order to satisfy demand of its stakeholders. It is evidenced by ACCA which stated that, in a total of 128 firms in ASEAN nations, there was more than one-third Malaysian firms delivered environmental information in sustainability reports.

Moreover, with gaining attention on environmental disclosures, it is important to understand what is it all about and the benefits it brings to firms. In the view of Association of Chartered Certified Accountants (ACCA), environmental disclosures is a statement that explains about activities carried out by firms on preserving environment and consequences of business conducts to natural environment in which they operate. Typically, there are 3 alternatives for firms to communicate environmental information to its stakeholders (Ong et al. 2015). First, by means of award such as ACCA Malaysia Sustainability Reporting Awards (ACCA MaSRA), Prime Minister's Hibiscus Award and National Annual Corporate Report Awards (NACRA) that provided by Malaysian authorities. It can helps firms to indirectly signal public about the excellent performance of environmental it achieved. Then, second way is through International Organizations for Standardizations (ISO) certifications and eco-labels which provided by SIRIM Berhad and Department of Standards Malaysia. These certification act as a recognition on firm's product quality, management and processes. The last way is firms can provide additional environmental reports or reveal environmental information in annual reports to its stakeholders. All these channels can help firms to inform stakeholders about its outstanding performance in environmental, build reputation and thereby attract investors.

Furthermore, although the practice of environmental disclosure among Malaysia firms is progressing at a slow rate if compared with developed country such as US and UK, but government of Malaysia had put a lot of efforts to stimulate firms engage in environmental activities and disclosures. For instances, government of Malaysia has launched MyHIJAU SME and Entrepreneur Development Programme to reform the business processes of Small and Medium-sized Enterprises (SMEs) and train them with skills to create products and services with green technology (Green Tech Malaysia,

2018). After participating in this programme, SME can receive acknowledgement under MyHIJAU Mark, listed in MyHIJAU Directory, able to use energy efficiently, thereby reduce cost and become environment friendly. Not only that, Malaysian government also provide tax incentives to motivate firms to equip with renewable technology. For example, firms can enjoy exemption in income taxes if it has been recognized as green technology firms by government. Thus, it can be said that if firms recognized the benefits and importance of practicing environmental activities and disclosures, firms can obtain recognition, gain competitive advantage by reducing cost and thereby lower risk, improve financial performance and attract investors.

2.2 THEORIES

2.2.1 Legitimacy Theory

Legitimacy theory is a theory that closely linked with information disclosures. It gains insights on why firms would like to exercise information disclosures such as environmental disclosures and how they apply it as a plan to maintain their position in the market.

In the light of Deegan (2014), legitimacy is a status when firms' activities are in line with the perceptions and expectations of society. In other words, firms want their business conducts to be considered as acceptable by society. He also stated that it is connected with concept of contract of social where legitimacy theory also works under this concept. A contract of social is a contract among society and firms. This contract is a combination of societal expectations and legal requirement that vital on the survival of firms. Specifically, it is the norms and bounds of society that make the firms has the right to exist, use and own resources (Deegan, 2002). So, if firms operate outside the range of bounds and norms that set by society, it means the social contract has been destroyed, then it may threaten the legitimacy of firms and put survival of firms in danger. To put it another way, if firms cannot fulfil the expectations of society, it may drive out customers, penalties imposed by government or difficult to source inputs from suppliers. Also, it is important to note that the norms, beliefs and expectations of society are dynamics, which can be varied over time, so firms must able to recognize this variation and react to it.

Moreover, now the question is how firms ensure that their business conducts are in line with the expectations of society and not break the social contract. According to Deegan (2014), the answer is by way of information disclosures such as environmental disclosures. For instances, firms can reveal information related to environmental in yearly reports. So that public can know how the firms strive to preserve the environment and then view its business conducts as legitimize. Then, it helps firms to build reputation and gain competitive advantage, thereby retain, attract investors and customers. With the increase of customers and investors, it can boost the firms' profits and strengthen firms' position in the market. In addition, Lindblom (1994) has also mentioned a number of ways to retain or shape legitimacy. For example, firms can communicate to its stakeholders about their participation in environmental activities and discuss about how their business conducts affect the environment through environmental disclosures. Similarly, if media has reported some news that is unfavourable, firms may stress on the environmental awards it has won to cancel out the unfavourable news through environmental disclosures. All in all, Deegan (2002) stated firms can resort yearly reports to reveal information such as environmental information in order to make sure its business conducts are consistent with the expectation of society and shape or retain legitimacy.

2.2.2 Stakeholder Theory

Stakeholder theory is the second theory which discussed about why firms engage in environmental disclosures. Apparently, from the name of this theory, stakeholder is the central part of discussion. First, as stated by Freeman and Reed (1983), stakeholders are referring to an individual or a group of individuals that has notable impact on survival of firms and at the same time they can be influenced by the firms' business conducts as well. The examples of stakeholders are employees, key suppliers,

key financial institutions, customers and government.

There are two branches of stakeholder theory which is managerial and ethical branches. But the focus point is on managerial branch as most of the former studies had employed it on discussing the issues of environmental disclosures. Under managerial branch of stakeholder theory, it stated that firms only care about primary stakeholders who has significant effect on continuity survival of firms rather than secondary stakeholders. Primary stakeholders, are powerful stakeholders who has high level of manipulation over resources required by firms such as labour and capital, and firms cannot survive without these stakeholders (Deegan, 2014). On the other hand, firms still can operate if without secondary stakeholders. It is proven by Gray, Owen and Adams (1996) which stated that in this theory, the more powerful the stakeholders are, the more works and time will be contributed by firms so as to gain their endorsement and shift their perceptions.

Additionally, on the basis of managerial branch of stakeholder theory, Deegan and Blomquist (2006) mentioned that firms can utilize information such as environmental information as a device to administer the relationship with powerful stakeholders and satisfy their needs. To illustrate this, Islam and Deegan (2008) pointed out that if powerful stakeholders questioned on the achievement of environmental, then firms should reveal environmental information through yearly reports to get rid of their curious. In contrast, if firms do not respond to the questions of powerful stakeholders such as key customers, suppliers and investors, it will destroy the reputation of firms, drives down the demand of firm's product and services, difficult to source inputs and capital. Eventually, firms' profit will decline sharply, incapable to grow and survive in the competitive market as insufficient capital and the worst is it may cease to operate. It is important to note that the needs of stakeholders can varied over time. With the raising of awareness on environmental issues, stakeholders are getting curious about it and firms should actively take part in environmental activities and also disclosures related to environmental. Consequently, firms can continually success and survive in competitive market once they constantly meet the needs of powerful stakeholders (Ullman, 1985).

