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THE ENVIRONMENTAL SUSTAINABILITY REPORTING AMONG MALAYSIA BEST-GOVERNED COMPANIES

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Abstract

The Global Risks Report 2019 published by the World Economic Forum unveils that environmental-related risks make up one-half of the top 10 risks facing the world, both in terms of likelihood and impact. Against this backdrop, both theoretical- and empirical-based literature in corporate sustainability reporting argued for, and demonstrated evidence on, the important role of corporate governance. Using 23 best-governed companies in Malaysia as the sample, this research examines the trend in corporate environmental sustainability reporting for the year 2016 to year 2018. Consistent with legitimacy theory, the overall disclosure scores increased significantly. Significant increase was also observed for disclosures related to resource use and emissions, but not innovation. Despite that, higher disclosure of innovation-related information can be associated with better corporate governance. This finding is in line with institutional governance theory which emphasises on the role of governance in ensuring effective corporate disclosures. The research is important due to its focus on a very important issue to stakeholders (i.e. environment) and is congruent with global environmental sustainability agenda.

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1. Introduction

On 15 January 2019, World Economic Forum (WEF) has published The Global Risks Report 2019 which presents the results of the latest Global Risk Perception Survey involving approximately 1,000 decision makers from the public sector, private sector, academia and civil society assessing the risks facing the world (WEF, 2019). The report unveils alarming scenario: one-half of the Top 10 risks in terms of likelihood and impact are dominated by environmental risks. These include extreme weather events, failure of climate change mitigation and adaptation, natural disasters, man-made environmental disasters, and biodiversity loss and ecosystem collapse. This is in contrast to the survey in 2014 where economic risks became the main concern of the public (WEF, 2014). The concern over environmental issues have also seen United Nations to introduce 2030 Agenda for Sustainable Development. The agenda lists out 17 Sustainable Development Goals in which six of them have provisions related to environmental issues, namely decent work and environmental growth (SDG 8), sustainable cities and communities (SDG 11), responsible consumption (SDG 12), climate action (SDG 13), life below water (SDG 14), and life on land (SDG 15) (International Labour Organization., 2019). In 2015, countries including Malaysia adopted this Agenda which officially came into force on 1 January 2016.

Environmental disasters are costly. For example, British Petroleum was asked to pay \$20.8b as a result of 2010 Deepwater Horizon oil spill (Davenport and Schwartz, 2015). In addition, in 2015, the United States Environmental Protection Agency (EPA) had issued a notice of violation of the Clean Air Act to German automaker Volkswagen Group for cheating on government emissions tests which has seen the company posting its first quarterly loss for 15 years of €2.5bn (Hotten, 2015). In a recent case in Malaysia, The Education Ministry has decided to shut down 111 schools in Pasir Gudang district until further notice due to the emission of toxic fumes from waste illegally dumped into Sungai Kim Kim (Tan, 2019). It has also been reported that such illegal dumping of toxic waste into the river has been happening for years (Lokman, 2019). According to The Energy, Technology, Science, Climate Change and Environment Minister, the cost of removing the toxic pollution in the 1.5km stretch of the river is estimated to be RM6.4mil (Chu et al., 2019).

The enormous costs of environmental cleanups and the increasing concern over their long-term impact on the public health have resulted in the rising expectations of the stakeholders for companies to be more socially and environmentally accountable. Their legitimacy is at stake. Therefore, they are expected to inform the public on any policy and initiative undertaken to protect the environment and to ensure sustainability. This can be done through the periodic and transparent reporting of information in media such as annual reports, stand-alone sustainability reports, and corporate websites. In addition, Adams (2002) pointed at the importance of addressing internal organisational factors influencing corporate social reporting (including environmental sustainability reporting). One of these factors is corporate governance.

