The Impact of Environmental, Social and Governance Practices (ESG) on Economic Performance: Evidence from ESG Score

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Abstract—**The aim of this paper is to investigate the impact of Environmental, Social and Governance (ESG) practices on economic performance. We used a sample of non-financial data from two countries (Malaysia and Singapore) for the period of 2010–2014 from ASSET4® database of Data-Stream, by Thomson Reuters Inc., the world's leading source of intelligent information for businesses and professionals. We find the support that social and governance practices significantly influence economic performance. The study contributes to the existing literature on ESG practices and its relationship with economic performance utilizing panel data that expand into international perspective.**

Index Terms—**Social, environmental, governance practices, economic performance.**

I. Introduction

Tending Environmental, Social and Governance (ESG) issues have turned into a state of enthusiasm for speculators, shareholders and governments as a risk management concern while for firms it has transformed into an emerging part of their competitive strategy [1]. The role of ESG information has been discussed in the academic literature more than 35 years [2] demonstrating the huge of the quality pertinence of the ESG exposure.

In recent years, there has been expanding utilization of ESG information by stakeholders, particularly investor. Initially, there is limited information on non-financial data such as ESG disclosures. For the most part, they are referring to traditional extraction data for yearly report and website of the company. Nowadays companies are moving to data stream based to remain competitive as pressures from stakeholder on environmental issues such as climate change, pollution and waste are growing significantly. The role of ESG information much transformed changed the business adequately and effectively.

Companies are aware that ESG disclosure is critical to portray their good reputation and image in meeting the challenge of green issues to their stakeholders. Trends on disclosing ESG practices in the global data stream are colossally expanded throughout the years as an exertion of the companies to remain sustainable. At present, there are three leading international financial service agencies, namely Bloomberg, MSCI and Thomson Reuters. These three platforms provide integrated ESG score that indicates companies that score highly on ESG principles are focused on creating long-term shareholder value. However, ESG information is still largely ignored by many companies, investors and represents an untapped source to remain competitive [3]. Thus, this study used this platform to explore the ESG information available for two countries, i.e., Malaysia and Singapore as it has been claimed that ESG index in these countries is still at the promising stage as compared to the US and European Companies. This study aims to examine the ESG score as a proxy of management practices in these two countries as companies with strong ESG performance discloses more information concerning management policies, practices and performance that reflect the transparency of the management of financial and non-financial data [3].

Many existing studies focus or isolate on a single dimension of ESG (i.e., [4]-[6]). Limited ESG research study on all three dimension, environmental, social and governance in a single setting (e.g., [7], [8]). Environmental activities will give an impact to the society. Thus, the company should have a governance to be socially responsible. The combination of these three dimensions could strengthen the management practices to enhance the company performance. Even empirical findings do claim that ESG has a significant positive effect on financial performance; however at what extent ESG practices influence the economic performance of Malaysian and Singaporean companies is still unknown. This study also aims to investigate if there is any difference in ESG practices among companies in Malaysia and Singapore.

ESG research is heavily weighted toward exploring relationships with financial performance instead of economic performance [9]. The economic performance indicators are based on client loyalty, performance and shareholder loyalty that reflect company's capacity to generate sustainable growth and a high return on investment through the efficient use of all its resources [10]. Therefore, it postures a company's overall financial health and its ability to generate long-term shareholder value through its use of best management practices. Due to this reason, the motive to examine the relation of ESG practices on economic performance is much relevant.

The research on the effects of ESG disclosure on the market value of companies has largely been limited to developed countries. Empirical studies mostly cover for companies in the US [11], Australia [1], [12], Germany [13], Finland [14] and regions such as the European Union [15].

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The understanding of ESG profiles constrained to a couple of nations. Thus, in this study, Malaysia and Singapore (Asian countries) firms are considered, thereby expanding the universal point of view.

Several studies are assessing ESG rely on the much used Kinder, Lydenberg and Domini (KLD) database (i.e., [16]-[18]). Unfortunately, the governance dimension of the KLD database appears to lack a robust assessment of aspects considered critical in the literature [1]. In light of our insight, very few studies explore the issues all inclusive by utilizing the ESG exposure scores gave by ASSET 4 Thomson Reuters. Using this panel data could enrich the existing literature by discussing the ESG practices on the environmental management perspective. The information generated from Thomson Reuters is comprehensive and standardized as it is collected using a consistent methodology strategy crosswise over national limits.

We use a sample of two countries, 35 Malaysian firm and 45 Singaporean firms during years 2010-2014, which comprises a total of 400 firm year's observation. Non-financial data was extracted from ASSET4® database of Data- Stream, by Thomson Reuters Incorporation. ASSET4 ESG scores represent an overall measure of the quality of a company's business practices, recognizing those companies that look beyond the next quarter and manage with an emphasis on creating long-term shareholder value [10].

II. Literature Review

A. The Roots of ESG Concept

ESG measurements aim to capture additional dimensions of corporate performance, which are not revealed in accounting data [19]. Reference [19] contended that corporate financial statements lack the capacity to inform management and investors about the value of reputation, quality, brand equity, safety, workplace culture, strategies, know-how and a host of other assets that are more significant than ever in a knowledge-based global economy. Thus, ESG indicators catch a more extensive scope of non-fiannacial data on environmental, social performance and corporate governance and can be utilized to evaluate capabilities of a company's management as well as to support risk management [1].