2.2.3 Agency Theory

The third theory relates to environmental disclosures is agency theory. In agency theory, two parties which is principal and agent have an agency relationship, where principals can be investors and creditors while agent is director of the firm. Specifically, the agency relationship is created when the owners of firm appointed a person (directors) to work on their behalf in making decisions of business (Jensen & Meckling, 1976). In other words, business owners are the ones that contribute resources while directors are responsible to manage and utilize the resources on their behalf so as to enhance profits and wealth of owners. However, there are inconsistent of interest between investors and directors. It is because directors may only concern about their compensation and bonus while investors concern about the business's profits. Hence, directors may not work hard to enhance wealth of investors and cause interests of investors cannot be well-managed. Eventually, it results agency problem. Then, agency problem can arise from information asymmetry. It happens when directors can obtain greater information than investors (Jensen & Meckling, 1976). All it can harm the interests of investors as any loss in business can adversely affect the value of their investments.

As mentioned before, owners of firms' dislike agency problem and managers should try to minimize it. Barako et al. (2006) had mentioned information disclosures is one of the ways to alleviate agency problem. For instances, with the raising of awareness on environmental issues, shareholders and stakeholders are questioned about the impact of business conducts on environment and what remedial actions be taken to safeguard the environment in which it operates. So, in response to it, managers should reveal information related to environment through yearly reports in order to let shareholders and stakeholders know that they are working at the best interest of them. It can drive away their anxiety and thus reduce agency problem. Also, when shareholders and stakeholders can know more about the strengths of business such as environmental awards won by business, they will feel more confident and satisfy with the performance of managers. Perhaps, shareholders will decide

to increase the compensation and provide extra bonus for managers as a reward. Not only that, it can also build reputation, enhance profits and maximizes shareholders' wealth via environmental disclosures. All in all, it creates a win-win situation by way of information disclosures such as environmental disclosures.

2.3 Environmental Disclosure and Financial Performance

With the upsurging awareness of environmental issues, firms became more concerns on the effect of environmental disclosure as it can bring benefits that vital on long-term success of business. This put the studies of relationship between environmental disclosure and financial performance in spotlight. Hence, there were plenty of studies about this matter and brought different viewpoints from researchers internationally. Some researchers suggested environmental disclosure affect financial performance negatively while some found no associations between them. Yet, most of the academic researchers indicated environmental disclosure affect financial performance in a positive manner, even though they employed distinct financial indicators such as Return on Sales (ROS), Earning per Share (EPS), Return on Assets (ROA), Profit Margin and Return on Equity (ROE).

Academic researchers such as Qiu, Shaukat and Tharyan (2016), Nor, Bahari, Adnan, Kamal and Ali (2016), Ong, Teh and Ang (2014), Ong, Soh, Teh and Ng (2015) and Ong, Tho, Goh, Thai and Teh (2016), Nugroho and Arjowo (2014), Uwuigbe (2012), Chen, Tang and Feldmann (2014), Longoni and Cagliano (2018) had revealed a positive relationship between environmental disclosure and financial performance. On the other side, some researchers such as Deswanto and Siregar (2018), Rahman, Yusoff and Wan Mohamed (2009) found environmental disclosure had no effect on financial performance, while Li, Zhao, Sun and Yin (2016) discovered a negative association between environmental disclosure and financial performance.

In Malaysia, according to the research of Nor et al. (2016), they found a relation between financial performance which estimated by profit margin and total environmental disclosure. They indicated although there is no mandatory requirement for disclosing environmental information in Malaysia, but Malaysian firms are getting active involved in environmental disclosure and thus its activities in order to express their concerns on environmental issues and convey their achievements to stakeholders. As a result, stakeholders such as investors and customers obtained a large amount of environment-related information and it not only helped to mitigate their doubt on firm, but also boost their confidence level towards firm, and thereby they remain faithful to firm. Hence, it increased firm's sales and profits. However, Nor et al. (2016) found ROE, ROA and EPS were not related with total environmental disclosure which was not in line with results from other researchers.

Similarly, Ong et al. (2016) also found ROA and ROE not related with environmental disclosure. But they suggested environmental disclosure had positive effect on EPS and thus price of stock. They stated that with a greater disclosure of environmental issues in yearly reports, it could decrease risk of litigation such as fine for contamination that caused by business conducts as well as risk of uncertainty that arose from information asymmetry (Iatidris, 2013). Then, they further explained when firm published more environment-related information, it enhanced transparency through reduced information asymmetry between stakeholders and management of firm. With lesser information asymmetry, trust was established from stakeholders to firm. So, by means of disclosures, not only customers was attracted by firm's excellent achievement in environmental, but also investors were more willing to invest in firm which "go green". All in all, environmental disclosure enable a firm to increase earnings, obtain competitive advantage and draw investors which then give rise to enhance price of stock.

On the other hand, Uwuigbe (2012), Ong et al. (2014) and Ong et al. (2015) pointed out ROA and ROE

had significantly affected by environmental disclosure in a positive manner. Although they used different samples such as Uwuigbe (2012) used sample in Nigeria but Ong et al. (2014) and Ong et al. (2015) used sample in Malaysia, but results were same in this three research. In these research, the researchers argued that even though take part in environmental activities such as purchase green technology and equipment might be costly, but it did strengthened firm's ROA and ROE. It is due to the fact that when firm took part in environmental activities such as adopted 3R's (Recycle, Reuse, Reduce) concepts into their operations, it could reduce substantial expenses and enhance profits. To illustrate this, they stated firm could employ renewable energy, reuse materials and produce products that is environment-caring which in turn cut back the costs of energy consumption, materials and strengthened earnings of business. Then, Ong et al. (2015) added that, by means of disclosure, firm could tell shareholders how efficient it used capital contributed by shareholders and transformed it into earnings which can be estimated by ROE and ROA. In other words, firm could convey to shareholders that profitability was enhanced from practicing environmental activities. As a result, it could retain and attract investors which continually provide support to firm and benefit on long-term success of business.

Moreover, in a study conducted by Nugroho and Arjowo (2014) in Indonesia, they revealed sustainability report disclosure had a positive impact on financial performance particularly in terms on profitability ratio such as ROA, rather than dividend payout ratio, leverage ratio such as debt equity ratio, liquidity ratio such as current ratio and activity ratio such as inventory turnover. It proof ratio of profitability is a good measurement of financial performance. They emphasized since expectation of stakeholders changed nowadays, profit maximization is not the ultimate objective of business, but rather business should also play a role in aspect of environment such as preserve and care on the environment in which it operated so as to administer the rapport with stakeholders, enhance prestige and image of firm, establish trust and reliance of stakeholders by means of disclosure. To illustrate this, as mentioned in stakeholder theory, firm should always respond to the needs of powerful stakeholders such as key customer, suppliers and investors to obtain their support and capital continually which in turn helps firm to grow, acquire competitive advantage over its competitors, promote profitability and survive in market.