2. Problem Statement

Environmental sustainability reporting refers to any disclosure related to a company's policies, strategies, initiatives, and performance on the environment. In the past, especially in the context of Malaysia as one of the high performing emerging economies with GDP per capita growth of more than 3.5% annually

for 50 years (McKinsey Global Institute, 2018), there have been many studies conducted on environmental reporting in Malaysia including the work by Sulaiman et al. (2014), Said et al. (2013), Alrazi et al. (2009), Buniamin et al. (2008), Sumiani et al. (2007), and Ahmad et al. (2003), to name but a few. Recently, there was a shift from researching on environmental reporting to broader sustainability reporting (Amran et al., 2014; Amran & Haniffa, 2011; Sawani et al., 2010) or environmental, social and governance (ESG) reporting (Kweh et al., 2017). Furthermore, there has also become a trend to examine a rather more specific environmental issues including climate change (e.g., Alrazi, 2014; Amran et al., 2012; Kalu et al., 2016; Ooi & Amran, 2018; Ooi et al., 2018; Omar & Amran, 2017), water (Alrazi, Mat Husin et al., 2018) and biodiversity (Mat Husin et al., 2018a, 2018b). Due to this shift of focus, it is relatively unknown as to the recent state of corporate environmental sustainability reporting among Malaysian companies. Furthermore, previous studies had relied on the reporting measures based on the outcome of content analysis conducted by the researchers. One of the problems inherent in such a content analysis exercise is subjectivity which could affect the reliability of measure (Milne & Adler, 1999). Therefore, a more credible measure is needed.

According to institutional governance theory, the effectiveness of environmental reporting is determined by both internal corporate governance and market and state pressures (Griffiths et al., 2007). In this regard, Rankin et al. (2011) examined the proclivity among the largest Australian companies to voluntarily disclose greenhouse gas (GHG) emissions and the extent and credibility of information disclosed. They found, among others, corporate governance quality leads to greater disclosures. The influence of corporate governance was also found to be significant in another research utilising institutional governance theory by Alrazi, Shaiful Bahari et al. (2018) who examined the carbon emission disclosures among 75 electricity companies in Asia for the year 2013. These findings indicate the significance of internal organisational structure (see Adams, 2002) to environmental management, monitoring, measurement, and reporting. Both studies however focused on a specific environmental issue i.e., GHG/carbon emissions. Furthermore, prior literature on the association between corporate governance and environmental sustainability reporting (or its variants) have utilised other theories including agency theory (Buniamin et al., 2008; Chithambo & Tauringana, 2017; Said et al., 2013), legitimacy theory (Haniffa & Cooke, 2005; Kılıç & Kuzey, 2019), stakeholder theory (Michelon & Parbonetti, 2012). As such, the ability of institutional governance theory to explain corporate environmental sustainability reporting has not been examined comprehensively. Moreover, previous studies more often than not viewed corporate governance based on certain characteristics such as board independence, board size, CEO duality and ownership. It remains uncertain as to whether a holistic perspective of corporate governance (using a single measure) has a significant relationship with environmental sustainability reporting.

3. Research Questions

The issues highlighted above give rise to the following research questions:

1. What is the trend of environmental sustainability reporting among best-governed companies in Malaysia?
2. Can corporate governance be associated with the level of environmental sustainability reporting among the companies?

4. Purpose of the Study

The purpose of the research is twofold. First, it aims to examine the trend of environmental sustainability reporting among best-governed corporate governance companies in Malaysia. Second, it assesses the association between corporate governance and environmental sustainability reporting among the sample companies.

5. Research Methods

5.1. Literature Review

In Malaysia, effective 1 January 2007, all public listed companies are required to report on any corporate social responsibility (CSR) activities and performance which include environmental sustainability matters. However, there is no clear description as to how the reporting should be done. In October 2015, Bursa Malaysia amended the Listing Requirements (LR) to include a requirement on sustainability statements in annual reports. The amendment requires the listed issuers to disclose, in their annual reports, a narrative statement of the management of material economic, environmental and social risks and opportunities (Sustainable Stock Exchanges Initiative, 2017).

The amendment will be implemented in stages over a period of 3 years, starting from 31 December 2016 to 31 December 2018. The cut-off is based on market capitalisation in which Main Market listed companies with a market capitalisation of RM2 billion and above as of 31 December 2015 or the date of its admission to the Exchange in 2016, are required to comply for the financial year ending (FYE) on or after 31 December 2016. All other Main Market companies are expected to follow suit for the FYE on or after 31 December 2017. For ACE Market, the deadline is for the FYE on or after 31 December 2018 (Sustainable Stock Exchanges Initiative, 2017).