ESG information is essential, particularly for the management purposes. Managers need to have extensive and timely data on their worldwide operations. Accordingly, management can make appropriate adjustments to its business planning and able to know and proactively impart essential changes in its forecasts with analysts. This point of interest leads analysts' estimates to be more exact and realistic and it allows management to have more precise information to deal with the outcomes to meet or surpass market desires on a normal basis [3].

Furthermore, companies with strong ESG performance have a keen knowledge of the long-term strategic issues in their industries and managers at these companies can manage by long-term goals. Such companies make the necessary long-term decisions to ensure the success of their business over longer time periods to remain sustainable [3].

B. Environmental Practices

Recently internal and external stakeholders are showing increasing interest in the environmental performance of private organizations due to the impact of pollution that being created [20]. Internal stakeholders such as employees might be affected by pollution in the work environment while external stakeholders include communities affected by local pollution, environmental activist groups, government regulators, shareholders, investors, customers, suppliers and others [20]. Accordingly, it is imperative that company uses the best management practices to lessen air emissions (greenhouse gasses, ozone-depleting substances, carbon dioxide, etc.), waste, hazardous waste, water discharges, spills or its impacts on biodiversity.

The company's management also should ensure that natural resources in the production process are excellently used. The support of the advance technology and product innovation could enhance the environmental performance as it reveals a company's capacity to lessen the environmental costs and burdens for its customers and thereby creating new market opportunities through new environmental technologies and processes or eco-designed, dematerialized products with extended durability [10]. Reference [21] claimed that stronger environmental performance can improve the value of the firm and attract new stakeholders. A good environmental practice on operational activities can generate reasonable costs saving as well as keeping away from the business effect of the contamination issue [22].

In accordance with the above issues, the number of research on the environmental performance has increased tremendously, in the accounting literature. Reference [23] analyzed the environmental impacts generated in the conduct of business, such as hazardous wastes recycled toxic release, pollution level in discharged water, non-compliance with environmental statutes, or environmental ratings of firms developed by external groups. Some researchers [24]-[26] have tested various methods to assess the environmental performance of the scope of pollution control efficiency and it enhance the organization performance. On the other hand, [27] use three alternative measures of firm performance or economic performance, i.e., Tobin's q, return on assets and return on sales. Their study provides evidence that environmental performance has less impact on financial performance.

The literature on Malaysian and Singaporean environmental practice is limited. Reference [28], [29] show that environmental disclosures that are reported by Malaysian companies have overall been general and narrative in their nature. It same goes to companies in Singapore, public awareness and interest in social and environmental issues is growing, thereby putting pressure on organizations to be responsible for and report on these areas, however, the social and environmental practices in Singapore arguably at infancy level [30]. Thus, is the time for companies in both countries, migrate to use ESG score index by panel data as it is very comprehensive and standardized and being used globally. As [31] argue that Malaysian companies use environmental reporting to improve their business profile and influence investor perceptions, therefore ASSET4 ESG score index will be useful for Malaysian firm to build up the repo. Companies may be motivated to disclose voluntary environmental disclosures to impress stakeholders and reduce uncertainty and skepticism [32].

C. Corporate Social Practices (CSP)

As environmental activities without proper control will affect the planet, people and profit, thus the companies should be socially responsible. There is vast literature discussing how companies to be socially responsible. Reference [33] has been conceptualized CSP into the three-dimensional concept. There are (1) Corporate social responsibilities, (economic, legal, ethical, discretionary), (2) corporate social responsiveness (defense, reaction, accommodation, pro-action) and (3) social issues (consumers, environment, product safety, employee discrimination/safety and shareholders). The performance is shown that what matters is what companies can accomplish the results and outcomes of their acceptance of social responsibility and adoption of a responsiveness philosophy [34].

While, [35] defined CSP as a business organization's configuration of principles of social responsibility, processes of social responsiveness and policies, programs and tangible outcomes as they relate to the firm's social relationships. CSP also can be defined as a construct that emphasizes a company’s responsibilities to multiple stakeholders, such as employees and the community as a whole, in addition to its traditional responsibilities to economic shareholders [36]. Consequently, firms with high social performance have an easier time attracting eligible employees [36].

Thus, to generate trust and loyalty toward its workforce, customers and society, the company should be socially responsible and responsive on the social issue. The indicator for the company to be socially responsible is related to product responsibility, community, human rights, diversity and opportunity, employment quality, health and safety and training and development [10]. This indicator is in line with the CSP concept by [33].

Reference [4] appealed that firms with low CSP have higher financial performance than firms with moderate CSP, but firms with high CSP have the highest financial performance. This supports the theoretical argument that stakeholder can transform social responsibility into profit.

While in the view of CSP and economic performance, [18] found that there is no direct relationship between CSP on economic performance. Corporate social performance seems only to associate positively with economic performance through advertising. It shows the significant of communicating socially-related activities to relevant stakeholders such as consumers, non-governmental groups or a regulatory agency for the firm’s to remain competitive.