In India, China and Sweden, among 33 environmental management practices, Chen et al. (2014) discovered a positive correlation between environmental information and financial performance in terms of sales growth. It reflected the significance of environmental disclosure in maintaining rapport between firm and its stakeholders. It was illustrated by Chen et al. (2014) that a good and responsible image of firm was established in the eyes of customers because it demonstrated firm's involvement in environment activities such as create environment-friendly product through disclosure. In other words, by way of disclosure, firm can gain customers' support, retain or attract customers as customers spread the good things about firm through word of mouth to others which in turn boost firm's sales in the coming periods. Also, they further added that there may no immediate benefits when firm practices environmental disclosure, but instead if firm keeps practice it constantly, benefits definitely can be gained in long run. Not only financial benefit such as profit but also non-financial benefit such as competitive advantage and customers' support.

Furthermore, environmental disclosure may signifies nothing and may not bring valuable or large effect on firm's financial performance if without the presence of green supply chain management (GSCM) practices. It was evidenced by Longoni and Cagliano (2018) which found when firm executed GSCM, environmental disclosure had positive effect with greater degree on financial performance in terms of return on investment (ROI). Longoni and Cagliano (2018) stressed the significance of GSCM practices because stakeholders questioned whether there is consistency between disclosure and real practices that make by firm nowadays. To put it in another way, it meant stakeholders confused whether firm uses disclosure as a strategy for public relation only or firm truly exercises environmental activities. So when stakeholders doubt on the credibility of firm, disclosure may not promote firm's financial performance. Therefore, in order to mitigate the anxiety of stakeholders, Longoni and Cagliano (2018) suggested firm should execute green management along the supply

chain such as from acquiring materials to distributing finished goods. Then, not only cost of operations such as cost of material and disposal waste can be reduced, but also administer rapport with stakeholders and build their trust through disclosure, which in turn helped firm obtain competitive advantage and strengthened firm's ROI. It resulted a win-win situation because benefits not only consumed by firm but also stakeholders such as investors from investments in the profitable and responsible firm.

Apart from that, environmental disclosure could influence on stock price of firm. It was evidenced by Qiu et al. (2016) that environmental disclosure act as an intermediary to impact on financial performance in terms of return on sales (ROS) and stock price of firm. Qiu et al. (2016) mentioned that stock price of firm can be enhanced when investors being attracted from good financial performance that portrayed by firm through disclosure. In other words, reputation of firm and trust of stakeholders towards firm can be built through disclosure which in turn provided a firm with competitive advantage, robust sales and then attract investors to invest in the firm. Eventually, stock price of firm may rise. Besides, Qiu et al. (2016) not only found a positive relationship between environmental disclosure and ROS but also a causal relationship between them. They further explained that profitable is a driver for firm to practice environmental disclosure as disclosure incur substantial costs. Hence, when a firm is profitable, it has much resources available to allocate for practicing environmental disclosure.

However, a reverse result was found by Deswanto and Siregar (2018) in Indonesia. Based on the results, environmental disclosure has no effect on stock price of firm and ROS. They added that profitable firm may not has incentive and motivation to carry out environmental disclosure. Instead, they found driver of practicing environmental disclosure and improving firm's stock price was environmental performance. It was because achievement of environmental in current year induce firm to reveal it in the coming year through disclosure so as to build firm's reputation. Then, they argued that investors in Indonesia tend to look at the ratings and awards that gained by firm to make investment decision, thereby making environmental performance affect firm's stock price directly. Besides, in Malaysia, Thailand as well as Singapore, Rahman et al. (2009) also discovered no relationship between environmental disclosure and firm performance that estimated by ROA. This outcome was not in line with the findings of Ong et al. (2014), Ong et al. (2015), Ong et al. (2016), Nugroho and Arjowo (2014), Uwuigbe (2012).

Interestingly, Li et al. (2016) revealed a negative association between environmental disclosure and financial performance that estimated by ROA and Tobin's Q in China. This surprising result is contradicting with most of the former researches which mentioned environmental disclosure can bring financial rewards such as enhanced profitability and non-financial rewards such as loyalty and trust from stakeholders to firms. Li et al. (2016) further explained the reason behind was stakeholders in China unable to understand and trust on the environmental information which revealed by firm. It was due to the rules and regulations on environmental disclosure was too lenient in China, firms tend to leave out unfavourable information and counterfeit favourable information. So, it makes hard for stakeholders to discern whether firms use disclosure as a means to please stakeholders or it truly practices environmental activities such as reduce usage of water, recycle material and use renewable energy. Eventually, environmental information disclosure may signify meaningless to stakeholders as it failed to help them to make investment decision. Additionally, Li et al. (2016) mentioned another reason behind was stakeholders in China may be dislike firms to practice environmental activities proactively. It was because substantial costs are incurred in practicing environmental activities and its disclosure which may in turn hurt profitability of firms.

2.4 Conceptual Framework

In this section, Figure 1 presents a diagram to show the relationships among independent, control and dependent variables in this research. The main concern in this research is to examine how financial performance (dependent variables) in terms of Economic Value Added (EVA), Market Value

Added (MVA), Return on Equity (ROE) and Return on Assets (ROA) are affected by environmental disclosures (independent variable). But, as firms exhibit different characteristics, the extent of environmental disclosures of firms might be different, so firm age, firm size, sales growth and leverage have been added as control variables in order to gain extra insights on impacts of environmental disclosures.

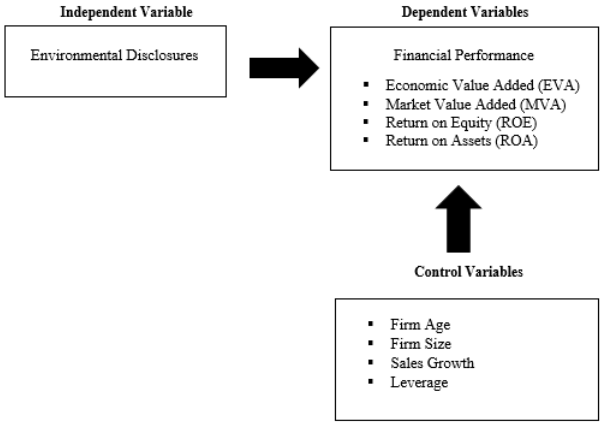

Figure 1: Relationships among environmental disclosure and financial performance, firm age, firm size, sales growth as well as leverage.

