

ENVIRONMENTAL DISCLOSURE QUALITY OF ISO14001 COMPANIES AND DIFFERENCES IN COMPANIES' CHARACTERISTICS

Ridzwana Mohd Said^{1*}
Liew Lai Teng²
Rosmila Senik³
Yusniyati Yusri⁴

¹School of Business and Economics, Universiti Putra Malaysia (UPM), Malaysia,
(E-mail: ridzwana@upm.edu.my)

*corresponding author

²School of Business and Economics, Universiti Putra Malaysia (UPM), Malaysia,
(Email: laiteng96@gmail.com)

³School of Business and Economics, Universiti Putra Malaysia (UPM), Malaysia,
(Email: rosmilassenik@upm.edu.my)

⁴School of Business and Economics, Universiti Putra Malaysia (UPM), Malaysia,
(Email: atieyy@upm.edu.my)

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Abstract: *Quality of environmental disclosure is important as it indicates the usefulness, comprehensibility, relevance, reliability and comparability to users of information. With the emergence of digital technology, Internet is used as a new medium for environmental disclosure. However, quality of such disclosure is still debatable. ISO14001 certification is an indicator to determine the quality of environmental information. Thus, this study examined the difference in quality of web-based environmental disclosure between ISO14001 and non-ISO14001 certified company in Malaysia and the differences in environmental information quality based on company profitability, leverage and auditor's type. Content analysis was adopted, and Mann-Whitney U test was used to analyse the differences in disclosure quality. The analysis revealed that there is a different in disclosure quality between ISO14001 and non-ISO14001 certified company, while no differences in disclosure quality between high and low profitability companies, high and low leverage companies and companies audited by big four and non-big four auditors.*

Keywords: *Environmental Reporting; Content Analysis; Test of Differences; Malaysia*

Introduction

Environmental issues have been widely discussed, not only in Malaysia, but also all over the world. As industrialisation is part of the roots for climate change, corporations are demanded to be proactive to minimize impacts on the environment and be accountable to the wider stakeholders by keeping them inform of the initiatives taken. Thus, environmental reporting would be one of the effective platforms to provide such information (Nik Wan, Asat & Mohamed Zain, 2017).

ISO14001 certification is an initiative to encourage companies' environmental proactivity and reporting (Yusoff, Kamaruddin & Ghani, 2018). It is an environmental management standard given to organisation with comprehensive approach to safeguard the environment from pollution and to improve the environmental performance. According to Suhardjanto, Purwanto, Arshardianti and Setiany (2018), companies are motivated to obtain ISO14001 certificate as it reflects positive image and may improve environmental performance. Hence, the certification, is found to be a significant factor for companies in environmental reporting (Chaklader & Gulati, 2015).

According to Wangombe (2013), environmental reporting is "the practice of measuring, disclosing, and reporting to internal and external stakeholders the organizational environmental performance so as to achieve the goal of sustainable development and to enable such stakeholders assess their relationship with the reporting entity" (p. 655). It could be disclosed in various medium, such as in the annual reports, on the company's website, or as a standalone report. In Malaysia, a standalone environmental reporting is voluntary and such information is usually disclosed as a component of sustainability report, or corporate social responsibility report (Suhardjanto et al., 2018).

Nevertheless, the quality of environmental information is important as it indicates the usefulness, comprehensibility, relevance, reliability and comparability of the disclosure to the information users (Lee, 2015). With the emergence of technology, Internet has been an alternative mean for environmental disclosure (Chandok & Singh, 2017). However, the quality of information disclosed on the Internet is low (Al-Arussi, Hanefah & Selamat, 2013; Yusoff & Othman, 2013; Mohd Said, Lee, Senik & Yusri, 2016). Additionally, prior studies had also revealed that there is a relationship between company's characteristics such as size, profitability, financial leverage and auditor type and quality of environmental reporting (Chandok & Singh, 2017; Juhmani, 2014; Khasharmeh & Desoky, 2013; Sommer, Klink, Senkl & Hartmann, 2015; Turmin, Hamid & Ghazali, 2014).

Thus, this present study aims to examine the quality of online environmental disclosure of ISO14001 certified and non-ISO 14001 certified companies and to determine the differences in the environmental disclosure quality between the companies with different profitability, leverage and type of auditors.