D. Governance Practices

A good corporate governance system is an essential element in optimizing the performance of a business in the best interests of shareholders, limiting agency costs and favoring the survival of corporations [37]. Corporate governance was characterized as the procedure and structure used to coordinate and deal with the business and undertakings of the organization towards upgrading business thriving and corporate responsibility with a definitive goal of acknowledging long-term shareholder value while taking into account the interests of other stakeholders [38].

Corporate governance assumes the fundamental part in organization execution is to help the board's performance in controlling their business operations [6]. Board of directors is one of the most important elements of corporate governance mechanism in overseeing the conduct of the company's business [39]. The best practice of the corporate governance principles related to competitive and equitable management compensation to attract and retain executives and board members. The shareholders should be treated equally and given certain privileges. The vision and strategy be shared with the entire stakeholder and coordinated with the economic (financial), social and environmental measurements into its everyday choice making procedures.

The company follows the procedures and frameworks to ensure sustainability and be more progressive. The governance of corporate responsibility means that the company has specific systems for sustainability management [12]. As the study done by [11], [6], [40], found that corporate governance influence the corporate performance. Contrast with [41] they found evidence that board size is a significant negative association with firm performance. They also found that the relationship between board size and firm performance is significantly less negative for smaller firms and a positive and significant relationship between firm performance and the percentage of non-executives on the board is apparent.

E. Economic Performance

The impact of environmental management activities on competitiveness and corporate economic success has been debated actively for many years. Financial and non-financial indices can directly reflect economic performance. Financial indices refer to sales, profitability, inventory turnover and return on equity while non-financial indices refer to market share, sale region and the number of customers [42].

The Economic indicator used in ASSET4 ESG is non-financial based. The economic performance measures a company's capacity to produce feasible development and a high return on investment through the efficient use of all its resources. It demonstrates a company's ability to improve its margins by increasing its performance (production process innovations) or by maintaining a loyal and productive employee and supplier base. The company's capacity is also to maintain a loyal shareholder by creating reasonable returns through a focused and transparent long-term communications strategy with its shareholders. The customer fulfillment and dependability produce feasible and long-term revenue growth [10].

Typically corporate environmental management practices relate to economic performance. By adopting new environmental practices such as reduce pollution source, more environmentally friendly ways of operation, etc., it can reduce waste disposal costs and penalty, thus, bringing about effective economic benefits for enterprises [43]. However, inconsistent findings were found in the empirical literature on the relationship between the environmental, social and economic performance. There is little evidence of a weak relationship and some for a weak but statistically significant positive relationship, negative to insignificant to moderately or even strongly positive relationships of environmental and economic performance[44]. According to [45], most studies supports a positive correlation between the environmental performance and economic performance.

III. Conceptual Framework

Fig. 1 shows the research framework of this study. This research framework indicates that the dependent variable is economic performance while the independent variables are environmental practices, social practices and governance practices. This research framework demonstrates the relationship between these three independent variables (environmental, social and governance) with the economic performance.

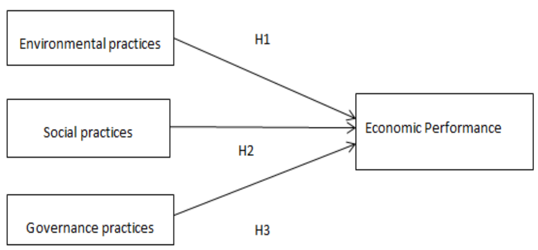

Fig. 1. Conceptual framework.

The model is based on stakeholders' theory [46] and agency theory [47]. Stakeholder theory indicates that the management should have a good relationship with their stakeholders to be a success. More specifically, [48] defined the concept of 'stakeholder' to include any individual or group who can affect the company's performance or who is affected by the achievement of the organizations.

Stakeholder theory has been used quite extensively in the management literature since 1984 [49]. Stakeholder theory demonstrates that the benefits to firms from social responsibility come through improved stakeholder relationships[4]. Stakeholder theory gives an option view on corporate governance and business ethics. Stakeholder theory informs us that managers should consider the interests of all the stakeholders in a firm when making decisions [50]. Corporate social responsibility (CSR) has been commonly applied [46] because the changing way of the business environment made an interest for firms to recognize their obligation to a more extensive voting public than their shareholders/proprietors and to take care of basic social issues.

An agency theory framework proposes that agents (managers) are more likely than principals (stockholders) to emphasize corporate social performance and environmental concerns in light of the fact that they have no remaining case on a firm's income [51]. At the end of the day, agents might show concern for the environment more eagerly because they are not spending their cash. Moreover, determined independent from anyone else interest, agents are more likely than principals to pursue philanthropic goals to secure their positions, for the case in regards to environmental protection practiced by their company. By seeking non-profit goals, managers may enhance their reputation and gain public prestige. Thus, corporate governance is in accordance with the agency theory basis.

IV. Hypothesis Development

In this study, the environmental practices are being measure based on a company's management commitment and effectiveness towards reducing environmental emissions, efficient use of natural resources in the production and operational processes and the involvement of the company in supporting the research and development of eco-efficient products or services. It reflects how well a company uses the best management practices to avoid environmental risks and capitalize on environmental opportunities to enhance the economic performance.