3.0 RESEARCH METHODOLOGY

3.1 Sample Description and Data Collections

In this research, the sample comprises firms from distinct industries and listed in Bursa Malaysia. As this research is carried out to ascertain the relationships between independent variable and dependent variable, quantitative analysis is more suitable to be used. So, secondary data like yearly reports of public listed firms are employed rather than using primary data which is more suitable in qualitative analysis. As mentioned by Tang (2012) and Billings, Jennings and Lev (2014), there is not much differences to study one-year period compared with more than one-year period due to the fact that the pattern of environmental disclosure stays constantly. So, in this study, only one year data is collected which is year 2016. Then, data related to environmental disclosures is gathered through analysing yearly reports of selected public listed firms. On the other hand, other financial data which required to determine EVA, MVA, ROE and ROA as well as control variables such as firm age, firm size, sales growth and leverage are obtained from Osiris Database.

In addition, public listed firms generally reveal information in their annual reports in detail, but non-listed firms tend to omit some information which may be useful. Thus, firms that listed in Bursa Malaysia are selected as sample in this research as it is easier to obtain complete and useful information from yearly reports in contrast with non-listed firms. Moreover, only non-financial listed firms in Bursa Malaysia are selected as sample in this research is because financial firms have a distinct set of environmental regulation (Qiu, Shaukat & Tharyan, 2016). Those non-financial listed firms in sample are categorized into 6 sectors which is Consumer Product, Property, Technology, Construction, Industrial and Trading Services sectors. In this study, there was 600 firms with 600 firm-year observations in data set initially. Then, after deducting firms with incomplete information from initial data set, the final sample consisting of 320 firms with 320 firm-year observations. This final sample is believed can represent a population due to the fact that Keller and Warrack (2005) had mentioned any sample over 30 will be far enough to represent a population in the field of study. A summary of sample is developed in Table 3.1.

Table 3.1 Summary of the Sample

Sector	**Consumer Products, Property, Technology, Construction, Industrial and Trading Services**
Initial sample	600
Deduct: Firms with incomplete data	(280)
Final sample with complete data	320

3.2 Regression Model

The relationship between environmental disclosures and financial performance of Malaysia public listed firms in term of economic value added (EVA), market value added (MVA), return on equity (ROE) and also return on assets (ROA) are determined by using multiple regression model. Besides, as firms exhibit different characteristics, it tends to has different degree in disclosing environmental information. Thus, firm characteristics such as firm age, firm size, sales growth and leverage are inserted in multiple regression model to grasp its effects on firms' financial performance.

Functional form:

Financial Performance = f (Environmental disclosures, firm age, firm size, sales growth and leverage)

Baseline model:

$$FP_{i,t} = \alpha_{i,t} + \beta_1 AGE_{i,t} + \beta_2 LSIZE_{i,t} + \beta_3 SG_{i,t} + \beta_4 LEV_{i,t} + \varepsilon_{i,t}$$

Where:

FP = Financial performance of firm is denoted in terms of

- Economic value added (EBA)
- Market value added (MVA)
- Return on equity (ROE)
- Return on assets (ROA)

α = Constant

β = Coefficient

AGE = Firm age

LSIZE = Natural logarithms of total assets

SG = Sales growth

LEV = Leverage

ε = Residual

i = Firms

t = Time

Full model:

$$FP_{i,t} = \alpha_{i,t} + \beta_1 ED_{i,t} + \beta_2 AGE_{i,t} + \beta_3 LSIZE_{i,t} + \beta_4 SG_{i,t} + \beta_5 LEV_{i,t} + \varepsilon_{i,t}$$

Where:

FP = Financial performance of firm is denoted in terms of

- Economic value added (EBA)
- Market value added (MVA)
- Return on equity (ROE)
- Return on assets (ROA)

α	=	Constant
β	=	Coefficient
ED	=	Environmental disclosures
AGE	=	Firm age
LSIZE	=	Natural logarithms of total assets
SG	=	Sales growth
LEV	=	Leverage
ε	=	Residual
i	=	Firms
t	=	Time

3.3 Measurement of Dependent Variables

3.3.1 Economic Value Added (EVA)

EVA is originated by Stern Stewart and Co. which is one of the financial performance measures to gauge the real economic profit of firms. In today's competitive world, EVA is not uncommon to firms as shareholders are getting more attention on wealth and value maximization apart from profit maximization. As it accounts for cost of capital, it helps shareholders to know the ability of firms on creating value from capital invested to it. If EVA is positive, it implies firms is able to produce a rate of return above the firm's cost of capital to shareholders. In contrast, if EVA turns out to be negative, it implies firms not effective in managing the capital invested by shareholders. Shil (2009) stated EVA

is measured by subtracting the cost of capital from net operating profit after taxes, where the cost of capital is calculated by multiplying capital invested with weighted average of cost of capital.

The measurement of EVA is stated as below:

EVA = Net Operating Profit after Taxes – (Capital Invested* Weighted Average of Cost of Capital)

3.3.2 Market Value Added (MVA)

MVA is closely connected with EVA as MVA is another approach to measure value maximization. It is used to measure cumulative of wealth produced by firm to its owners, while EVA is used to measure wealth produced for a given year. A high value of MVA will signals investors that a firm is able to manage resources effectively and increase value of investments which holds by investors. On the other hand, a low value of MVA implies management of firm incapable to create a value that is higher than the value of capital invested by its investors. According to Nakhaei (2016), MVA can be calculated as subtracting capital invested by total market value of a firm.

The measurement of MVA is:

MVA = Total Market Value of firm – Capital Invested

3.5.3 Return on Equity (ROE)

Unlike EVA and MVA, ROE is concerning with profit maximization which tells investors how much profit the firm can make by using the equity of shareholders. It is a ratio that valuable to compare a firm's profitability with its competitors in the same industry. A positive ratio of ROE indicates investors how efficient a firm is by turning the equity of shareholders into profits. According to Dragomir (2010), ROE is expressed as a percentage of net income to total equity, where the total equity is including only equity of common stockholders.

Measurement of ROE is:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}$$

3.5.4 Return on Assets (ROA)

ROA is also a profit-based performance measure. By looking at this ratio, ones can indicate how competency a firm is in using resources available to generate profits. The higher the ratio, the higher the competency of firm is in using capital invested to generate profits. Lu and Taylor (2018) expressed ROA as a ratio of net income to total assets, where total assets are including both debts and equity of shareholders. As it accounts for total assets as denominator, both shareholders and bondholders can gain insights into how management utilize the funds that they invested and lend to the firms.