Literature Review

Quality of Environmental Disclosure

Prior research focus on two aspects of environmental report, namely, quantity and quality of environmental information disclosure. Sulaiman, Abdullah and Abdul Hamid (2014) explained that quantity refers to self-explanatory, while quality is on the accuracy, relevancy and usefulness of the environmental information disclosed. The Bursa Malaysia (Malaysian Stock

Exchange) mandated social and environmental reporting in 2006, in which listed companies must include information on community, workplace, employees and environmental in the annual report as one of the initiatives to encourage environmental disclosure (Sulaiman et al., 2014). Nevertheless, the quality of environmental disclosure in Malaysia is still low. Nik Ahmad and Mohamad (2013) discovered that the sampled companies failed to disclose complete and comprehensive information based on disclosure index developed by Clarkson, Richardson, and Vasvari (2008). This claim is supported by Mohd Said et al. (2016) which sampled environmentally sensitive companies for the year 2012 and Huei (2016) who studied disclosure quality of different sectors for year 2013. Suhardjanto et al. (2018) also found that the quality of environmental disclosure in agricultural and consumer goods sectors were low.

Besides disclosure in annual reports, information could be disclosed in other medium, such as corporate website. However, web-based reporting medium is voluntary and hence the information was low and lack of uniformity (Turmin et al., 2014). According to Al-Arussi et al. (2013), the increase in global environmental problems has pressured and caused companies to consider disclosure of environmental information on the Internet. They discovered that the extent of Internet environmental disclosure was low and general, and important information such as financing on equipment for pollution control were barely provided.

ISO 14001 Certificate

In response to the increase in environmental awareness, International Organization of Standardization (ISO) developed environmental management standards, ISO14001 back in 1990s (Luan, Tien & Chen, 2016). The certification focuses on environmental management system and is given to organisation with established systematic approach to improve environmental performance. Research done by Chaklader and Gulati (2015) suggested that environmental certification has positive significant relationship with the level of environmental disclosure by companies in India. Similarly, Nurhayati, Taylor, Rusmin, Tower and Chatterjee (2016) and Suhardjanto et al. (2018) also suggested that international certification influences social and environmental disclosure. Yusoff et al. (2018) found that ISO14001 certified company disclosed more environmental information as a strategy to legitimize their operations as the disclosure on environmental impact of business activities gives signal to the public that the company is responsible.

Determinants of Environmental Disclosure Quality on Corporate Website

Numerous studies have been done on the influence of firm characteristics, such as company size, profitability, financial leverage, auditor type and many other factors, towards web-based environmental disclosure by companies (Baalouch, Ayadi, and Hussainey, 2019; Mustafa, Almubaideen, and Alroud, 2018; Al Arussi & Al Dhamari, 2017; Chandok & Singh, 2017; Ufere, Alias, Uche, and Onu, 2017; Md Nor, Shaiful Bahari, Adnan, Sheh Kamal, & Mohd Ali, 2016; Juhmani, 2014; Khasharmeh and Desoky, 2013; Sommer et al., 2015; Turmin et al., 2014). However, some of these studies shown mixed results.

Sommer et al. (2015) examined the relationship between web-based corporate social responsibility (CSR) disclosure, profitability and financial leverage among food producers in Germany using 71 food processor companies' website for the year 2009. The profitability of company was measured based on return on equity (ROE) and return on asset (ROA), while financial leverage was based on leverage ratio. The findings reveal that there is no significant association between CSR disclosure and profitability or financial leverage. The researchers

suggested that the lack of resources is less relevance with corporate social responsibility disclosure for the food producers.

Juhmani (2014) sampled 33 companies listed on the Bahrain Bourse on year 2012 to study the effects of firm size, profitability, financial leverage, firm age and audit firm size on the extent of social and environmental information disclosure. Similar to Sommer et al. (2015), the company financial leverage was based on leverage ratio (total liabilities to the total of shareholder's equity), but the profitability was measured based on companies' earnings per share. The results shown that profitability does not affect the extent of social and environmental information disclosure. However, it was identified that there was significant relationship between financial leverage and audit firm size with environmental disclosure. Juhmani (2014) explained that large auditor is more readily to follow the ISO and hence, would expect their audit clients to provide higher level of relevant information, both financial and non- financial in their annual reports and websites.