Stakeholder theory could increase the level of environmental awareness and creates the need for companies to extend their corporate planning to include the non-traditional stakeholders like the adversarial regulatory groups to adapt in changing social demands [49]. Therefore, the following hypothesis is formulated to support this statement.

H_1: Corporate environmental practices positively influence the economic performance.

Engaging in socially responsible behaviors is one of the primary mechanisms through which a firm may foster and maintain trusting stakeholder relationships. In line with stakeholder theory, [52] theorized that as firms engage in socially responsible practices, they accrue stakeholder influence capacity. Reference [48] claimed that in stakeholder view, the relationship between CSP and financial performance is positive. However, [4] argued that CSP and financial performance are negatively associated with some companies, but for others, CSP and financial performance are positively correlated. They argue that whether it pays to be good depends on how well firms can capitalize on their social responsibility efforts. When a company engages in socially responsible activities, it may be interpreted as a way to create an image of sensitivity to important influences, which do not belong to the market, but that can still be in the long-term interests of shareholders [48]. As in line with agency theory, managers are willing to reveal their social engagement to both stakeholders and shareholders by communicating their social responsibility activities. The indicator of social and environmental practices well perform when it can reduce the company's exposure to future risks and increase the economic performance. Thus, this information should be perceived as good news by investors [53]. For this reason, this study formulates the following hypothesis to test whether the effect of the social responsibilities practices is positively related to economic performance.

H_2: Corporate Social responsibility practices positively influence the economic performance.

The empirical literature on the relationship between firm performance and board characteristics such as size and composition are quite extensive [6], [40], [41]. Their findings are consistent where board structure positively influences the corporate performance. However, the role of the corporate board of directors has become more complex. The scope of corporate governance in effect has broadened such that it no longer involves only accountability to shareholders but a wider group of stakeholders interested in both the financial and the non-financial aspects of a company's activities [12].

and the non-financial aspects of a company's activities [12].

Thus, corporate boards of directors are urged to incorporate the social and environmental responsibilities in their core decision-making processes, which lead to sustainable value. Corporate boards of directors should provide well-informed strategic direction and engaged oversight beyond short-term financial performance. The board should comprehensively address risks by anticipating actions with a potentially adverse impact on society and the environment to remain competitive [53].

Corporate governance structures also can be used to direct and control sustainability strategy. Reference [12] suggest that governance structures and processes for corporate social responsibilities should be putting in a place, as companies are better able to take stakeholders' interests into account in their strategy development and to monitor and report on progress towards greater corporate sustainability. This monitoring function has been mainly analyzed following agency theory [54]. Internal and external governance mechanisms are set with the objective of monitoring management's behavior on behalf of shareholders. Thus, to examine the relationship between corporate governance and economic performance, the following hypothesis is formulated;

H_3: Corporate governance practices positively influence the economic performance.

Concern on the environmental issues has become a worldwide phenomenon, but the degree of interest varies. This is due to the different corporate manager's roles in the various countries, either to pay more or less attention to environmental issues [55]. Companies operation in different countries with different cultural and institutional backgrounds, reveal different firm-level priorities in ESG performance.

Reference [15], studied ESG performance in three countries, i.e., Spanish, French and Japan. Their result reveals that Spanish and French organizations display comparative levels of social and corporate governance performance, higher than those of Japanese firms. Second, Japanese firms appear to be more dedicated to environmental issues than Spanish and French companies. These results confirm that ESG performance is differed among the countries, due to different institutional backgrounds. The following hypothesis is formulated to examine ESG practices on economic performance differs between companies in Malaysia and Singapore.

H_4: The influence of ESG practices on economic performance differs between companies in Malaysia and Singapore.

V. Research Methodology

The data collection involved an intensive search of the ASSET4® database of Data-Stream, by Thomson Reuters. The database search revealed a total of 80 companies, which comprises of 35 companies in Malaysia and 45 companies in Singapore disclose on ESG practices. These were subject to constant disclosure over the period of 2010 to 2014, equivalent to 400 firm years of data. Economic, environmental, social and governance performance reflected the scores of each company on the ESG composite indexes provided by the ASSET4® database.

VI. Discussion of Findings

A. *Descriptive Statistic and Correlations*

Table I below, is presented the results of the descriptive statistics for the variables. All the variables are normally distributed with the value of skewness less than ±1. From the descriptive analysis, the highest percentage mean for ESG practices in Malaysia over five years is corporate social practices (49.43) with the standard deviation of 28.43. The highest percentage mean for ESG practices in Singapore is economic performance (53.03) with a standard deviation of 27.15. The coefficient of variation is used to compare which distribution is more consistent between Malaysia and Singapore. The smallest value indicates the most consistent of the distribution. The coefficient of variation economic performance in Singapore (51.18) smaller than Malaysia (63.68) thus, economic performance in Singapore is more consistent than Malaysia. In a meanwhile, ESG practices in Malaysia are more consistent compared to Singapore. Overall ESG score for Malaysian and Singaporean companies is still considered low with the average between 36.31 to 53.03 percent only.