The measurement of ROA is:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets (TA)}}$$

3.4 Measurement of Independent Variable

Environmental Disclosure

In this study, content analysis was adopted because it was widely applied by researchers such as Chen (2014), Tang (2012), Billings et al. (2014) and Uwuigbe (2012) as a way to determine the amount of environmental disclosure. This analysis was carried out by first identifying the items of environmental information that needed to be analysed. Then, counting the words that related to items of environmental information in yearly reports of firms. According to Welbeck, Owusu, Bekoe and Kusi (2017), words such as "Water", "Energy", "Biodiversity", "Electricity", "Waste", "Effluent", "Emission", "Spill", "Reuse", "Recycle", "Environment Management System" and "Environmental Impacts" were selected to represent items of environmental information in this study. Each of the word was typed in yearly report that opened with Adobe Acrobat Reader DC to determine the number of words disclosed. The words were counted by Adobe Acrobat Reader DC instead of counted manually to avoid human error and a score was allocated to each of the firms based on the total number of words disclosed in firm's yearly reports. For example, if summation of words of Firm A is 13, a score of 13 will be given to it.

3.5 Measurement of Control Variables

3.5.1 Firm Age

Firm age is expected to affect profitability of firms. Aged firms were accumulated with knowledge and experiences which enable them to solve problem at a lower cost and in a shorter time. Consequently, profitability could be enhanced when firms grew older. On the other side, as firms grew older, organizational rigidity make them became inflexible and unable to compete with younger firms, thus reduced its earnings power. In accordance with Ilaboya and Ohiokha (2016), firm age is determined as subtraction of year since firm's incorporation date by current year.

The measurement of firm age is:

Firm Age = Current year - year since firm's incorporation date

3.5.2 Firm Size

There are a number of ways to determine size of a firm such as total assets, amount of employees and total sales (Giannarakis, 2016). In this study, size of a firm is measured by natural logarithm of total assets (Welbeck et al., 2017). Size of firm is posited to impact financial performance in a positive way. It is because big firms have more resources and could employ skilled labours, integrated business processes and technology which enhanced its profitability.

The measurement of firm size is stated as:

Firm Size = Natural logarithm of total assets (TA)

3.5.3 Sales Growth

Sales growth is expected to have positive impact on financial performance in this study. The greater the sales made by firm, the greater the firm's earnings. Lu and Taylor (2018) stated sales growth is measured by subtracting sales of prior year from sales of current year and then divided by sales of prior year.

Measurement of sales growth is:

$$\text{Sales Growth} = \frac{(\text{Sales of current year} - \text{Sales of prior year})}{\text{Sales of prior year}}$$

3.5.4 Leverage

Leverage is expected to affect financial performance adversely. It is because high leverage firm has lots of debts and associated with great amount of interest payment. The great amount of interest payment is burdensome and reduce earnings of firms. Deswanto and Siregar (2018) stated leverage is a ratio of total liabilities to total assets.

Measurement of leverage:

$$\text{Leverage} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

4.0 FINDINGS AND DISCUSSIONS

4.1 Descriptive Statistics

In this part, the description of data is summarized in tabular form as follows. A basic information from data collected for all the variables studied such as minimum and maximum values, number of observations, mean and standard deviation were presented in Table 1.

Table 4.1 Descriptive statistics

Variable	Observations	Mean	Minimum	Maximum	Standard Deviation
EVA (RM' million)	428	-17.8996	-3,020	1,680	305
MVA	428	-0.1532	-33.2700	8.3900	1.9240
ROE	428	0.0591	-8.0300	6.0300	0.5892
ROA	428	0.0162	-1.4700	0.6000	0.1469
ED	428	25.0584	1.0000	543.0000	52.7041
AGE	428	30.3832	1.0000	131.0000	19.1219
TA (RM' million)	428	2,580	5.2501	133,000	9,910
SG	428	0.0736	-0.9100	2.7400	0.4275
LEV	428	0.3877	-0.2500	2.3100	0.2340

There is a total of 428 firms that listed in Bursa Malaysia as sample for this study. All the data were collected from the yearly reports of selected listed firms in year 2016. Despite only one-year period was studied, but Tang (2012); Billings, Jennings and Lev (2014) mentioned there is not much differences to study one-year period compared with more than one-year period because the pattern of environmental disclosure stays constantly.

In this study, financial performance was measured by economic value added (EVA), market

value added (MVA), return on equity (ROE) and return on assets (ROA). Firstly, EVA is measured by subtracting the cost of capital from net operating profit after taxes, where the cost of capital is calculated by multiplying capital invested with weighted average of cost of capital. And capital invested is obtained from the summation of total equity and long-term debt. Negative value of EVA means the firms are not effective in managing the capital invested by shareholders and vice versa. Table 1 showed the information related with EVA before dividing by total assets. It has a mean of –RM 17.8996 million which implies firms are not effective in managing the capital invested by shareholders in average. Then, it has a minimum value of –RM 3,020 million, maximum value of RM 1,680 million and a standard deviation of RM 305 million with a large discrepancy relative to mean. Secondly, MVA is a ratio of change in market value added of year 2016 to total equity of year 2016. High value of MVA means the firms are capable to manage resources effectively and vice versa. It has an average value of -0.1532 times (range from -33.2700 times to 8.3900 times) and a standard deviation of 1.9240 times.

Thirdly, ROE is measured as dividing net income by total equity. High ratio of ROE indicates the firms can generate superior profits by using equity. From Table 1, ROE has a mean of 0.0591 or 5.91% which signifies firms are generating average 5.91% returns to shareholders. Then ROE is ranging from -8.0300 to 6.0300 or -803% to 603% and its standard deviation is 0.5892 or 58.92%. Fourthly, ROA is calculated as dividing net income by total assets. High ratio of ROA indicates the firms can generate superior profits by managing total assets efficiently. The average value for ROA is 0.0162 or 1.62% which shows that firms are generating average 1.62% returns to shareholders with efficient management in total assets. It has a minimum ratio of -1.4700 or -147% and a maximum ratio of 0.6000 or 60%, whilst its standard deviation is 0.1469 or 14.69%.

Moreover, environmental disclosure (ED) is measured by using content analysis of word counts. As per Welbeck et al. (2017), words such as “Water”, “Energy”, “Biodiversity”, “Electricity”, “Waste”, “Effluent”, “Emission”, “Spill”, “Reuse”, “Recycle”, “Environment Management System” and “Environmental Impacts” were selected as items of environmental information in this study. The number of words that emerged in yearly reports are counted. The average of ED is 25.0584 words implies firms are disclosing average 25.0584 words in yearly reports for the year 2016. It is ranging from 1.0000 word to 543.0000 words and has a standard deviation of 52.7041 words.

Besides, firm age (AGE) is determined as subtraction of year since firm’s incorporation by year 2016. It has a mean of 30.3832 years means the sample firms have incorporated for 30.3832 years in average. It is ranging from 1.0000 year to 131.0000 years with a standard deviation of 19.1219 years. On the other hand, total assets (TA) is representing the size of firm before logarithms. It has a mean of RM 2,580 million which range from RM 5.2501 million to RM 133,000 million. Its standard deviation is RM 9,910 million.