In conjunction to this latest requirement, Bursa Malaysia has published Sustainability Reporting Guide in the same year. The Guide provides guidance on how to embed sustainability in organisation and help companies to identify, evaluate and manage their material EES risks and opportunities. The second edition published in 2018 includes more current case studies, reference to the SDGs and the TCFD recommendations, some guidance on integrated reporting and a new chapter on assurance to provide guidance on how it may be conducted (Bursa Malaysia Berhad, 2018).

5.2. Hypotheses Development

Most of the literature in social and environmental reporting have used legitimacy theory to explain the trend in reporting practice (see, for example, Abdul Hamid & Atan, 2011; Ahmed Haji & Mohd Ghazali, 2013; Campbell, 2004). Legitimacy theory is derived from the concept of organisational legitimacy (O'Donovan, 2002). Companies are seen as 'legitimate' when their "actions...are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). Changing organisational performance, changing societal expectations, or a combination of both can give rise to a legitimacy gap (Deegan, 2006). Examples of event that might lead to legitimacy gap include involvement in environmental disasters (Patten, 1992), environmental lawsuits (Deegan & Rankin, 1996), and evidence of poor environmental performance (De Villiers & Van Staden, 2011). Nevertheless,

societal expectations could still change although there is no change in organisational performance. The change could be due to increased environmental awareness among the public and the enactment of new environmental legislation (Walden & Schwartz, 1997). Companies use disclosures to demonstrate actions undertaken to respond to societal expectations. Lindblom (1993) asserted that companies will provide disclosures to maintain legitimacy through demonstrating improvement in actual environmental performance, changing the perceptions or expectations of the public on organisation's performance, or deviating attention from the issue of concern.

With the increased expectation from the society as reflected in the development of environmental reporting requirement in Malaysia, the following hypothesis is developed:

H1: There is a significant increase in the level of environmental sustainability reporting.

Central to institutional governance theory is the concept of institutional governance system which can be defined as "the configuration of state and private organisations and institutional arrangements that impact and create mechanisms by which economic and social outcomes in nations are produced" (Griffiths et al., 2007, p. 416). According to Griffiths and Zammuto (2005), the framework has been proposed to overcome the weaknesses in the earlier contributions of the strategic management literature and political economy literature. The former sees the generation of competitive advantage through the firm-centric lense. In essence, companies' internal resources, capabilities, and strategies and industry characteristics and structures drive competitive advantage. By contrast, the latter, adopting state-centric lense, emphasise on the role of national governments and institutions. Therefore, institutional governance system framework proposes the integration of four institutional arrangements for national industrial competitiveness, namely market governance, corporate governance, state governance, and joint governance (see further Griffiths & Zammuto, 2005). In this regard, the effectiveness of environmental reporting is determined by both internal corporate governance and market and state pressures (Griffiths et al., 2007).

Prior literature has found a significant relationship between corporate governance and environmental disclosures (Buniamin et al., 2008; Said et al., 2013), climate change disclosures (Alrazi, Mat Husin et al., 2018; Chithambo & Tauringana, 2017; Kılıç & Kuzey, 2019; Rankin et al., 2011), social disclosures (Haniffa & Cooke, 2005) and sustainability disclosures (Michelon & Parbonetti, 2012). Therefore, it is hypothesised that,

H2: There is a significant relationship between corporate governance and environmental sustainability reporting.

5.3. Research Design

The sample of the research consists of companies listed as the Top 100 companies for Overall CG & Performance for the last three years (i.e., 2016, 2017, and 2018) available from the Minority Shareholders Watchdog Group (MSWG) Malaysia website (<http://www.mswg.org.my/>). In ranking the companies, MSWG considered several factors, namely rights of shareholders, equitable treatment of shareholders, role of stakeholders, disclosure and transparency, and responsibilities of the board, with several bonus and penalty items. The assessment was done on various corporate documents including annual reports, company

websites, minutes of annual general meeting, and articles of association. Upon scrutiny of the list, 61 companies appeared in every list, suggesting strong corporate governance.