TABLE I: Descriptive Statistic for Variables

	N	Mean	Std Deviation	Skewness	Coefficient of variation
Malaysia					
ECO	35	43.05	27.41	.494	63.68
ENV	35	38.58	24.9	.657	64.55
SOC	35	49.43	28.42	.204	57.50
GOV	35	46.18	21.37	.161	46.26
Singapore					
ECO	45	53.03	27.15	.059	51.18
ENV	45	36.31	28.73	.875	79.12
SOC	45	39.72	28.06	.488	70.65
GOV	45	46.25	26.53	-.072	57.36

TABLE II: Correlation

		Malaysia	Singapore
ECO	Pearson correlation	1	1
	Sig.(2-tailed)		
	N	35	45
ENV	Pearson correlation	.687**	.641**
	Sig.(2-tailed)	.000	.000
	N	35	45
SOC	Pearson correlation	.784**	.823**
	Sig.(2-tailed)	.000	.000
	N	35	45
GOV	Pearson correlation	.776**	.589**
	Sig.(2-tailed)	.000	.000
	N	35	45

Table II represent the correlation analysis between ESG practices and economic performance. The result shows that all the variables have a significant positive relationship with economic performance at a significance level of 0.05.

B. *Regression Analysis*

Table III presents the result of the regression analysis to explain or predict the relationship among the independent variables and the dependent variable. Linear regression equation can be presented as below:

$$ECO = \beta 0 + \beta 1ENV + \beta 2SOC + \beta 3GOV + \varepsilon$$

$$EPMC = -4.162 + .204ENV + .304SOC + .527GOV \quad (1)$$

$$EPMC = 20.845 + -.074ENV + .832SOC + .039GOV \quad (2)$$

TABLE III: REGRESSION RESULTS

		Estimates	t	Sig.
Malaysia	(Constant)	-4.162	-.638	.528
	ENV	.204	1.175	.249
	SOC	.304	1.562	.128
	GOV	.527	2.515	.017**
Singapore	(Constant)	20.845	4.275	.000
	ENV	-.074	-.520	.606
	SOC	.832	4.964	.000**
	GOV	.039	.315	.755

Malaysia: Model fit: R= 0.832, R^2=.693 Adj R^2=.663; F value =23.33
Singapore: Model fit: R= 0.825, R^2=.681 Adj R^2=.658; F value =29.17
**p-value < 0.05

Table III shows the regression analysis of ESG practices and economic performance for companies in Malaysia and Singapore. When economic performance is regressed against ESG practices for Malaysia and Singapore (based on Table III), it produces an F-Statistics value of 23.33 and 29.17, respectively. It is indicated that the results are valid at the significance level of 0.05. 69.3% of the variation in economic performance in Malaysia is explained by ESG practices as shown by the R-squared. Only governance practice has a significant positive influence on economic performance at the p-value 0.017 which is lower than the significance level of 0.05. However, 68.1% of the variation in economic performance in Singapore is explained by ESG practices as indicated by the R-squared. The factor with a significant impact on economic performance in Singapore is social practice with the p-value of zero which is lower than the significance level of 0.05.

C. Discussion on Results

This study illustrates the impact of ESG practices on economic performance for companies in Malaysia and Singapore. The result of the study reveals that environmental practices for both countries are significant positively correlated with economic performance. This result is consistent with the previous empirical studies where the environmental were positively related to economic performances [56]-[59]. However, corporate environmental practice not significantly influence the economic performances in both countries. As claimed by [60], implementing environmental management needs to invest extra resources, including funds, technologies and human resources, leading to additional costs [60]. Thus, hypothesis H_1 formulated earlier is rejected.

Social responsibility practices are predicted to give an impact on the economic performance. The results reveal that social practices significantly influence economic performance for companies in Singapore. The different results between these two countries may be due to the potential impact of surrounding community, stakeholder and cultural differences. Even both are neighboring countries; the business culture could be different. According to [30], Singapore has put various initiatives to promote better corporate environmental and social reporting. As a result, corporate involvement and attention are growing but arguably remains in its infancy. Thus, companies need to exercise a good social practice continuously as it could enhance the employment quality, health and safety, training and development, diversity, human rights, community and product responsibility, which in turn could generate long-term stakeholder's value.

These findings also imply that Malaysian firms should view social responsibility practices as a long-term investment in creating the capacity to influence stakeholders; though it may not pay to be good now, it may pay to be good later, once adequate capacity is built [4]. It could be no direct influence of social responsibility practices on economic performance, however by integrating the environmental and sustainability aspects will enhance the economic performance. The company can build a competitive advantage with social practices. Competitive advantage exists when a company does well by doing good, i.e., the company finds a relative cost or differentiation benefit, versus its peers, through their corporate social responsibilities activities [61].

The results also revealed that corporate governance practices significantly influence the economic performance of Malaysian companies. This result is consistent with [62] where he found that corporate transparency and disclosure are intimately connected to corporate performance. A proper governance structure will provide an excellent support from the top management. Previous studies have shown that the board of directors in Malaysian firms performs more efficiently in a larger group [40]. Furthermore, environmental performance and firm performance were influenced by how boards of directors were set up, how companies were managed and how they were owned. Disclosing performance information allows company managers, boards and owners to become more efficient and concern for shareholders interest. A lack of transparency usually lowers the ESG rating [9].