Then, sales growth (SG) is measured by subtracting sales of year 2015 from sales of year 2016 and then divided by sales of year 2015. It has an average value of 0.0736 or 7.36% which reveals firms have an increment of average 7.36% of sales in year 2016. The lowest value of SG is -0.9100 or -91% and its highest value is 2.7400 or 274% with a standard deviation of 0.4275 or 42.75%. Last but not least, leverage (LEV) is a ratio of total liabilities to total assets. It shows how much debt the firms are borrowing from the creditors, relative to the total assets. Table 1 shows LEV has a mean of 0.3877 times which signifies firms have average only 0.3877 times liabilities relative to its total assets. It has a lowest value of -0.2500 times and a highest value of 2.3100 times with a standard deviation of 0.2340 times.

4.2 Model Selection

4.2.1 The Breusch & Pagan LM Test

This test helps to determine which model is suitable to use in running panel regression analysis. The

hypothesis is constructed as:

Ho: Pooled OLS model

Ha: Random effect model

This research does not accept the null hypothesis when p-value is less than significance level. If null hypothesis is being rejected, random effect model is selected to run panel regression in this study.

Breusch-Godfrey Serial Correlation LM Test:

Table 2: Breusch & Pagan LM Test in EVA, MVA, ROE and ROA

Model	Chi-Squared Statistics	Probability
EVA	3.0930	0.2130
MVA	0.2253	0.8935
ROE	1.2696	0.5300
ROA	5.7524	0.0563

Table 2 shows the results from Breusch & Pagan LM test. It reveals p-value of EVA model is 0.2130, 0.8935 for MVA model, 0.5300 for ROE model and 0.0563 for ROA model which were all greater than 0.05 (5% significance level). Thus, null hypothesis cannot be rejected and pooled OLS model is more suitable than random effect model. In other words, pooled OLS model is selected to run panel data regression analysis.

4.3 Summary of Panel Data Analysis

Table 3: Panel Data Results of EVA (Model 1), MVA (Model 2), ROE (Model 3) and ROA (Model 4)

Variables	Model 1 EVA	Model 2 MVA	Model 3 ROE	Model 4 ROA
Constant	-0.6936*** (0.0000)	0.6529 (0.6079)	-0.7253* (0.0616)	-0.5620*** (0.0000)
ED	-0.0002 (0.3922)	-0.0011 (0.5996)	0.0000 (0.9466)	-0.0002 (0.2068)
AGE	0.0002 (0.7840)	0.0047 (0.3446)	0.0009 (0.5493)	0.0005 (0.1455)
LSIZE	0.0846*** (0.0000)	-0.1158 (0.4509)	0.0842* (0.0721)	0.0775*** (0.0000)
SG	0.0463* (0.0675)	0.1553 (0.4801)	0.0787 (0.2396)	0.0491*** (0.0005)
LEV	-0.1974*** (0.0000)	0.1756 (0.6678)	0.0526 (0.6725)	-0.2755*** (0.0000)
R^2	0.0922	0.0058	0.0187	0.2969

Adjusted R^2	0.0814	-0.0060	0.0070	0.2885
F-statistic	8.5701	0.4919	1.6052	35.6325
Probability(F-statistic)	0.0000	0.7823	0.1574	0.0000

*** indicated significant at 0.01 level, **0.05 level, and *0.10 level

The regression models are constructed as follows:

(Model 1) EVA = – 0.6936 – 0.0002 ED + 0.0002 AGE + 0.0846 LSIZE + 0.0463 SG – 0.1974 LEV

(Model 2) MVA = 0.6529 – 0.0011 ED + 0.0047 AGE – 0.1158 LSIZE + 0.1553 SG + 0.1756 LEV

(Model 3) ROE = – 0.7253 + 0.0000 ED + 0.0009 AGE + 0.0842 LSIZE + 0.0787 SG + 0.0526 LEV

(Model 4) ROA = – 0.5620 – 0.0002 ED + 0.0005 AGE + 0.0775 LSIZE + 0.0491 SG – 0.2755 LEV

In this study, the main concern is to ascertain how environmental disclosure and control variables (firm age, firm size, sales growth and leverage) affect financial performance which measured by economic value added (EVA), market value added (MVA), return on equity (ROE) and return on assets (ROA). Therefore, the panel data analysis is tested by replacing the different measurement of financial performance and the results are as shown in Table 3. By looking at the results, 4 regression models are constructed as above. Then, Table 3 also shows R-squared and adjusted R-squared of EVA (Model 1), MVA (Model 2), ROE (Model 3) and ROA (Model 4). R-squared explains the prediction power of all variables on dependent variable whereas adjusted R-squared explains the prediction power of variable that really has effect on dependent variable. In Table 3, R-squared for EVA, MVA, ROE and ROA are 9.22%, 0.58%, 1.87% and 29.69% respectively. It means environmental disclosure together with firm age, firm size, sales growth and leverage can explain 9.22% of variation in EVA, 0.58% of variation in MVA, 1.87% of variation in ROE and 29.69% of variation in ROA. On the other side, adjusted R-square for EVA, MVA, ROE and ROA are 8.14%, -0.60%, 0.70% and 28.85% respectively. It indicates that 8.14% of variation in EVA, -0.60% of variation in MVA, 0.70 of variation in ROE and 28.85% of variation in ROA can explained by the equation. Moreover, Table 3 shows the value of F-statistic and its probability. It explains the significance joint effect of all the variables in the model. So, according to the results in Table 3, the regression model of EVA and ROA are significant at 1% significance level because the probability of F-statistic are smaller than 0.01. It can be concluded that all the variables in EVA and ROA models are good joint predictors.

4.3.1 Environmental Disclosure and Financial Performance

Environmental disclosure (ED) has a positive relationship with financial performance in term of EVA, MVA, ROE and ROA. From the results stated in Table 3, ED has a coefficient of -0.0002 in Model 1, -0.0011 in Model 2, 0.0000 in Model 3, -0.0002 in Model 4. Since all of its p-value are greater than 0.10 (10% significance level), it is insignificant in all the models. Thus, it can be concluded that ED has negative insignificant relationship with EVA, MVA and ROA, whilst it has a positive insignificant relationship with ROE. The insignificance relationship implies environmental disclosure has no influence on financial performance. Thereupon, the first hypothesis is rejected. However, this result is consistent with previous studies (Wu & Shen, 2010; Ong et al., 2014; Ong et al., 2016; Ganda, 2018; Yusuf et al., 2018). Wu and Shen (2010) found environmental disclosure had negative insignificant relationship with ROA of chemical firms in China. They further explained the reason behind is the awareness on environmental disclosure among people in China is at a low level. It is due to the fact that poor environmental performers tend to counterfeit favourable information whilst leave out unfavourable information in their yearly reports. In other words, poor environmental performers

may disclose more than they actually do. Therefore, that environmental information that disclosed by firms may signifies meaningless to stakeholders as they unable to trust on it and unable to discern which activities are real practice by firms. Eventually, firms cannot enjoy economic benefit from making environmental disclosure.

In addition, in Malaysia circumstances, Ong et al. (2016) found environmental disclosure had no significant relation with ROA and ROE as Malaysia's regulatory system which relate to environmental reporting was too lenient. It is because environmental disclosure is practicing by firms voluntarily rather than mandatory. So, there is a tendency for firms not to engage in and pay less attention to environmental disclosure. As a result, environmental disclosure failed to bring economic benefit to firms. It is similar with Ong et al. (2014) who found disclosure related with biodiversity had negative insignificant effect on ROA. They argued it was due to the reporting of corporate social responsibility has just started in year 2006 and so the environmental disclosure is still at a stage of developing. They further added that perhaps the activities related with biodiversity are less popular among Malaysian. Thus, it has insignificant effect on ROA as Malaysian did not aware and less concerns on this kind of information.

Moreover, Ganda (2018) and Yusuf et al. (2018) indicated environmental disclosure had insignificant relation with EVA and MVA. They claimed stakeholders such as corporate traders and customers tend to have different point of view and perceptions on environmental activities that done by firms. Corporate traders may not concern and aware on the efforts of firms on green initiatives. Thus, firms that took part in environmental activities and reporting could not realise benefit in term of MVA and EVA which in turn led to insignificant results.

4.3.2 Firm Age and Financial Performance

Firm age (AGE) has a relationship with financial performance in term of EVA, MVA, ROE and ROA. From the results, firm age has positive coefficients in all the models but insignificant in all the models because all of its p-value are greater than 0.10 (10% significance level). It reveals firm age has no significant positive relationship with EVA, MVA, ROE and ROA. Therefore, the second hypothesis is rejected. This result is consistent with previous findings that indicated no significant relationship between firm age and financial performance (Adentunji & Owolabi, 2016; Hatem, 2014; Almoneef & Samontaray, 2019). As pointed out by Almoneef & Samontaray (2019), firm age had no significant effect on financial performance of Saudi Arabia firms because corporate governance practices that measured by size of board is more relevant in influencing firm's profitability. They explained when increase size of board, it can bring and gather directors with diverse skills and knowledge which help in designing corporate strategy and making sound corporate decisions. As a result, it improved firm's financial performance regardless the firm is young or old. On the other hand, the result is opposite from the study done by Ilaboya & Ohiokha (2016) which concluded firm age had strong positive effect on Nigeria firm's profitability. They claimed when firms grew older, it were accumulated with knowledge and experiences that enable it to solve problem at a lower cost and in a shorter time as compared with younger firms. Eventually, older firms were more profitable and productive than younger firms which lack of experiences.

4.3.3 Firm Size and Financial Performance

Firm size (LSIZE) has a positive relationship with financial performance in term of EVA, MVA, ROE and ROA. From Table 3, it shows firm size has positive significant association with EVA (Model 1), ROE (Model 3) and ROA (Model 4). The coefficients of firm size are 0.0846, 0.0842 and 0.0775 in model of EVA, ROE and ROA respectively. It means when firm size increase one unit, EVA will increase by 0.0846-unit, ROE will increase by 0.0842 unit, ROA will increase by 0.0775 unit, holding other variables constant. In Model 1 and 4, firm size has strong positive significant association with both EVA and ROA at 1% significance level with p-value of 0.0000 which smaller than 0.01 level of significance. Then, in Model 3, it is positive significant related with ROE at 10% significance level

because its p-value (0.0721) is smaller than 0.10 level of significance. Hence, the third hypothesis is supported. This finding is consistent with previous studies done by researchers (Isik et al., 2017; Moradi et al., 2012; John & Adebayo, 2013). They stated firm size is positively related with ROA and EVA. It is because big firms were had a low credit risk as perceived by investors. So, it could obtain financing at a low cost and in turn enhanced profits. Also, they argued as big firms have more resources such as integrated business processes, skilled labours and advanced technology, they could produce large amount of output with a low production cost that in turn enhanced profits. All in all, as compared with small firms that had limited resources, big firms could gain economies of scale, reduce expenses and strengthen profitability. On the other hand, firm size has negative insignificant relationship with MVA as its p-value is greater than 0.10 level of significance. It is in line with study done by Carini et al. (2017) who used total sales to represent firm size and found no significant relationship between firm size and MVA. They explained when economic situation is unfavourable, big firms that has superior sales performance would not result a better evaluation by market and investors.

4.3.4 Sales Growth and Financial Performance

Sales growth (SG) has a positive relationship with financial performance in term of EVA, MVA, ROE and ROA. Results in Table 3 shows sales growth has positive coefficients in all the models but it is only significant in Model 1 and 4. In Model 1, it has a coefficient of 0.0463 and statistically significant at 10% significance level since its p-value of 0.0675 is smaller than 0.10 level of significance. It implies when sales growth increases 1 unit, EVA increase by 0.0463 unit, holding other variables constant. Then, in Model 4, sales growth has a coefficient of 0.0491 and highly statistically significant at 1% significance level as its p-value of 0.0005 is smaller than 0.01 level of significance. It indicates when sales growth increases 1 unit, ROA increase by 0.0491 unit on condition other variables constant. So, forth hypothesis is supported. This finding is in line with the previous studies done by researchers who concluded sales growth is positively associated with financial performance (Serrasqueiro, 2009; Odalo et al., 2016; Coban, 2014). They emphasized earning of firms increases as sales increases. Then, firms could use the earnings to support its growth opportunities such as invest in research and development (R&D) and purchase new technology. With investment in R&D and new technology, it could help firms to differentiate their products, refine business processes and produce high quality products. As a result, it enhanced profitability since costs have been reduced and customers were attracted by the high quality and uniqueness of products. On the other hand, sales growth is positive insignificant in both MVA and ROE models as p-value are greater than 0.10 level of significance. This result is contradicted with findings of Odalo et al. (2016) who found sales growth had positive relation with ROE and ROA. They mentioned when firms focus on sales performance by investing in R&D and advertising and marketing, it could build reputation and attract customers. As a results, it could boost the sales level and enhance profitability of firms.