In order to be selected into the sample, the companies were further evaluated for the availability of environmental sustainability reporting data. Data on environmental sustainability reporting were hand-collected from the Thomson Reuters EikonTM database under the ESG menu. Thomson Reuters ESG Scores measure companies' ESG performance based on reported data in the public domain across 3 pillars, namely environmental (three topics), social (four topics) and governance (three topics). The topics for environmental are resource use, emissions and innovation. The scores, for overall and individual topics, ranged between A+ and D-. Of the 61 companies, only 23 have a complete dataset for the years of analysis, resulting into 69 firm-year observations.

As mentioned earlier, corporate governance is based on the ranking developed by MSWG Malaysia, with the company ranked first was deemed to have the best overall CG and performance scores. Nevertheless, the actual score for each company is not publicly available. In the absence of such scores while at the same time to facilitate better interpretation of the result (in which the finding is expected to be better corporate governance is associated with better environmental sustainability reporting), the ranking was being reversed so that company ranked first was given a score of 100, while company ranked hundredth was assigned a score of 0. Additionally, the rating for environmental sustainability was also converted into numbers to allow for statistical analysis to be conducted. The conversion of rating had resulted into numbers ranging between 1 and 12, with 1 is for the original rating of D- and 12 is for the original rating of A+

6. Findings

The first objective of the research is to examine the trend of environmental sustainability reporting among the top corporate governance companies in Malaysia. Table 01 depicts the average scores obtained by the sample companies during the period. To determine whether there is a significant change across the years, Wilcoxon Signed Rank test which is appropriate for related samples with continuous data was conducted¹. Several observations can be made from the table. First, the average scores for overall and by categories of information showed increasing trend over the years. Except for innovation-related disclosures, the increase in other disclosures is significant at 0.05 level. This scenario is expected since the sample comprised of companies with strong corporate governance performance. Second, the score for emissions-related disclosures is consistently higher than the other two categories, with the lowest scores were attributed to innovation disclosures. As compared to business-as-usual type of information under emissions and resource use, included in innovation disclosures were eco-design products, hybrid vehicles, nuclear, take-back and recycling initiatives, organic products initiatives and renewable or clean energy products, to name but a few. These initiatives are considered to be new waves of initiatives which require significant investments and long term strategic planning from the companies, hence explaining the low level of disclosure scores. Third, even though the disclosures show an increasing trend, the level of reporting is considered as moderate considering highest score is A+ or 12 marks. At present, the average scores fall

¹ For consistency purpose, paired-sample *t* test - the equivalent parametric test - was also conducted. Except for the difference between innovation scores in 2016 and 2018 which was found to be statistically significant ($p=0.069$), the finding for other differences are consistent with the result provided by Wilcoxon Signed Rank test shown in Table 01.

between C+ and B+ ratings. With the Sustainability Amendments took place effective year 2016 with staggered implementation until year 2018, it can be predicted that the disclosure scores will be further improved in the coming years. This positive response to the increased expectation of the society (through the change in reporting requirement) is consistent with the argument of legitimacy theory.

Table 01. Trend in environmental sustainability reporting

	2016 (a)	2017 (b)	2018 (c)	(a)-(b)	(b)-(c)	(a)-(c)
Overall	6.39	7.57	7.91	0.011**	0.490	0.017**
Resource Use	6.65	7.57	7.87	0.053*	0.522	0.047**
Emissions	7.13	8.00	8.48	0.064*	0.550	0.037**
Innovation	6.52	6.87	7.22	0.109	0.380	0.102

** Significance at 0.05 level * Significance at 0.10 level

The second objective of this research is to assess the association between corporate governance and environmental sustainability reporting among the sample companies. For this purpose, correlation analysis was conducted for the pooled data (i.e., 69 firm-year observations). Table 02 presents the result of correlation analysis with result from Spearman's rho above the diagonal, while Pearson below. Based on the table, except for emissions which shows a negative sign, other measures for environmental sustainability reporting are positively correlated with corporate governance. However, only innovation is significant at 0.01 level. Analysis by year (not tabulated here) reveals that this significant association is due to the disclosures in year 2016, the first year in which the Sustainability Amendments became effective. The overall score correlate weakly ($p=0.091$) with corporate governance for Spearman's rho but no significant association was found using Pearson.