Previous study indicate that corporate ownership and board structures for companies in Singapore are related and there are significant interrelationships among board structure characteristics [63]. The insignificant of corporate governance on economic performance is due to the institutional environment in Singapore where the market for corporate control is weak; more concentrated stock ownership and significant government ownership for many firms [63].

VII. CONCLUSION

Today's business is globally interconnected. Stakeholders recognize that ESG responsibilities of a company are integral to its performance and long-term sustainability. Research shows that responsible management of ESG issues creates a business spirit and environment that builds both a company's integrity within society and the trust of its stakeholder. Therefore, companies that disclose ESG practices in universal media were reported as having reputation gains, thereby increasing investor confidence; efficient use of resources and remain competitive.

The results provide evidence on the influence of ESG practices on economic performance among companies in Malaysia and Singapore. Findings can be used by policy makers and management of companies and stakeholders as guidelines to implement ESG practices. This paper also contributes to the line of study in the area of ESG practices by attempting to fill the gaps in the literature in the following areas. First, many existing studies focus or isolate on a single dimension of ESG and we are taking all the dimension of ESG (environmental, social, governance and economic). Second, ESG research is heavily weighted toward exploring relationships with financial performance and our aims are to examine ESG on economic performance, in the broader scope. Third, the majority of ESG studies are the US and the UK and other develop countries-based. Thus, we extend previous studies regarding country coverage (ESG research on Asian countries). Fourth; most of the studies are using panel data from Bloomberg and KLD database. Research using ASSET4 Thomson Reuters data stream still new and limited.

Limitations of the study are acknowledged. The social, environmental and governance practices score constructed by ASSET4® database of Data-Stream, by Thomson Reuters, examining only publicly available information for public listed companies, our theoretical and empirical findings probably be more applicable to public listed companies, as opposed to exclusive ones.

The number of the sample size is also small. Thus, the results of this study should not be generalized. Future studies are encouraged to use multiple sources of data and larger samples. Comparisons of ESG practices can be expanded to include regional analysis. The qualitative approach can likewise be utilized to clarify the ESG practices and its relationship with economic performance.

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References

[1] J. Galbreath, "ESG in focus: 'The Australian evidence'," *Journal of Business Ethics*, vol. 118, no. 3, pp. 529–541, 2013.

[2] N. S. Eccles and S. Viviers, "The origins and meanings of names describing investment practices that integrate a consideration of ESG issues in the academic literature," *Journal of Business Ethics*, vol. 104, no. 3, pp. 389–402, 2011.

[3] C. Greenwald. (2010). ESG and earnings performance. ASSET4: Thomson Reuters study. [Online]. Available: http;// thomsonreuters.com/content/dam/openweb/documents/pdf /tr-com -financial/case-study/esg-and-earnings-performance.pdf

[4] M. L. Barnett and R. M. Salomon, "Does it pay to be really good? Addressing the shape of the relationship between social and financial performance," *Strategic Management Journal*, vol. 33, no. 11, pp. 1304–1320, 2012.

[5] T. S. Ong, B. H. The, and Y. W. Ang, "The Impact of environmental improvements on the financial performance of leading companies listed in Bursa Malaysia," *International Journal of Trade, Economics and Finance*, vol. 5, no. 5, pp. 386–391, 2014.

[6] C. H. Ponnu, "Corporate governance structures and the performance of Malaysian public listed companies," *International Review of Business Research Papers*, vol. 4, no. 2, pp. 217–230, 2008.

[7] I. Ioannis and G. Serafeim. (2010). What drives corporate social performance? International evidence from social, environmental and governance scores. URL [Online]. Available http://www.hbs.edu/faculty/Publication%20Files/11-016.pdf

[8] Z. Zuraida, N. Houqe, and T. Van Zijl, "Value relevance of environmental, social and governance disclosure," *Social and Governance Disclosure*, 2014.

[9] N. Breuer and C. Nau, "ESG performance and corporate financial performance," Master's dissertation, School of Economics and Management, Lunds University, 2014.

[10] Thomson Reuters. (2015). Thomson Reuter's data stream ASSET 4 ESG content. URL. [Online]. Available: http://extranet.datastream.com/data/ASSET4%20ESG/documents/Thomson_Reuters_DS_ASSET4_ESG_Content_Fact_Sheet_April_2015.pdf

[11] G. Giannarakis, G. Konteos, and N. Sariannidis, "Financial, governance and environmental determinants of corporate social responsible disclosure," *Management Decision*, vol. 52, no. 10, pp. 1928–1951, 2014.

[12] A. Klettner, T. Clarke, and M. Boersma, "The governance of corporate sustainability: Empirical insights into the development, leadership and implementation of responsible business strategy," *Journal of Business Ethics*, vol. 122, no. 1, pp. 145–165, 2014.

[13] L. Mervelskemper and D. Streit, "Investors' perception of ESG performance: Is integrated reporting keeping its promise?" *SSRN 2625044*, 2015.

[14] H. Schadewitz and M. Niskala, "Communication via responsibility reporting and its effect on firm value in Finland," *Corporate Social Responsibility and Environmental Management*, vol. 17, no. 2, pp. 96–106, 2010.

[15] E. Ortas, I. Álvarez, J. Jaussaud, and A. Garayar, "The impact of institutional and social context on corporate environmental, social and governance performance of companies committed to voluntary corporate social responsibility initiatives," *Journal of Cleaner Production*, pp. 1-12, 2015.

[16] H. R. Dixon-Fowler, D. J. Slater, J. L. Johnson, A. E. Ellstrand, and A. M. Romi, "Beyond 'Does it pay to be green?' A meta-analysis of moderators of the CEP-CFP relationship," *Journal of Business Ethics*, vol. 112, no. 2, pp. 353–366, 2013.

[17] S. L. Gillan, J. C. Hartzell, A. Koch and L. T. Starks, "Firms' environmental, social and governance (ESG) choices, performance and managerial motivation," Unpublished working paper, 2010.

[18] M. Wagner, "The role of corporate sustainability performance for economic performance: A firm-level analysis of moderation effects," *Ecological Economics*, vol. 69, no. 7, pp. 1553–1560, 2010.

[19] A. Bassen and A. M. Kovacs, "Environmental, Social and governance key performance indicators from a capital market perspective," *Zeitschrift Für Wirtschaft-Und Unternehmensethik*, vol. 9, no. 2, pp. 182–193, 2008.

[20] C. Jasch, "Environmental management accounting (EMA) as the next step in the evolution of management accounting," *Journal of Cleaner Production*, vol. 14, no. 14, 1190–1193, 2006.

[21] S. A. Melnyk, R. P. Sroufe and R. Calantone, "Assessing the impact of environmental management systems on corporate and environmental performance," *Journal of Operations Management*, vol. 21, pp. 329–351, 2003.

[22] IFAC. *Environmental Management Accounting*. New York, USA. 2005.

[23] S. A Al-Tuwaijri, T. E Christensen, and K. Hughes, "The relations among environmental disclosure, environmental performance and economic performance: A simultaneous equations approach," *Accounting, Organizations and Society*, vol. 29, no. 5-6, pp. 447–471, 2004.

[24] M. Wagner and S. Schaltegger, "The effect of corporate environmental strategy choice and environmental performance on competitiveness and economic performance," *European Management Journal*, vol. 22, no. 5, pp. 557–572, 2004.

[25] D. Jalaluddin, M. Sulaiman, and N. N. Nik Ahmad, "Environmental Management Accounting: An Empirical Investigation of Manufacturing Companies in Malaysia," *Journal of the Asian Pacific Centre for Environmental Accountability*, vol. 16, no. 3, 2010.

[26] J. F. Henri and M. Journeault, "Eco-control: The influence of management control systems on environmental and economic performance," *Accounting, Organizations and Society*, vol. 35, no. 1, pp. 63–80, 2010.

[27] K. Elsayed and D. Paton, "The impact of environmental performance on firm performance: Static and dynamic panel data evidence," *Structural Change and Economic Dynamics*, vol. 16, no. 3, pp. 395–412, 2005.

[28] N. N. Nik Ahmad and M. Sulaiman, "Environmental disclosures in Malaysian annual reports : A legitimacy theory perspective," *International Journal of Commerce and Management*, vol. 14, no. 1, pp. 44–58, 2004.

[29] H. Yusoff, G. Lehman, and N. M. Nasir, "Environmental engagements through the lens of disclosure practices: A Malaysian story," *Asian Review of Accounting*, vol. 14, no. 1/2, pp. 122–148, 2006.

[30] L. H. Chung and L. D. Parker. "Managing social and environmental action and accountability in the hospitality industry : A Singapore Perspective," *Accounting Forum*, vol. 34, no. 1, pp. 46–53, 2010.

[31] S. Buniamin, "The quantity and quality of environmental reporting in annual report of public listed companies in Malaysia," *Issues in Social and Environmental Accounting*, vol. 4, no. 2, pp. 115–135, 2010.

[32] G. E. Iatridis, "Environmental disclosure quality : Evidence on environmental performance, corporate governance and value relevance," *Emerging Markets Review*, 14, pp. 55–75, 2013.
[33] C. Adam, "Three-dimensional conceptual model of corporate performance," *The Academy of Management Review*, vol. 4, no. 4, pp. 497–505, 1979.
[34] C. Adam, "A corporate social responsibility journey: Looking back, looking forward," in *Proc. 5th Annual Conference on CSR Humboldt University – Berlin, Germany*, 2012.
[35] D. J. Wood, "Revisited corporate social performance," *The Academy of Management Review*, vol. 16, no. 4, pp. 691–718, 1991.
[36] D. B. Turban and D. W. Greening, "Corporate social performance and organizational attractiveness to prospective employees," *The Academy of Management Journal*, vol. 40, no. 3, pp. 658–672, 1997.
[37] E. F. Fama, M. C. Jensen *et al*., "Separation of ownership and control," *Journal of Law and Economic*, vol. 26, no. 2, pp. 301–325, 1983.
[38] Malaysian Code on Corporate Governance 2012. [Online]. Available: Http://www.mia.org.my/new/downloads/circularsandresources/circulars/2012/21/MCCG_2012.pdf
[39] R. Said, Y. H. Zainuddin and H. Haron, "The relationship between corporate social responsibility disclosure and corporate governance characteristics in Malaysian public listed companies," *Social Responsibility Journal*, vol. 5, no. 2, pp. 212–226, 2009.
[40] Z. Zainal Abidin, N. Mustafa Kamal and K. Jusoff, "Board structure and corporate performance in Malaysia," *International Journal of Economic and Finance*, vol. 1, no. 1, pp. 150–164, 2009.
[41] V. O'Connell and N. Cramer, "The relationship between firm performance and board characteristics in Ireland," *European Management Journal*, vol. 28, no. 5, pp. 387–399, 2010.
[42] D. Earnhart and L. Lizal, "Effect of corporate economic performance on firm-level environmental performance in a transition economy," *Environmental and Resource Economics*, vol. 46, no. 3, pp. 303–329, 2010.
[43] J. A. Aragón-Correa, N. Hurtado-Torres, S. Sharma, and V. J. García-Morales, "Environmental strategy and performance in small firms: A resource-based perspective," *Journal of Environmental Management*, vol. 86, no. 1, pp. 88–103, 2008.
[44] M. Orlitzky, F. L. Schmidt, and S. L. Rynes, "Corporate social and financial performance: A meta-analysis," *Organization Studies*, vol. 24, pp. 403 –441, 2003.
[45] J. D. Margolis and J. P. Walsh, "Misery loves rethinking companies: Social initiatives by business," *Administrative Science Quarterly*, vol. 48, no. 2, pp. 268–305, 2003.
[46] A. Ullmann, "Data in search of a theory: A critical examination of the relationships among social disclosure and of performance, social, economic performance US firms," *Academy of Management Review*, vol. 10, no. 3, pp. 540–557, 1985.
[47] M. C. Jensen and W. H. Meckling, "Theory of the firm : Managerial behavior, agency costs and ownership structure," *Journal of Financial Economi*cs, vol. 3, pp. 305–360, 1976.
[48] R. E. Freeman, *Strategic Management: A Stakeholder Approach*. Pittman, Boston, MA. 1984.
[49] E. Elijido-Ten, "Applying stakeholder theory to analyze corporate environmental performance: Evidence from Australian listed companies," *Asian Review of Accounting*, vol. 15, no. 2, pp. 164–184, 2007.
[50] M. Mohammed, "Corporate accountability in the context of sustainability – a conceptual framework," *EuroMed Journal of Business*, vol. 8, pp. 243–254, 2013.
[51] S. A. Waddock and S. B. Graves, "The corporate social performance - financial performance link," *Strategic Management Journal*, vol. 18, pp. 303–319, 1997.
[52] M. L. Barnett, "Stakeholder influence capacity and the variability of financial returns to corporate social responsibility," *Academy of Management Review*, vol. 32, no. 3, pp. 794–816, 2007.
[53] C. Mallin, G. Michelon and D. Raggi, "Monitoring intensity and stakeholders' orientation: How does governance affect social and environmental disclosure?" *Journal of Business Ethics*, vol. 114, no. 1, 29–43, 2012.
[54] E. F. Fama and M. C. Jensen, "Separation of ownership and control," *Journal of Law and Economic*, vol. 26, no. 2, pp. 301–325, 1983.
[55] M. Halme and M. Huse, "The influence of corporate governance, industry and country factors on environmental reporting," *Scandinavian Journal of Management*, vol. 13, no. 2, pp. 137–157, 1997.
[56] S. L. Hart, "A natural-resource-based view of the firm," *The Academy of Management Review*, vol. 20, no. 4, pp. 986, 1995.
[57] R. D. Klassen and D. C. Whybark, "The Impact of Environmental Technologies on Manufacturing Performance," *The Academy of* Management *Journal*, vol. 42, no. 6, pp. 599–615. 1999.
[58] M. V. Russo, P. A. Fouts, N. Fargher, D. Levy, J. Mahon, A. Meyer, and P. Mills, "A resource-based perspective on corporate environmental performance and profitability," *Academy of Management Journal*, vol. 40, no. 3, pp. 534–559, 1997.
[59] S. Sharma and H. Vredenburg, "Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities," *Strategic Management Journal*, pp. 729–753, 1998.
[60] S. X. Zeng, X. H. Meng, R. C. Zeng, C. M. Tam, V. W. Y. Tam, and T. Jin, "How environmental management driving forces affect the environmental and economic performance of SMEs: A study in the Northern China district," *Journal of Cleaner Production*, vol. 19, no. 13, pp. 1426–1437, 2011.
[61] R. J. Arend, "Social and Environmental Performance at SMEs: Considering motivations, capabilities and instrumentalism," *Journal of Business Ethics*, pp. 1–21, 2013.
[62] J. Salo, "Corporate governance and environmental performance: Industry and country effects," *Competition and Change*, vol. 1, no. 4, pp. 328–354, 2008.
[63] Y. T. Mak and Y. Li, "Determinants of corporate ownership and board structure: Evidence from Singapore," *Journal of Corporate Finance* vol. 7, no. 3, pp. 235–56. 2001.

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