Khasharmeh and Desoky (2013) also examined effects of firm size, total assets, profitability, audit firm and other companies characteristics on on-line CSR disclosure level among 163 companies listed on the stock markets of six GCC countries (Kingdom of Bahrain, Kingdom of Saudi Arabia, Kuwait, Oman, Qatar and the United Arab Emirates) for the year 2012. Profitability of company was measured based on ROE, while audit firms was measured based on whether the firm was one of the big four audit firms. Mann-Whitney test was used, and the results indicated that there was weak association between audit firm and on-line CSR disclosure level, but positive association between profitability and on-line CSR disclosure level. The justified that weak association between audit firm and on-line CSR disclosure level may due to the common professional standards practice among all audit firms.

Chandok and Singh (2017) also studied the relationship of company size, financial performance, foreign influence, financial leverage, risk and age with the level of web corporate environmental disclosure of 100 companies listed on the Bombay Stock Exchange on 2014. Debt-equity ratio and ROE were used to measure the financial leverage and company performance respectively. They found no significant association between environmental disclosure and financial leverage, while profitability has inverse association with the level of disclosure among companies in India.

Mustafa et al. (2018) examined the status of environmental disclosure in the financial reports of the Jordanian mining and extraction listed shareholding companies and concluded that the Jordanian industrial companies do not pay attention to the forms of environmental disclosure. Although all companies are presenting the environmental disclosure technique in their annual reports, however, the usage of this technique is inconsistent between the companies.

Baalouch et al. (2019) studied environmental disclosure practice among French limited companies and found that quality of environmental disclosure remains relatively low. In addition, their findings show that a company's strategy and vision, diversity in boards and environmental performance play significant roles in explaining variations in quality of environmental disclosure.

In Malaysian context, Turmin et al. (2014) examined companies characteristics that affect web-based business reporting which include size of company, liquidity, profitability, leverage, activity sector, auditor type, proportion of independent non-executive directors and ownership

structure using 380 companies for the year 2008. The results shown that leverage level and type of auditor are not significantly influence web-based reporting, while profitability did influence web-based reporting. This is also evidence from a study by Md Nor et al. (2016) who found out that there is a significant relationship between total environmental disclosure and profit margin among top 100 company of market capitalization in Malaysia.

Besides that, Al Arussi and Al Dhamari (2017) also investigated the determinants of environmental disclosure by sampling 201 Malaysian companies. Ownership structure (management ownership, government ownership) and company characteristics (firm size, level of technology, industry type, and profitability). Profitability was measured using companies' earnings per share. The research revealed insignificant positive relationship for profitability and online environmental disclosure. Nevertheless, stakeholder theory argued that company with good financial performance will increase the quality of environmental disclosure as they are subjected to more public pressures and scrutiny (Khlif, Hussainey & Achek, 2015).

It is also supported by Ufere et al. (2017) in their study on 126 samples of real estate investment companies, property companies and construction companies in Malaysia based on the theories of Legitimacy, Stakeholders, and Voluntary Disclosure Theory. Their findings reported a low level of public and stakeholders' awareness toward environmental disclosures and suggesting that there is a need for policies to generate incentives to enhance the practice of environmental disclosure and climate change mitigation as part of the companies' corporate social responsibility strategies.

Hypotheses Development and Research Framework

ISO 14001 Certification

Prior studies have indicated the positive effect of ISO14001 certification on environmental disclosure and environmental performance which would prompt companies to improve environmental disclosure quality (Chaklader & Gulati, 2015; Md Nor, Shaiful Bahari, Adnan, Sheh Kamal, Mohd Ali, 2016; Nurhayati et al., 2016; Suhardjanto et al., 2018; Yusoff et al., 2018). This study suggested that ISO14001 certified companies in comparison with non-ISO14001 certified companies discloses more environmental information to legitimise their operations and give signal to the public that the company is responsible, which is in accordance with the legitimacy theory. Accordingly, the hypothesis is addressed:

H1: The quality of environmental information disclosed on the corporate website by ISO 14001 certified and non-ISO 14001 certified companies is different.

Profitability

According to legitimacy theory, companies are bound by a social contract with the society in which the companies operate, and corporate environmental disclosure are being practised to discharge their responsibility to the society (Hu & Karbhari, 2015). Prior studies measuring the relationship between company profitability and corporate environmental disclosure showed mixed results. Juhmani (2014) and Sommer et al. (2015) suggested that profitability does not affect disclosure quality, while Chandok and Singh (2017) suggested negative relationship between the variables. However, most of the studies showed positive relationship which are in accordance with legitimacy theory (Khasharmeh and Desoky, 2013; Turmin et al., 2014, Mohd Nor et al., 2016). Therefore, it is hypothesised that:

H2: The quality of environmental information disclosed on the corporate website by high profitability companies and low profitability companies is different.

Financial Leverage

Some prior studies revealed that there is no significant relationship between financial leverage and disclosure quality (Chandok and Singh, 2017; Sommer et al., 2015; Turmin et al., 2014). However, a study by Juhmani (2014) is in accordance with legitimacy theory, which the result suggested a positive relationship between financial leverage and disclosure quality. As the debt level increase, company increases disclosure of environmental information to meet the creditors' expectations on environmental issues. As quantity is positively related to quality of environmental disclosure (Lee, 2015), the following hypothesis is formed:

H3: The quality of environmental information disclosed on the corporate website by high financial leverage companies and low financial leverage companies is different.

Type of Auditor

Turmin et al. (2014) found the quality of on-line reporting is not affected by auditor type. Also, Dibia and Onwuchekwa (2015) asserted that clients of big four auditors may not necessarily engage in environmental disclosure, hence, there is no relationship between auditor type and disclosure quality. However, Juhmani (2014) explained that large auditor would expect their audit clients to provide higher level of relevant information, both financial and non- financial to meet the demand for reliable information from the stakeholders. Also, according to Coluccia, Fontana and Solimene (2016), companies audited by big four accounting firms disclosed higher amount of information on the Internet. Thus, it is hypothesized that:

H4: The quality of environmental information disclosed on the corporate website by company audited by big four audit firms and companies audited by non-big four firms is different.

Figure 1, shows the research framework.

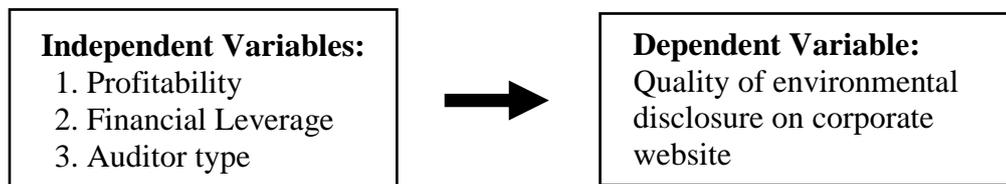


Figure 1: Research Framework

This study examined the quality of environmental information disclosed on the corporate website and the differences in quality of disclosure between three corporate characteristics which are profitability, financial leverage and type of auditor.

Research Design

There are 89 public listed companies with ISO14001 certification. Therefore, according to Krejcie and Morgan (1970), 73 samples each should be drawn randomly for both ISO certified and non-ISO certified companies. The independent variables are the company's profitability (high or low profitability companies), financial leverage (high or low leverage companies) and type of auditor (audited by the big four or non-big four audit firm). Data were obtained from annual report for financial year ended 2017. The data were recoded into dichotomy variables

based on the median (Mahmood, Han, Ali, Mubeen and Shahzad, 2019). High profitability companies with Return on Equity (ROE) were coded as 1 and 2 for otherwise. Similarly, for the financial leverage data using median of debt to equity. Next, for type of auditor, big four audit firms refer to Deloitte Touche Tohmatsu Limited (Deloitte), PricewaterhouseCoopers (PwC), Ernst & Young (E&Y) and Klynveld Peat Marwick Goerdeler (KPMG) (given value of 1), while others are given value of 0 (adapted from Juhmani, 2014).

The dependent variable is quality of environmental disclosure collected using content analysis based on a disclosure index which consist of 24 environmental information, adapted from Yusoff and Othman (2013). Rating scores of '1' to '4' is given to each environmental information based on its presence and the degree of specificity, as follows: 0- non-disclosure, 1- general disclosure, 2- qualitative disclosures, 3- quantitative disclosures, and 4- combination of qualitative and quantitative disclosures. A mean score was then calculated to represent the quality of the disclosure. This method was a modified disclosure index of Wiseman's (1982) used by Yusoff and Othman (2013) to measure quality of environment reporting in 'other report'.

In order to examine the different in quality of environmental reporting by ISO 14001 and non-ISO14001 certified companies and the difference between 2 groups of companies based on company profitability, financial leverage and auditor type, subject to the normality of the independent variable's data, either independent-sample t-test or Mann-Whitney U test at a significance level of 0.05 will be used to examine the difference in the quality of environmental information between ISO14001 and non-ISO14001 certified companies.

Findings and Discussions

Quality of Environmental Disclosure

Based on content analysis data in Table 1 below, it was found that the mean disclosure score obtained by both ISO14001 and non-ISO14001 certified companies fall in the range of 0 to 1, which indicate only general disclosure was made by the companies on their corporate website. Only 9.6% of the total samples selected obtained mean score of 1 to 2 (qualitative disclosure), while none of the companies achieved score of 2 to 4 which requires both quantitative and qualitative disclosure. This illustrates low disclosure quality among Malaysian ISO14001 certified companies and in lines with prior studies (such as, Al Arussi et al., 2013; Yusoff & Othman, 2013).

Table 1: Mean Environmental Disclosure Score Obtained by Company

| Mean Score | ISO certified | | Non-ISO certified | | Total | Percentage of total |
|------------|---------------------|-------------|---------------------|-------------|-------|---------------------|
| | Number of companies | Percent (%) | Number of companies | Percent (%) | | |
| 0.00 | 1 | 1.4 | 17 | 23.2 | 18 | 12.3 |
| 0.01-1.00 | 58 | 79.4 | 56 | 76.8 | 114 | 78.1 |
| 1.01-2.00 | 14 | 19.2 | 0 | 0 | 14 | 9.6 |
| 2.01-3.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.01-4.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 73 | 100 | 73 | 100 | 146 | 100 |

From the detail analysis of mean score by environmental information shown in Table 2, it indicates that both ISO and non-ISO certified has lowest average mean score on litigation matters, in which none of the companies have disclosed any past litigation arise from environmental issues. Legitimacy theory suggests that non-disclosure of environmental information is to protect company. Disclosure of potential or past litigation might cause negative impact on the company reputation, hence, results in non-disclosure as observed in the result.

Besides that, it is observed that ISO certified companies have highest disclosure mean score on 'environmental activities', followed by 'sustainable development' and 'control, installations, facilities or processes described', while non-ISO certified scored on 'environmental policies or company concern' and 'discussion on regulations and requirements' disclosure. These indicates that companies are releasing positive environmental information to maintain companies' responsible image among the public in order to legitimise their operation, hence, is in accordance to legitimacy theory.

Table 2: Mean Score and Rank for Each Environmental Information Disclosed

| Environmental Information | ISO certified | | Non-ISO certified | |
|--|---------------|------|-------------------|------|
| | Mean Score | Rank | Mean score | Rank |
| <u>Financial factors:</u> | | | | |
| 1. Past and current expenditures/operating costs | 0.274 | 12 | 0 | N/A |
| 2. Future estimates of expenditures/operating costs | 0 | N/A | 0 | N/A |
| 3. Financing for environmental equipment | 0 | N/A | 0 | N/A |
| 4. Environmental cost accounting | 0.014 | 16 | 0 | N/A |
| <i>Average Mean Score</i> | 0.072 | | - | |
| <u>Litigation:</u> | | | | |
| 5. Past and present litigation | 0 | N/A | 0 | N/A |
| 6. Potential litigation | 0.068 | 15 | 0 | N/A |
| <i>Average Mean Score</i> | 0.034 | | - | |
| <u>Pollution abatement:</u> | | | | |
| 7. Environmental data | 0.658 | 7 | 0 | N/A |
| 8. Control, installations, facilities or processes described | 1.151 | 2 | 0.219 | 5 |
| 9. Land rehabilitation and remediation | 0.384 | 10 | 0.027 | 10 |
| <i>Average Mean Score</i> | 0.731 | | 0.081 | |
| <u>Environmental preservation:</u> | | | | |
| 10. Conservation of natural resources | 0.849 | 5 | 0.123 | 6 |
| 11. Departments or offices for pollution control | 0.014 | 16 | 0.014 | 11 |
| <i>Average Mean Score</i> | 0.432 | | 0.069 | |
| <u>Other environmentally related information:</u> | | | | |
| 12. Discussion of regulations and requirements | 0.479 | 9 | 0.68 | 2 |
| 13. Environmental policies or company concern | 1.11 | 3 | 0.726 | 1 |
| 14. Environmental goals and targets | 0.658 | 7 | 0.110 | 7 |
| 15. Awards for environmental protection | 0.315 | 11 | 0.014 | 11 |