The result suggests that although all companies increased their environmental sustainability disclosures, companies with stronger corporate governance provided greater disclosures in innovation as compared to their counterparts. This is consistent with the argument earlier that disclosures related to innovation requires companies to be more advanced in their environmental initiatives as they involve emerging technologies that are not easily mimicked by other companies. Companies with stronger corporate governance are also expected to be more forthcoming with any new requirements being imposed onto them (in this case, the Sustainability Amendments). Institutional governance theory which argues for strong corporate governance to make environmental reporting more effective provides support to the findings of this research.

Table 02. Correlation analysis

	Corp. Gov.	Overall	Resource Use	Emissions	Innovation
Corp. Gov	-	0.205*	0.047	-0.076	0.375***
Overall	0.158	-	0.813***	0.707***	0.649***
Resource Use	0.014	0.837***	-	0.587***	0.312***
Emissions	-0.009	0.713***	0.605***	-	0.092
Innovation	0.284***	0.648***	0.317**	0.150	-

*** Significance at 0.01 level ** Significance at 0.05 level * Significance at 0.10 level

7. Conclusion

This research focuses on two issues receiving global attention, namely environmental sustainability and corporate governance. Using the corporate reporting as the context of analysis, this research found that over the years, the quality of environmental sustainability reporting among the top corporate governance companies in Malaysia increased significantly. Additionally, it found that the disclosures – particularly related to innovation – were associated with corporate governance. The findings provide support to both legitimacy theory and institutional governance theory. This research contributes to the further discussion on the possible relationship between corporate governance and environmental reporting. In doing so, it provided the analysis on a longitudinal basis utilising the most recent data, focused on top corporate governance companies where expectations on environmental sustainability is high, used more credible measures for independent and dependent variables, and interpreted the findings based on multiple theoretical lenses.

The finding of this research should be interpreted with caution. First, the sample is small and limited to companies ranked in the MSWG list. In order to improve the validity of the findings, future research can be expanded to other companies outside the list but with data on environmental reporting scores in Thomson Reuters database. Second, the research is analysed based on correlation analysis. It did not consider other factors that could potentially affect the environmental scores, particularly firm size, profitability, and leverage. Future studies may incorporate these variables and analysed them using regression analysis or any other advanced statistical tools.

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References

- Abdul Hamid, F. Z., & Atan, R. (2011). Corporate social responsibility by the Malaysian telecommunication firms. *International Journal of Business and Social Science*, 2(5), 198-208.
- Adams, C. A. (2002). Internal organisational factors influencing corporate social and ethical reporting - Beyond current theorising. *Accounting, Auditing & Accountability Journal*, 15(2), 223-250.
- Ahmad, Z., Hassan, S., & Mohammad, J. (2003). Determinants of environmental reporting in Malaysia. *International Journal of Business Studies*, 11(1), 69-90.
- Ahmed Haji, A., & Mohd Ghazali, N. A. (2013). A longitudinal examination of intellectual capital disclosures and corporate governance attributes in Malaysia. *Asian Review of Accounting*, 21(1), 27-52.
- Alrazi, B. (2014). The carbon disclosure of the Malaysian major power producers: An exploratory study. *Journal of Business Management*, 3(2), 12-25.
- Alrazi, B., Mat Husin, N., & Mohd Ali, I. (2018). Does CFO expertise matter? A case of corporate water reporting among Malaysian public listed companies. *Global Business and Management Research: An International Journal*, 10(4), 239-248.
- Alrazi, B., Shaiful Bahari, N. A., Mat Husin, N., & Mohd Khalid, F. (2018). Institutional governance perspectives of carbon emission disclosures among electricity companies in Asia. *International Journal of Engineering & Technology*, 7, 803-809.
- Alrazi, B., Sulaiman, M., & Nik Ahmad, N. N. (2009). A longitudinal examination of environmental reporting practices in Malaysia. *Gadjah Mada International Journal of Business*, 11(1), 37-72.