4.3.5 Leverage and Financial Performance

Leverage (LEV) has a negative relationship with financial performance in term of EVA, MVA, ROE and ROA. The results of leverage is mixed. It is highly statistically significant in Model 1 and 4 as p-value of 0.0000 is smaller than 0.01 level of significance in both models. So, it can be concluded that leverage has strong negative relationship with EVA and ROA at 1% significance level. Then, in Model 1 and 4, it has coefficient of -0.1974 and -0.2755 respectively. It means when leverage increase 1 unit, EVA and ROA will decrease by 0.1974 unit and 0.2755 unit respectively, holding other variables constant. Therefore, the fifth hypothesis is supported. It is consistent with the past studies done by researchers who argued leverage and financial performance are negatively related (Ahmad et al., 2015; Serrasqueiro, 2009; Asimakopoulos et al., 2009). They mentioned firms who take high level of debt will limit its growth opportunities and hurt profitability. They further stated it is because those high levered firms need to take out much of its earnings to pay the interest payments associated with

the debts. As a result, there is less retained earnings available to use for the purpose of reinvestment or expansion. Moreover, Ahmad et al. (2015) also mentioned high leverage may drive away investors who dislike high risk. So, it makes firms difficult to obtain financing for supporting its ongoing operations and expansion. As times goes by, those firms will lose market share and kick out by the competitors because they failed to make advancement in operations. For example, they still use technologies which is outdated, bureaucratic business processes and produce products without innovation and uniqueness. All in all, high leverage can adversely affect firms' long-term success as it can seriously hurt its profitability, limit growth opportunities and reduce competitive advantage.

On the other side, leverage has positive insignificant association with MVA and ROE because p-value is greater than 0.10 level of significance in both models. It is consistent with the previous studies (Niresh & Alfred, 2014; Shahid et al., 2016; Dey et al., 2018). These researchers found leverage has positive relation with ROE and MVA. It implies financial performance in term of ROE and MVA increase as debt level increases. They stated use of leverage can mitigate agency problem between shareholders and managers. They explained with the increasing of debt financing by firms, it could reduce internal funds and avoid managers to overspend as there is large cash outflow in the form of interest payment for lenders. So, when debt level increase, managers will scare if firm cannot pay the payments associated with debt, firm will be forced to bankrupt and managers will lose their job. Thus, they tend to be prudent in corporate decision making and act in the best interest of shareholders which then add value to firm's profitability. They further added leverage can also enhance market value of firms. It is because when firms use debt to finance projects, it could transmit positive signal to the market that the management of firm is confident and capable to meet interest payments associated with debts (Shahid et al., 2016).

5.0 CONCLUSION AND IMPLICATION OF THE STUDY

There are statistical evidences to conclude environmental disclosure has a negative insignificant relationship with financial performance in term of EVA, MVA and ROA, whereas it has a positive insignificant relationship with ROE. It is contrary with disclosure theories such as legitimacy theory. It is because legitimacy theory stated firms can ensure its business conducts in line with the expectations of society through information disclosures such as environmental disclosures. When environmental disclosure demonstrates insignificant relationship with financial performance, it indicates that the anticipated advantages of such disclosures may not directly result in enhanced financial results for firms. This may suggest that investors and stakeholders do not presently attribute much importance to environmental reporting in evaluating a firm's financial well-being. Consequently, corporations may not perceive immediate financial benefits from improving their environmental disclosures, which could result in diminished emphasis on sustainable practices.

Additionally, the insignificant relationship may suggest that financial performance is more significantly influenced by other variables, including market conditions, firm size, or industry type, than environmental disclosure. It raises the question of whether the content, quality, or authenticity of the disclosures are being effectively communicated to stakeholders. This realisation may motivate firms to reconsider their environmental reporting strategies, emphasising transparency and aligning disclosures with stakeholder interests in order to improve their effectiveness.

Finally, the results may suggest a gap in regulatory frameworks or stakeholder awareness with respect to environmental concerns. If stakeholders do not consider environmental disclosure to be a critical factor in financial performance, there may be a need for improved education or policy interventions to emphasise its significance. This outcome may also serve as an incentive for future research to investigate additional non-financial advantages of environmental disclosure, including enhanced brand recognition or long-term sustainability, which may not be immediately apparent in short-term financial metrics.

6.0 Limitations and Recommendations of the Study

This study is subject to three limitations. The first limitation is the data is obtained from firms that listed in Bursa Malaysia only, whereas those firms which are not listed such as small and medium enterprises (SMEs) are excluded in this research. Hence, the final sample in this research could not really reflect the population of business communities in Malaysia. To put it in another way, the findings that generated from this research could not be confidently represent the actual situation of Malaysian business firms in the context of relationship between environmental disclosure and financial performance.

Then, the second limitation is the selection of research design and time period that covered in this research. This research is just a micro panel data analysis which used 428 Malaysian listed firms with a relatively short time period. The time period that covered is very short as only one year which is year 2016 has been studied in this research. So, it may insufficient to observe the trends and status of environmental disclosure among business communities in Malaysia. Future researches are advised to consider longer period of investigation, perhaps at least 5 years, so the association between environmental disclosure and financial performance of Malaysian public listed firms can be further investigated.

Moreover, the third limitation is the selection of variables. Variables such as environmental disclosure and firm age had insignificant impact on dependent variables such as market value added (MVA) and return on equity (ROE). Also, the model for MVA and ROE are not good as R-squared were low and insignificant in F-statistic. Thus, future researches can consider to replace MVA and ROE with other value-based and profit-based measurement for financial performance such as return on investments (ROI), earnings per share, and Tobin's Q in order to provide a better insight.

By referring to the limitations of the study, there is a need for further study. There are some recommendations has been suggested for future researchers. First, future researchers are advised to cover firms from all sectors in order to increase the sample size of the study. So that the sample is sufficient to represent population of Malaysian business communities, produce more reliable results and accurate forecast.

Then, future researchers are suggested to consider a longer time period of study, perhaps at least 5 years in order to produce results that can use to observe the evolution trends of environmental reporting among business communities in Malaysia. Furthermore, it is recommended that future researchers to choose longitudinal research design that include different samples across different point of time. For example, study environmental disclosure and financial performance in the contexts of developing countries such as Malaysia, China, Thailand, and Vietnam from year 2014 to 2024. By doing so, results of different countries can be compared and allow researchers to gain a new insight into the relationship between environmental disclosure and financial performance.

In addition, future researchers are advised to employ other proxies for financial performance to study the impact of environmental disclosure on financial performance. For instances, instead of using ROE and MVA to determine financial performance, ones can use return on investments (ROI), earnings per share, and Tobin's Q. Using variables that different with previous studies can provide distinct results and gains better understanding on the factors that will affect financial performance. Lastly, instead of studying Malaysian firms from all sector, future researchers can investigate the relationship between environmental disclosure and financial performance of firms in each sector separately. It is because different sectors may have different quality of environmental disclosure. By doing so, it can help public to know financial performance of firms from which sector is more prone to the effect of environmental disclosure.

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