| | | | | |
|--|-------|----|-------|----|
| 16. Environmental audit | 0.123 | 14 | 0.014 | 11 |
| 17. Environmental management system | 0.918 | 4 | 0.014 | 11 |
| 18. Environmental end product/services | 0.274 | 12 | 0.082 | 8 |
| <i>Average Mean Score</i> | 0.554 | | 0.147 | |
| <u>Environmental initiatives:</u> | | | | |
| 19. Sustainable development reporting | 1.151 | 2 | 0.110 | 7 |
| 20. Environmental memberships/relationships | 0.315 | 11 | 0.027 | 10 |
| 21. Environmental stakeholder engagement activities | 0.589 | 8 | 0.123 | 6 |
| 22. Environmental activities | 1.822 | 1 | 0.507 | 3 |
| 23. Environmental research and development | 0.192 | 13 | 0.055 | 9 |
| 24. Environmental awareness and education programmes | 0.795 | 6 | 0.247 | 4 |
| <i>Average Mean Score</i> | 0.811 | | 0.178 | |
| <i>Average Mean Score (Overall)</i> | 0.506 | | 0.103 | |

Scores: 0- non disclosure; 1- general disclosure; 2- qualitative disclosures; 3- quantitative disclosures; 4- combination of qualitative and quantitative disclosures

Mann-Whitney U Test on the Difference in Environmental Disclosures Quality between ISO and non-ISO certified companies

Both Kolmogorov-Smirnov and Shapiro-Wilk test have $p < 0$ indicated that the mean quality scores are not normally distributed, while Levene's test for homogeneity of variance shown that the variances are not homogeneous across the two groups. As a result, non-parametric Mann-Whitney U test is used instead of independent T-test. From Table 3, non-ISO certified companies have mean rank of 48.06, while ISO certified companies have mean rank of 98.94. This illustrates that ISO certified companies have higher mean rank than non-ISO certified companies. Statistically, as observed from Table 4, Z values is -7.332 with a significance level of $p < 0.05$. Therefore, the environmental disclosures quality between ISO certified companies and non-ISO certified companies is statistically different. The effect size, r is calculated using the formula below:

$$r = z / \text{square root of } N, \text{ where } N = \text{total number of cases}$$

The r value calculated is 0.607 which indicates that 60.7% of the difference in mean disclosure quality score between the two groups is due to the ISO certification.

Table 3: Mann-Whitney U Test: Ranks on Mean Quality Score

| | ISO or Non | N | Mean Rank | Sum of Ranks |
|---------|------------|-----|-----------|--------------|
| Mean | Non-ISO | 73 | 48.06 | 3508.50 |
| Quality | ISO | 73 | 98.94 | 7222.50 |
| | Total | 146 | | |

Table 4: Mann-Whitney U Test: Test Statistics

| | Mean Quality |
|------------------------|-------------------------|
| Mann-Whitney U | 807.500 |
| Wilcoxon W | 3508.500 |
| Z | -7.332 |
| Asymp. Sig. (2-tailed) | .000 |

Therefore, H1 is accepted which means the quality of environmental disclosure between ISO and non-ISO companies in this study is different. This is consistent to prior studies (such as, Chaklader & Gulati, 2015; Md Nor et al., 2016; Nurhayati et al., 2016; Suhardjanto et al., 2018; Yusoff et al., 2018). ISO14001 certification is given to organisation with established systematic approach in improving environmental performance. Hence, companies with the certificate normally have better environmental performance such as lower level of pollutant being released to the environment, therefore, enables companies to voluntarily improve their disclosure quality by increasing both qualitative and quantitative disclosure. Moreover, to maintain the certification, certain targets and guidelines on the environment need to be met, hence pressuring companies to disclose environmental information, thus the different in environmental disclosure quality between ISO and non-ISO certified companies was discovered.

Differences in Environmental Disclosure Quality related to Companies' Profitability, Financial Leverage and Auditor's Type

From Table 5, it can be observed that the mean rank of environmental disclosure quality is different when comparing low profitability companies with high profitability companies, low leverage companies with high leverage companies and companies audited by non-big four auditors with companies audited by big four auditors. These imply that companies with different profitability, financial leverage and auditor have different disclosure quality.

However, when statistical analysis was run on the mean rank, as presented in Table 6, all three grouping variables have p above 0.05, which is $p = 0.143$, 0.317 and 0.151 for profitability, financial leverage and auditor's type grouping variables respectively. Therefore, it can be concluded that the environmental disclosures quality between the three companies' characteristics is not statistically different. Accordingly, H2, H3 and H4 cannot be accepted.

The effect size, r , calculated using the Z values is 0.171 for profitability grouping variables explained that only 17.1% of the difference in mean disclosure quality score between the high profitability companies and low profitability companies is due to profitability. On the other hands, the effect size, r , are 0.117 and 0.168 for financial leverage and auditor's type grouping variables.

Table 5: Mann-Whitney U Test: Ranks on Mean Quality Score

| Grouping variable | Mean Rank | Sum of Ranks |
|--------------------------|--------------------|---------------------|
| Profitability | Low Profitability | 33.42 |
| | High Profitability | 40.68 |
| | Low Leverage | 34.55 |
| | High Leverage | 34.55 |
| | | 1236.50 |
| | | 1464.50 |
| | | 1278.50 |
| | | 1278.50 |

| | | | |
|---------------------------|---------------|-------|---------|
| Financial Leverage | High Leverage | 39.51 | 1422.50 |
| Auditors' type | non big four | 31.20 | 624.00 |
| | Big Four | 39.19 | 2077.00 |

Table 6: Mann-Whitney U Test: Test Statistics

| Grouping variable | | Mann-Whitney U | Wilcoxon W | Z | Asymp. Sig. (2-tailed) |
|---------------------------|---------|----------------|------------|--------|------------------------|
| Profitability | | 533.500 | 1236.500 | -1.465 | .143 |
| Financial Leverage | Mean | 575.500 | 1278.500 | -1.000 | .317 |
| | Quality | | | | |
| Auditors' type | | 414.000 | 624.000 | -1.437 | .151 |

This implies ISO14001 certification plays a huge role in determining the quality of environmental reporting. As ISO accredited companies achieve continuous environmental performance improvement through the environmental management system, this would encourage them to disclose environmental information to the public regardless of their profitability and financial leverage. Also, it could be due to the disclosure made by companies with ISO14001 generally met the expectation of big four auditors, hence no additional qualitative disclosure is made under advices from the auditors. The results are supported by prior research, such as Sommer et al. (2015) who suggested that financial profitability and leverage have no effect on the quality of environment reporting; Chandok and Singh (2017) that suggested debt level of a company neither encourage nor hinder the quality of environment disclosure; and Turmin et al. (2014) who concluded that financial leverage and auditor's type did not affect the quality of environmental reporting.

Conclusion

This paper identified that the quality of environmental information disclosure made by ISO 14001 certified companies is different with non-ISO 14001 certified companies, with ISO 14001 certified companies showing higher disclosure quality. The study also identified that there are no differences in the quality of environmental information disclosed by ISO certified companies with different level of companies' profitability, financial leverage and auditor's type.

Thus, this study contributes to the users' knowledge on the state of environmental web-based reporting practices among Malaysian listed companies. Besides that, finding on the difference in quality of environmental disclosure between ISO14001 and non-ISO14001 certified company enables other companies to evaluate the needs to obtain ISO14001 certification and increase awareness to improve their web disclosure on environmental related information. Furthermore, this study acts as a catalyst on the policy makers to consider the urgency to provide clear and comprehensive guidelines on web disclosure, in order to enhance the quality of disclosure on companies' website as web-based is an effective communication medium for information to reach wider stakeholders.

This study should be read within its limitations. The current study considered data in year 2017 only, hence, future research may consider longitudinal data to improve the accuracy of the results and identify the trend of environmental disclosure practices by companies. Future research may also examine other companies' characteristics such as level of technology

adoption and organisational culture. To incorporate other industries such as financial industry and service industry may also reveal interesting findings.

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