- Amran, A., & Haniffa, R. (2011). Evidence in development of sustainability reporting: a case of a developing country. *Business Strategy and the Environment*, 20(3), 141-156.
- Amran, A., Lee, S. P., & Susila Devi, S. (2014). The influence of governance structure and strategic corporate social responsibility toward sustainability reporting quality. *Business Strategy and the Environment*, 23(4), 217-235.
- Amran, A., Ooi, S. K., Nejati, M., Zulkafli, A. H., & Lim, B. A. (2012). Relationship of firm attributes, ownership structure and business network on climate change efforts: evidence from Malaysia. *International Journal of Sustainable Development & World Ecology*, 19(5), 406-414.
- Buniamin, S., Alrazi, B., Johari, N. H., & Abd Rahman, N. R. (2008). An investigation of the association between corporate governance and environmental reporting in Malaysia. *Asian Journal of Business and Accounting*, 1(2), 65-88.
- Bursa Malaysia Berhad. (2018). Sustainability Reporting Guide. <https://bursasustain.bursamalaysia.com/droplet-details/resources/sustainability-reporting-guide>
- Campbell, D. (2004). A longitudinal and cross-sectional analysis of environmental disclosure in UK companies - A research note. *The British Accounting Review*, 36, 107-117.
- Chithambo, L., & Tauringana, V. (2017). Corporate governance and greenhouse gas disclosure: a mixed-methods approach. *Corporate Governance: The International Journal of Business in Society*, 17(4), 678-699.
- Chu, M. M., Chern, L. T., & Lim, R. (2019, March 22). Clean-up to cost over RM10mil. *The Star Online*. <https://www.thestar.com.my/news/nation/2019/03/22/clean-up-to-cost-over-rm10mil/>
- Davenport, C., & Schwartz, J. (2015, October 5). BP settlement in Gulf oil Spill is raised to \$20.8 billion, *The New York Times*. <https://www.nytimes.com/2015/10/06/business/bp-settlement-in-gulf-oil-spill-is-raised-to-20-8-billion.html>
- De Villiers, C., & Van Staden, C. J. (2011). Where firms choose to disclose voluntary environmental information. *Journal of Accounting and Public Policy*, 30(6), 504-525.
- Deegan, C. (2006). *Financial accounting theory* (2nd ed.). McGraw-Hill Australia.
- Deegan, C., & Rankin, M. (1996). Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority. *Accounting, Auditing & Accountability Journal*, 9(2), 50-67.
- Griffiths, A., & Zammuto, R. F. (2005). Institutional governance systems and variations in national competitive advantage: An integrative framework. *Academy of Management Review*, 30(4), 823-842.
- Griffiths, A., Haigh, N., & Rassias, J. (2007). A Framework for Understanding Institutional Governance Systems and Climate Change: The Case of Australia. *European Management Journal*, 25(6), 415-427.
- Haniffa, R. M., & Cooke, T. E. (2005). The impact of culture and governance on corporate social reporting. *Journal of Accounting and Public Policy*, 24, 391-430.
- Hotten, R. (2015, December 10). Volkswagen: The scandal explained. *BBC News*. <https://www.bbc.com/news/business-34324772>
- International Labour Organization. (2019). Relevant SDG Targets related to Environment and Green Jobs. International Labor Organization: Geneva. https://www.ilo.org/global/topics/dw4sd/themes/green-jobs/WCMS_558559/lang--en/index.htm
- Kalu, J. U., Buang, A., & Aliagha, G. U. (2016). Determinants of voluntary carbon disclosure in the corporate real estate sector of Malaysia. *Journal of Environmental Management*, 182, 519-524.
- Kılıç, M., & Kuzey, C. (2019). The effect of corporate governance on carbon emission disclosures: Evidence from Turkey. *International Journal of Climate Change Strategies and Management*, 11(1), 35-53.
- Kweh, Q. L., Alrazi, B., Chan, Y. C., Wan Abdullah, W. M. T., & Mohd Azly Lee, R. (2017). Environmental, social and governance and the efficiency of government-linked companies in Malaysia. *Institutions and Economies*, 9(2), 55-74.
- Lindblom, C. K. (1993, April 15-17). The implications of organizational legitimacy for corporate social performance and disclosure. Paper presented at the 1993 Critical Perspectives on Accounting Conference, New York.

- Lokman, T. (2019, March 15). Toxic waste dumping going on for years. *NewStraitsTimes*.
<https://www.nst.com.my/news/nation/2019/03/469368/toxic-waste-dumping-going-years>
- Mat Husin, N., Alrazi, B., & Mohd Remali, A. (2018a). Biodiversity reporting among Malaysian companies: Does the risk level matter? *International Journal of Engineering & Technology*, 7, 198-203.
- Mat Husin, N., Alrazi, B., & Mohd Remali, A. (2018b). Legitimising corporate behaviour through biodiversity reporting: A case of Malaysian companies. *Global Business and Management Research: An International Journal*, 10(3), 228-238.
- McKinsey Global Institute (2018). Outperformers: High-growth emerging economies and the companies that propel them. Brussels: McKinsey & Company. https://www.mckinsey.com/~/_/media/mckinsey/featured%20insights/innovation/outperformers%20high%20growth%20emerging%20economies%20and%20the%20companies%20that%20propel%20them/mgi-outperformers-full-report-sep-2018.ashx
- Michelon, G., & Parbonetti, A. (2012). The effect of corporate governance on sustainability disclosure. *Journal of Management & Governance*, 16(3), 477-509.
- Milne, M. J., & Adler, R. W. (1999). Exploring the reliability of social and environmental disclosures content analysis. *Accounting, Auditing & Accountability Journal*, 12(2), 237-256.
- O'Donovan, G. (2002). Environmental disclosures in the annual report - Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 15 (3), 344-371.
- Omar, N. B., & Amran, A. (2017). Corporate governance and climate change reporting in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 7(12), 222-240.
- Ooi, S. K., & Amran, A. (2018). Enabling climate change reporting in Malaysia, *World Review of Entrepreneurship, Management and Sust. Development*, 14(4), 507-527.
- Ooi, S. K., Goh, S., Yeap, J. A. L., & Loo, K. S. (2018). Linking corporate climate change and financial performance: Evidence from Malaysia. *Global Business and Management Research: An International Journal*, 10(1), 231-246.
- Patten, D. M. (1992). Intra-industry environmental disclosure in response to the Alaskan oil spill: A note on legitimacy theory. *Accounting, Organizations and Society*, 17(5), 471-475.
- Rankin, M., Windsor, C., & Wahyuni, D. (2011). An investigation of voluntary corporate greenhouse gas emissions reporting in a market governance system – Australian evidence. *Accounting, Auditing & Accountability Journal*, 24(8), 1037-1070.
- Said, R., Omar, N., & Abdullah, W. N. (2013). Empirical investigations on boards, business characteristics, human capital and environmental reporting. *Social Responsibility Journal*, 9(4), 534-553
- Sawani, Y., Mohamed Zain, M., & Darus, F. (2010). Preliminary insights on sustainability reporting and assurance practices in Malaysia. *Social Responsibility Journal*, 6(4), 627-645.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approach. *The Academy of Management Review*, 20(3), 571-610.
- Sulaiman, M., Abdullah, N., & Fatima, A. H. (2014). Determinants of environmental reporting quality in Malaysia. *International Journal of Economics, Management and Accounting*, 22(1), 63-90
- Sumiani, Y., Haslinda, Y., & Lehman, G. (2007). Environmental reporting in a developing country: a case study on status and implementation in Malaysia. *Journal of Cleaner Production*, 15(10), 895-901.
- Sustainable Stock Exchanges Initiative (2017). Bursa Malaysia (Malaysian Exchange). <http://www.sseinitiative.org/fact-sheet/bursa/>
- Tan, B. (2019, March 13). Education Ministry orders all 111 Pasir Gudang schools closed over toxic fumes. Malay Mail. <https://www.malaymail.com/news/malaysia/2019/03/13/education-ministry-orders-all-111-pasir-gudang-schools-closed-over-toxic-fu/1732356>
- Walden, W. D., & Schwartz, B. N. (1997). Environmental disclosures and public policy pressure. *Journal of Accounting and Public Policy*, 16, 125-154.
- World Economic Forum. (2014). Global Risks 2014 - Ninth Edition. World Economic Forum: Geneva. http://www3.weforum.org/docs/WEF_GlobalRisks_Report_2014.pdf
- World Economic Forum. (2019). The Global Risks Report 2019 - 14th Edition. World Economic Forum: Geneva. http://www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf