RESEARCH ARTICLE

Level of sustainability reporting of Malaysian IPO companies

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Abstract
This paper aims to determine the level of sustainability reporting (SR) among Malaysian initial public offering (IPO) companies. Due to a lack of awareness about SR and its dimensions, these aspects have not been receiving the necessary push from the public domain. This study is exploratory in nature. Secondary data were used by conducting content analysis of the annual reports of 139 sampled IPO companies listed on Bursa Malaysia from 2007 to 2017. Data were analysed using descriptive statistics, with extent and quality being used as measures of SR. The results demonstrated gradual improvements of the extent and quality of SR among Malaysian IPO companies. The overall extent of SR was 20.70%, with employee disclosure scoring the highest (34.87%), followed by society disclosure (32.77%), environmental disclosure (22.48%), and finally product disclosure (9.88%). The overall quality of SR was 32.04%, with society disclosure scoring the highest (36.09%), followed by employee disclosure (34.13%), environmental disclosure (20.28%), and finally product disclosure (9.50%). SR dimensions, namely society, environmental, employee, and product received little interest from most of the IPO companies. This study proposes that additional studies can be conducted to investigate SR among IPO companies.

Keywords Corporate sustainability reporting · Malaysia · IPO companies

Introduction

Sustainability reporting (SR) is becoming a popular research topic, showing a rising number of works in this field published in recent decades (Ajaz et al. 2020; Dyck et al. 2018; Li et al. 2022; Jean et al. 2019; De Klerk et al. 2015). There are four dimensions of SR, consisting of society, environmental, employee, and product information by companies, that require important considerations for the benefit of society. Most of the existing works were carried out from the perspective of developed markets, with few studies looking at the standpoint of developing markets. Since developing markets are also exposed to risks related to society, environmental, employees, and products (Bendell 2005; Chien et al. 2021), insights from these markets merit further studies as well.

Companies depend on society to grow, and society expects companies to offer them support. Both society and companies can be improved by involving employee support in societal issues. The support can be in the form of carrying out philanthropic events. Environmental disclosure is the term that initiates companies to focus on their sustainability efforts on various issues (Sohail et al. 2022). For instance, companies could focus on the efficient consumption of energy to reduce the negative impacts on the climate caused by excessive energy consumption and emission. Company employees primarily deal with human rights or gender issues. Companies should take care of the welfare of their employees and establish a work environment that prioritises health and safety. Lastly, concerning products, companies should have proper and responsible interaction

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with stakeholders, such as engaging in ethical procurement practices that help develop suppliers and support green products (Abdullah et al. 2021).

Past studies on the extent and quality of SR have mainly focused on developed countries (e.g., Bowerman & Sharma 2016; De Klerk et al. 2015; Vormedal & Ruud 2009) with only a few (e.g., Chiu & Wang 2015; Kansal et al. 2014; Saleh et al. 2011) looking at the perspective of developing countries. Understanding SR in the context of developing countries is important so that the effects of SR extent and quality on economic development, business, environmental, and sustainability reporting activities can be better understood.

Carroll (1979) recommended conceptualising four elements of SR, namely philanthropic, legal, ethical, and economic responsibilities. Philanthropic responsibilities emphasise business commitment to consider the desires of society. Regarding legal responsibilities, corporations embrace the perspective of society in view of their legal responsibilities in order to achieve their objectives within the limits of the law. Ethical responsibilities imply the ethical reactions of corporations as required by the environment in which they operate. Finally, economic responsibilities entail the necessity to fulfil the wants and needs of society by producing products and services that meet their requirements. Several researchers have demonstrated the significance of SR for companies and society (e.g., Anas et al. 2015; Sadou et al. 2017). Their conclusion is that the benefits of SR include enhanced image and reputation, improved trust and understanding, higher profitability, better cost savings, potential recruits, and solidified employee commitment.

Sustainability reporting initiatives have been gaining considerable attention in Malaysia due to the country's rising economy. The government of Malaysia has set the minimum standards for the implementation of SR activities, especially in the areas of social welfare, health and safety, and environmental protection. To improve the country's revenue generation and economic growth, the Companies Commission of Malaysia (CCM) has doubled its effort in ensuring enhanced SR execution so that the national integrity plan goes hand-in-hand with the national agenda. SR practices have become part of a global business strategy for many companies, particularly to enhance their reputation and brand name while retaining their competitive edge in the extremely challenging global market. SR is ultimately the process of undertaking the responsibility of carrying out certain actions, decisions, and policies in the form of activities by companies to generate positive impacts and values for communities, consumers, environmental, and stakeholders related to the companies (Abdullah & Abdul Rashid 2012). Ramasamy et al. (2007) found that Malaysian companies generally had a poor attitude towards SR. Nevertheless, awareness is gradually rising due to the emergence of several consumer interest groups

and non-governmental organisations (NGOs) that are driving awareness initiatives related to SR.

The SR implementation in Malaysia is mainly guided by the SR framework for public listed companies (PLCs) established by Bursa Malaysia and the Silver Book for government-linked companies (GLCs). SR became a critical issue when, on 5 September 2006, the requirement to disclose SR practices in the annual reports became mandatory for all PLCs in Malaysia (Othman et al. 2011). This requirement was part of a plan to drive the involvement of PLCs in socially responsible initiatives and to improvise their SR approach by incorporating it in their business processes. In 2007, the provision for the disclosure of SR activities was strictly implemented in the annual reports of all PLCs.

Early research on SR in emerging economies specified the use of SR as a response to variations in products in order to create legitimacy (Chu et al. 2013). While Malaysia has implemented many important reforms, including regulatory changes and SR awareness programmes, scarce research has been undertaken to evaluate SR (Esa and Mohd Ghazali 2012). Therefore, the potential explanations, i.e. either legitimacy or a spontaneous rise, for the growing pattern of SR practices are difficult to ascertain. Despite the prevalence of SR disclosures in Malaysia (The Association of Chartered Certified Accountants 2010), several researchers have claimed that the SR reporting level among Malaysian companies is conspicuously low, indicating that it is still in the beginning stage in the country (Othman et al. 2011). In light of this assertion, this study intended to examine the extent and quality of SR by Malaysian IPO companies in their annual reports from 2007 to 2017. Since most prior SR works including those in the context of Malaysia had focused mainly on the non-financial industry (e.g., Sadou et al. 2017), this study took a different path by sampling IPO companies from the non-financial industry. Despite the growing number of SR studies, experimental investigations of SR practices by companies in emerging markets, including among Malaysian IPO companies, are still scarce. One of the possible explanations for the low interest in SR activities among Malaysian IPO companies is a lack of studies on this issue. This study suggests that IPO companies are important, but they do not provide much information, especially on SR, to investors. This study also suggests that SR is important in IPO pricing. Additionally, this paper presents the percentage of specific SR by Malaysian IPO companies as it is useful for explaining how companies improve their performance and underpricing by disclosing more SR information. Therefore, this study aims to fill the research gap by examining the SR level of IPO companies in Malaysia by using the extent and quality of SR as measurements of SR practices. This present study hence enriches the limited literature on SR of IPO companies by providing results from a developing market. The study findings might be useful for local and international standard-setters, regulators, professional bodies, and investors that may have a

similar profile as Malaysia. The findings can also enhance the understanding of companies about the importance of disclosing more SR information to improve their company performance and reputation.

The subsequent sections of this paper are arranged as such: the literature review section, the theoretical framework section, the methodology discussion section, analysis and findings of the study, and finally, the conclusion of the study.

Literature review

Although SR is growing in prominence as a valid concern in the business arena, many companies seem to continue ignoring SR practices. The study by Cochran and Wood (1984) indicated a weak and inadequate connection between SR and corporate financial performance (CFP). Companies that do not use annual reports to their full advantage are not fully successful in following the best practices of SR and its dimensions. Companies that adhere to the best SR practices can potentially achieve positive CFP. SR can be better predicted by prior performance as opposed to the subsequent performance (Mcguire et al. 1988); therefore, the connection between SR and CFP may be attributed to prior financial results.

Earlier studies obtained mixed findings regarding the relationship between SR and CFP. Several prior research works concluded a positive association between SR and CFP (e.g., Nassani et al. 2022; Abdullah et al. 2021; Kumarasinghe et al. 2017; Saleh et al. 2011; Usman & Amran 2015; Wan Ahamed et al. 2014). However, some other studies found a negative link between the two variables (e.g., Crisóstomo & Freire 2011). A non-existent relationship was also indicated (e.g., Iqbal et al. 2012). In studies examining the dimensional links between SR and the ownership structure of 200 companies on the Main Board of Bursa Malaysia from 2000 to 2005 (Saleh et al. 2010), a positive and significant association between SR and ownership structure was found. The assessment was based on the proportion of shares owned by institutional investors, which revealed that institutional investors highly emphasised SR in investment decision-making.

This study focused on IPOs, which have received little attention from researchers. Earlier research works on IPOs (e.g., Mehmood et al. 2021; Mehmood et al. 2020; Maximilian & Gupta 2018) specifically focused on IPO performance. Research on the performance of IPOs presented conflicting results relating to the behaviour and determinants of the IPO performance. In this section, themes which are more applicable for the study are discussed in detail.

SR policy drives focus on society, environmental, employee, and product sustainability. Stakeholder value is increased by improving employee engagement, brand awareness, and business reputation in ensuring the effectiveness of the SR framework (e.g., Nassani et al. 2022; Abdullah et al. 2021; Abd Rahim 2016; Sadou et al. 2017). This study explored the common SR dimensions in Malaysian IPO companies apart from the significance of enhancing the effectiveness of the companies' overall SR entailing "society SR, environmental SR, employee SR, and product SR". This study supposes that one of the significant elements of SR is ascertaining if companies that are engaged in IPOs are implementing SR activities in the environmental in which they operate and recognising the main factors that may positively influence the performance of IPO companies.

First, regarding society, Bursa Malaysia extends its support to companies as they are a part of the general society. Company growth depends on contributions from society, and likewise, society growth depends on the support from companies. Improvements in both society and companies are dependent on environmental engagement in society issues. Such engagement may entail organising charitable and national events, rural area developments, education sponsorships, and school donations. In the context of Malaysia, most studies examining the link between society SR and CFP have derived positive results (e.g., Nassani et al. 2022; Abdullah et al. 2021; Saleh et al. 2011; Usman & Amran 2015; Wan Ahamed et al. 2014). However, a negative impact of society engagement on ownership structure was reported by Saleh et al. (2010).

Second, the term "environmental" drives the SR focus of companies on multiple concerns. A focus on energy consumption, for instance, would motivate companies to explore efficient ways of energy utilisation that would help minimise environmental damage caused by excessive energy consumption and gas emission. Studies investigating the relationship between environmental SR and organisational success have found mixed results. In the context of Malaysia, positive results were obtained by most prior studies regarding the link between environmental SR and CFP (e.g., Nassani et al. 2022; Abdullah et al. 2021; Saleh et al. 2011; Wan Ahamed et al. 2014). Similar positive results were found in studies focusing on other countries (e.g., Mahoney & Roberts 2007). Furthermore, Abdullah et al. (2019) and De Klerk and De Villiers (2012) discovered a positive and significant relationship between SR and share price performance. However, negative results were also found regarding the link between environmental SR and CFP (e.g., Usman & Amran 2015). In the context of Malaysia, Saleh et al. (2010) found a negative connection between the environmental dimension and ownership structure. The study by Al-Tuwaijri et al. (2004) found that businesses with better environmental performance were more likely to report additional environmental information and were correlated with better economic results. The study thus proposed that investors are more likely to engage

in environmentally friendly enterprises in the United States (US) context.

Third, employee, human rights, or gender issues are common in the employee setting of any company. Companies could reduce the occurrences of such issues by paying attention to employee welfare, establishing good employee morale, and prioritising employee health and safety. Companies can improve employee morale and commitment towards productivity by implementing various development programmes and incentive schemes. Such programmes and schemes include health and safety initiatives, employee training and development, and loyalty award schemes. Generally, a positive link has been established between employee SR and CFP by some earlier research works in the context of Malaysia (e.g., Saleh et al. 2011; Usman & Amran 2015; Wan Ahamed et al. 2014) and other countries (e.g., Gittell 2004). Regarding institutional ownership, the only significantly positive and crucial aspect is employee relations, as found by Saleh et al. (2010). Researchers typically agree that employees play an important part in the achievement of organisational goals given that they are the ones responsible for administering SR activities for their companies as well as committing to the efforts of achieving their companies' ethical, environmental, and social objectives. Lee et al. (2013), in their study on SR, also explored the perceptions of customers. They found that the use of SR among environmental was still mostly unknown. The competitive advantage and environmental judgement of SR activities are mainly supported by companies' corporate culture and capabilities. Therefore, SR is crucial in facilitating environmental attachment to their company and corporate performance. Their results indicate that perceived cultural fit and SR capability are the major determinants of performance, environmental attachment, and SR perception (Lee et al. 2013).

Fourth, products are the avenue through which various stakeholders, including vendors, suppliers, and customers, congregate to fulfil their commitments. Companies should engage with stakeholders in proper and responsible ways, including adopting ethical procurement practices and supporting environmental-responsible products. Companies' investments in product development will improve their reputation. Studies on the association between product SR and CFP in the context of Malaysia have mostly indicated positive results (e.g., Nassani et al. 2022; Abdullah et al. 2021; Saleh et al. 2011; Usman & Amran 2015; Wan Ahamed et al. 2014). A similar positive result was found in other countries (e.g., Mahoney & Roberts 2007). Matsui et al. (2007) found that highlighting a new product and developing a product by utilising marketing and technological capacities positively influenced financial performance. Ki Hoon and Dongyoung (2010) examined the correlation between consumers' purchase intention and level of

SR awareness; they discovered a significant association between the two. The positive result also implies the inclination of consumers to be associated with companies that have good SR initiatives in place. Such positive inclination is also a driving factor for consumers to purchase the products produced by such companies.

Theoretical framework

Studies on SR rely on several theories to form their theoretical foundation, such as legitimacy theory, which is extensively utilised in accounting and social science studies to expound why companies disclose their social and environmental information (Deegan & Rankin 1997). Suchman (1995, p. 574) defined legitimacy theory as "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, and beliefs". According to this theory, companies disclose their SR information to either sustain or establish their legitimacy so that they will gain acceptance from society (Deegan 2002). The theory also indicates that the SR level of companies is attributed to public-given prices.

According to Magness (2006), in the process of establishing legitimacy, companies can leverage on SR activities to enhance their performance. The findings are largely consistent with the predictions of legitimacy theory that companies will pursue various disclosure strategies regarding changes in their products in order to create credibility. This study, which examined the period of 2007–2017 when the business environment experienced economic changes, adopted the perspective of legitimacy theory to determine the SR practices of Malaysian-listed companies following the changes in order to assess whether the ideas derived from other countries with specific cultural and economic environments are relevant to the SR success of companies in emerging economies. The hope is that companies in Malaysia will increase their SR activities after the changes to portray a better picture to society (Sutantoputra 2009). Prior studies in developed countries observed companies' trend of using SR to enhance company reputation. For example, Kumarasinghe et al. (2017) found that SR activities boosted the financial and market efficiency of Japanese companies, building on the hypothesis of legitimacy theory that companies need to do more disclosures following product changes.

This study developed the theoretical background based on a comprehensive analysis of existing literature to find evidence regarding the topic discussed. This study is the first of its kind to use legitimacy theory to examine SR among Malaysian IPOs. This theory offers a wider platform to

examine the level of sustainability reporting and its dimensions among the IPO companies.

Research methods

This section describes the data, sample size, and the SR measurements employed in this study.

Data and sample size

SR involves implementing business practices that can facilitate the success of companies in the long term. Bursa Malaysia's (2020) SR framework defines SR as an open and transparent business practice. The practice entails the location where the companies operate, their employees, their surrounding environment, their shareholders, and any other relevant stakeholders including the government. Malaysia, which is an emerging economy, is one of the proponents of the SR concept. This is in line with the government's aspiration given that SR contributes to the nation's economic progress, which translates into economic growth (Amran 2013).

This study used data from Malaysian IPO companies from 2007 to 2017. Bursa Malaysia launched the SR Framework for PLCs on 5 September 2006, but the mandatory disclosure for SR activities only came into full effect in 2007. This study selected the period until 2017 due to the low prevalence of SR by Malaysian IPO companies during that period. Since then, all PLCs are obligated to disclose their SR activities in their annual reports. The study was mainly centred on the Main Market and ACE Market, i.e. the two main securities markets in Malaysia, which listed 163 financial and non-financial IPO companies. The study sample excluded companies from the financial sector, real estate investment trusts sector, and closed-end funds sector. IPO companies that did not publish the annual reports were also excluded from the study's sample. Eventually, 139 IPO companies were included in the final research sample. All the required information regarding the SR dimensions of the IPO companies was gathered from Bursa Malaysia's website at www.bursamalaysia.com.my or companies' own websites. The annual reports of the IPO companies were used to obtain the data from 2007 to 2017.

Measurements of SR

SR entails the disclosure of a company's financial and non-financial information related to its interaction with its natural and social environment, as revealed in its corporate annual report or any other social reports (Hackston & Milne 1996).

SR provides guidance to PLCs on the implementation of their SR activities, which cover the dimensions of society, environmental, employee, and product. These dimensions form the basis of the SR measurements in this study, as they have been utilised in previous Malaysian-based studies (e.g., Abdullah et al. 2021; Abd Rahim 2016; Sadou et al. 2017; Saleh et al. 2010; Zainal et al. 2013). Bursa Malaysia's specifications have also been considered in ensuring the index would include items covering the dimensions listed earlier. As such, the modified index employed in this study consisted of 24 items (Appendix, Table 6) as used in the previous studies on Malaysian annual reports (e.g., Sadou et al. 2017; Saleh et al. 2011). The 24 items were subsequently grouped into the four categories of dimensions with six items each for society, environmental, employee, and product.

Previous studies used different measurements for their content analysis regarding the extent and quality of disclosures. The extent of disclosure entails the total number of words, sentences, or pages (e.g., Zainal et al. 2013). Some other studies employed dichotomous variables for disclosure (given a score of 1) and non-disclosure (given a score of 0) for the extent of SR (e.g., Abd Rahim 2016; Sadou et al. 2017). Regarding SR quality, it entails the quality of the disclosure as assessed using a quality index. Researchers have used various indexes to evaluate the quality of disclosure (e.g., Sadou et al. 2017). In the present study, the scores used are 3 for quantitative disclosure, 2 for qualitative disclosure with specific explanations, 1 for general qualitative disclosure, and 0 for non-disclosure (e.g., Sadou et al. 2017; Saleh et al. 2011; Zainal et al. 2013). Other researchers adapted the scoring guidelines of recognised SR frameworks such as the global reporting initiative (GRI) which carries a scale of 0 to 2, with 0 representing no disclosure, 1 general disclosure, and 2 detailed and quantified disclosure (e.g., Othman et al. 2011).

Regarding the measurements of the SR extent, the variation in measurements is due to the advantages and disadvantages of each method. For example, word count is easily usable and has been utilised in earlier SR research (e.g., Myers 2009). Many researchers favour using the technique of sentence count to identify the quantity of disclosure, although this technique ignores disclosure in the forms of tables and graphs (Amran and Devi 2008). Moreover, the page count measurement is said to lack accuracy due to the different formats, margins, and font sizes used by different companies (Hackston & Milne 1996). In the current study, two SR measurements were used, as explained below:

1) An unweighted method to measure the extent of SR, with a score of 1 representing disclosed items and 0 representing non-disclosed items. This method has been

widely used in previous studies (e.g., Anas et al. 2015; Sadou et al. 2017).

2) A weighted method to measure the quality of SR, using a scale of 0 to 3. A score of 3 represents quantitative disclosure, 2 stands for qualitative disclosure with specific explanations, 1 represents general qualitative disclosure, and 0 signifies non-disclosure. This method has also been extensively used in other studies (e.g., Sadou et al. 2017; Saleh et al. 2011; Zainal et al. 2013). The quality index for each company is derived by calculating the ratio of the total scores against the number of items by applying the formula below:

$$SRI_j = \frac{\sum_{t=1}^{nj} X_{ij}}{n_j}$$

where:

$SRIj$ = SR score for the jth company.

n_j = Total number of items estimated for the jth company.

X_{ij} = SR quality measure by using 0, 1, 2, and 3

Data analysis and results

This study conducted data analysis to determine the overall level of SR disclosure among the sampled IPO companies and the level of SR disclosure across item groups and sectors with the aim of evaluating the contribution of each group and sector to the overall level of SR disclosure (Tables 2, 3, 4, and 5). Table 1 displays the Cronbach's alpha values for all the SR categories.

Reliability and validity of SR

Based on Bursa Malaysia's SR Framework and several pieces of literature reviewed, the current study derived four SR categories with 24 items in total. The categories were tested for reliability using the internal consistency test. Internal consistency entails the level of cooperation between all the items in measuring the same core attributes, generally by employing the inter-item correlation test called Cronbach's alpha coefficient (Pallant 2013), of which the use is

Table 1 Results of reliability test for each SR dimension

Variables	No. of items	Cronbach's alpha	
		SR extent	SR quality
1st category: society	6	0.7651	0.7205
2nd category: environmental	6	0.8613	0.7649
3rd category: employee	6	0.8680	0.8823
4th category: product	6	0.8319	0.7667

Table 2 IPO companies' extent and quality of SR by dimension (2007–2017)

	Society	Environmental	Employee	Product
Disclosure category (dimension) extent				
No of items	6	6	6	6
Score obtained	312	214	332	94
Percentage	32.77	22.48	34.87	9.88
Mean score	31.2	21.4	33.2	9.4
Maximum score	64	42	72	29
Minimum score	2	0	4	0
Rank	2	3	1	4
Disclosure category (dimension) quality				
No of items	6	6	6	6
Score obtained	532	299	503	140
Percentage	36.09	20.28	34.13	9.50
Mean score	53.2	29.9	50.3	14
Maximum score	128	62	118	39
Minimum score	2	0	7	0
Rank	1	3	2	4

supported by several studies (e.g., Sekaran 2003). The average inter-item correlation is indicated by a scale, i.e. zero (0) to one (1) for SR extent and 0, 1, 2, and 3 for SR quality, whereby higher values represent higher reliability (Pallant 2013). Following the study of Anas et al. (2015), the current study scrutinised 20% or 28 randomly selected sample of annual reports to measure the SR items' reliability and validity. The study evaluated the internal consistency of each SR item in the annual reports using Cronbach's alpha, and the findings are summarised in Table 1.

According to Pallant (2013), a reliable variable is one with a positive Cronbach's alpha of which the value is larger than 0.70. In this study, the Cronbach's alpha values for society, environmental, employee, and product disclosure categories were greater than 0.70, indicating high correlations and overall reliability of the disclosure items in each category. Hence, all the SR items in the disclosure index are acceptable as they consistently work together and measure the same attributes.

Extent and quality of SR across item groups

The level of SR for each disclosure category or item dimension (i.e. society, environmental, employee, and product) was evaluated via item-wise disclosure. Subsequent evaluations were conducted to assess the extent and quality of disclosure for each SR category. "The disclosure index for each disclosure category was determined by dividing the number of actual disclosed items with the total number of items on

Table 3 Mean disclosure scores for high and low disclosure groups

	Society	Environmental	Employee	Product
Disclosure category (extent)				
Score ($N=4$) high disclosure	21 (6.7)	24 (11.2)	26 (7.8)	21 (22.3)
Mean disclosure	5.25	6	6.5	5.25
Score ($N=111$) low disclosure	291 (93.3)	190 (88.8)	306 (92.2)	73 (77.7)
Mean disclosure	2.62	1.71	2.76	0.66
Total	312	214	332	94
Disclosure category (quality)				
Score ($N=25$) high disclosure	237 (44.5)	155 (51.8)	203 (40.4)	88 (62.9)
Mean disclosure	9.48	6.2	8.12	3.52
Score ($N=90$) low disclosure	295 (55.5)	144 (48.2)	300 (59.6)	52 (37.1)
Mean disclosure	3.28	1.60	3.33	0.58
Total	532	299	503	140

each score sheet" (Abd Rahim 2016). With 24 items in each score sheet and 139 sampled IPO companies, there were 3336 items in the final count. The number of disclosed items for each disclosure category was identified in this study based on the attained scores in the research instrument (Cooke 1998). Thirty-seven items out of 24 were identified while the remaining three items were missing since the IPO companies did not fully utilise SR, especially for the product dimension entailing reversal of environmental degradation caused by natural resources consumption, green product, and improved procedural disclosures in product processing and preparation. The average score for each disclosure category was determined for each company. The SR dimensions as presented in the annual reports were also analysed to define the disclosure levels of the said SR dimensions for the IPO companies (Table 2).

Table 2 presents the extent and quality of SR by the IPO companies according to category. For the extent of SR, employee and product dimensions were the most and the least disclosed, respectively. About 34.87% of the disclosed items were on employee, 32.77% on society, 22.48% on environmental, and 9.88% on product. As for the quality of SR, society and product dimensions obtained the highest and the lowest scores, respectively. The scores for the quality of SR were 36.09% (society), 34.13% (employee), 20.28% (environmental), and 9.50% (product). Additionally, the total scores for SR extent and quality were 952 and 1474, respectively. Dividing these scores by 3336 resulted in 20.70% for SR extent and 32.04% for SR quality. The next section discusses the level of SR in the IPO companies.

Level of SR in IPO companies

It is important to identify the differences between the companies with a high SR level and those with a low SR level,

as this would lead to the understanding of the differences between the IPO companies that adopt SR. Hence, two categories were established in this study, namely sampled companies with a high SR level and sampled companies with a low SR level.

Abd Rahim (2016) indicated that a disclosure level of less than 50% is deemed low, whereas a disclosure level of above 50% is deemed high. Therefore, a 50% cut-off point was used in this study to define the SR level of the IPO companies, thereby segregating the companies into two groups. Companies with a 50% and above disclosure score were categorised as "high SR level", whereas companies with a 50% and below disclosure score were categorised as "low SR level". As this study's findings show, four companies (for SR extent) and 25 companies (for SR quality) were in the high SR level group, and 111 companies (for SR extent) and 90 companies (for SR quality) were in the low SR level group (see Table 3). Noticeably, the same IPO companies were recurrent in the high and low SR extent and quality groups, and the differences in SR extent and quality could be attributed to the type of information used to measure SR.

The findings indicate a low utilisation of the annual reports by the IPO companies as a tool for disseminating SR information. Hence, the SR extent and quality among the Malaysian IPO companies can be concluded as low as indicated by the substantial number of companies scoring below 50% (111 companies for SR extent and 90 for SR quality). Similar findings in the Malaysian context were derived in the study by Abd Rahim (2016) which found a disclosure level below 50% among listed Malaysian companies. The total disclosure score for each category consists of the overall individual scores of the companies based on their SR in the annual reports.
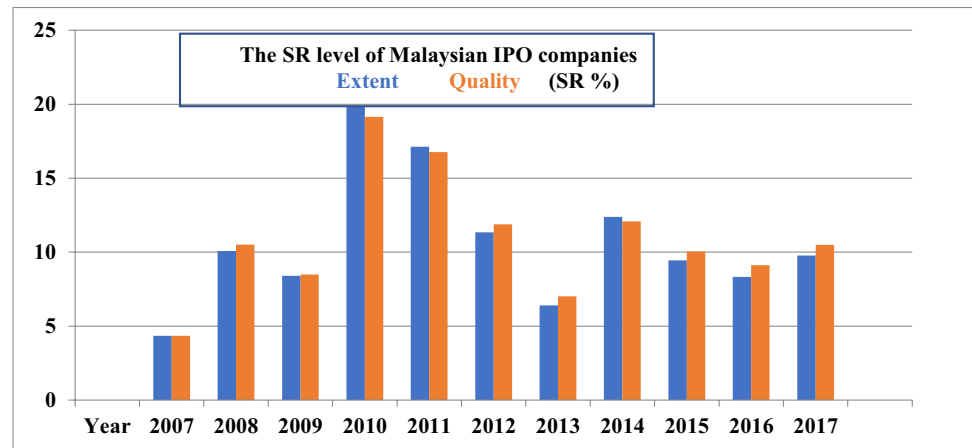
Fig. 1 SR trends in Malaysia from 2007 to 2017

Figure 1 presents the trends of SR levels in Malaysia throughout the years under study. The average levels of SR among the Malaysian IPOs during the study period (2007 to 2017) were only 20.70% for extent and 32.04% for quality. This indicates a low level of SR practices by the IPO companies and a low utilisation of the annual reports to disseminate SR information. A study by Haji (2013) assessing the SR extent among several PLCs between 2006 and 2009 obtained the mean scores of 18.1% for 2006 and 31.7% for 2009, indicating an increase in the SR level from 2006 to 2009. Figure 1 shows that the SR extent and quality among Malaysian IPO companies were generally low, as the disclosure rates were below 50%. The levels of annual report disclosures initially increased and then decreased during the study period as the number of IPO companies differed from 1 year to another.

Level of sustainability reporting (SR) by sector

The data analysis in this study is based on the overall SR level for the sampled IPO companies and the SR levels across industry groups, with the objective of measuring the impact of each sampled industry on the overall disclosure level of the industry (Tables 4 and 5). The SR dimensions as presented in the annual reports were also analysed to determine the disclosure levels of all the SR variables for each sector. Table 4 shows the analysis of the SR extent for each sector.

The analysis revealed that for the society dimension, the industrial sector recorded the highest SR extent (29.17%), followed by the technology sector (14.74%). Meanwhile, the utilities sector recorded the lowest SR extent (2.88%). For the environmental dimension, the industrial sector once

Table 4 Level of SR extent by sector

Sector extent		Society	Environmental	Employee	Product
Basic materials	Total	22	16	37	0
	Level	7.05%	7.48%	11.14%	0.00%
Consumer products and services	Total	45	35	49	35
	Level	14.42%	16.36%	14.76%	37.23%
Consumer products non-cyclicals	Total	32	20	24	15
	Level	10.26%	9.35%	7.23%	15.96%
Energy	Total	25	14	30	5
	Level	8.01%	6.54%	9.04%	5.32%
Healthcare	Total	25	5	15	2
	Level	8.01%	2.34%	4.52%	2.13%
Industrials	Total	91	74	117	16
	Level	29.17%	34.58%	35.24%	17.02%
Technology	Total	46	31	38	9
	Level	14.74%	14.49%	11.45%	9.57%
Telecommunication services	Total	17	11	9	6
	Level	5.45%	5.14%	2.71%	6.38%
Utilities	Total	9	8	13	6
	Level	2.88%	3.74%	3.92%	6.38%

Table 5 Level of SR quality by sector

Sector quality		Society	Environmental	Employee	Product
Basic materials	Total	33	19	57	0
	Level	6.20%	6.35%	11.33%	0.00%
Consumer products and services	Total	77	55	75	54
	Level	14.47%	18.39%	14.91%	38.57%
Consumer products non-cyclicals	Total	55	33	35	24
	Level	10.34%	11.04%	6.96%	17.14%
Energy	Total	37	19	50	9
	Level	6.95%	6.35%	9.94%	6.43%
Healthcare	Total	48	10	28	4
	Level	9.02%	3.34%	5.57%	2.86%
Industrials	Total	160	90	175	19
	Level	30.08%	30.10%	34.79%	13.57%
Technology	Total	78	44	52	12
	Level	14.66%	14.72%	10.34%	8.57%
Telecommunication services	Total	26	15	10	8
	Level	4.89%	5.02%	1.99%	5.71%
Utilities	Total	18	14	21	10
	Level	3.38%	4.68%	4.17%	7.14%

again recorded the highest SR extent (34.58%), followed by the consumer products and services sector (16.36%). The healthcare sector recorded the lowest score for SR extent (2.34%). For the employee dimension, the industrial sector again recorded the highest SR extent (35.24%), followed by the consumer products and services sector (14.76%). The telecommunication services sector obtained the lowest score for SR extent (2.71%). Lastly, for the product dimension, the consumer products and services sector recorded the highest SR extent (37.23%), followed by the industrial sector (17.02%). The basic materials sector obtained the lowest SR extent (0.00%). Next, Table 5 presents the analysis of the SR quality for each sector.

For the society dimension, the industrial sector recorded the highest SR quality (30.08%), followed by the technology sector (14.66%). Meanwhile, the utilities sector recorded the lowest SR quality (3.38%). For the environmental dimension, the industrial sector once again recorded the highest SR quality (30.10%), followed by the consumer products and services sector (18.39%). The healthcare sector reported the lowest SR quality (3.34%). For the employee dimension, the industrial sector again recorded the highest SR quality (34.79%), followed by the consumer products and services sector (14.91%). The telecommunication services sector reported lowest SR quality (1.99%). Lastly, for the product dimension, the consumer products and services sector recorded the highest SR quality (38.57%), followed by the

consumer products non-cyclical sector (17.14%). The basic materials sector reported the lowest SR quality (0.00%).

Studies on IPOs have been conducted in different contexts over different periods. Negative IPO performance has been reported in several developed countries (e.g., Maximilian & Gupta 2018). However, in developing countries, there are cases of positive and negative IPO performance (e.g., Abu Bakar et al. 2019; Komenkul & Siriwattanakul 2016). These studies were conducted in countries in Asian markets such as Thailand, Singapore, Malaysia, Korea, Japan, and China. The literature review revealed that very few IPO studies have been performed on developing countries compared to developed nations like the US. One example of the empirical studies carried out in developing nations such as Malaysia is Abu Bakar et al. (2019). The study found that some of the existing SR practices require improvements for the betterment of IPOs.

Conclusion

This study examined, from a longitudinal perspective, changes in the extent and quality of SR in the annual reports of Malaysian IPO companies. The study covered the period when SR has been made mandatory in Malaysia. Due to the changes in the Malaysian environment, SR extent and quality have improved tremendously. The mandatory disclosure of

SR activities came into full effect in 2007, and SR improved after this year (Fig. 1). Based on the descriptive analysis, slight SR improvements in the sampled companies were seen for both extent and quality over the 10-year time frame from 2007 to 2017, as shown by this study's findings. This study found the SR extent of 20.70% ($n = 952$) and SR quality of 32.04% ($n = 1474$). The improvements over the study period could be attributed to the greater emphasis placed on SR by the stakeholders and the understanding that failure to comply would result in a damaged reputation for the companies. Based on the analysis by dimension, the highest level of SR extent was found for the employee dimension ($n = 332$, 34.87%) and the highest level of SR quality was found for the society dimension ($n = 532$, 36.09%) among the sampled companies. Meanwhile, the product dimension recorded the lowest SR extent ($n = 94$, 9.88%) and SR quality ($n = 140$, 9.50%).

This study highlights the crucial role of SR by Malaysian IPO companies in developing SR further in the country, which warrants a more rigorous analysis. The results of this research suggest that SR initiatives could, to a certain extent, improve the performance of IPO companies. Company objectives, including profit maximisation and company reputation, can, therefore, be realised via vigorous engagement in SR initiatives by company managers. Thus, the findings in this study can be used by companies in their engagement in SR activities and their disclosures thereof. Government agencies can also provide support in the form of regulations and laws enforced on Malaysian PLCs to drive their active engagement in SR (Bursa Malaysia 2007).

Malaysian companies face little pressure on SR from the public, an indication that the general Malaysian public is yet to be well-informed about SR. Public awareness measures are thus called for to highlight the dimensions of SR, i.e. society, environmental, employee, and product. This study recommends more efforts on the part of policymakers and stakeholders to enhance the quality of SR in Malaysia by positively channelling various pressure sources from their respective contexts to SR initiatives, including ownership structures and local cultural traditions. Initiatives by the government to motivate companies to invest in SR efforts could be in the form of tax incentives for donations and philanthropy (Griffin 2004). Meanwhile, financial institutions, including banks, could play a role by making SR a pre-requisite in approving loan facility applications by Malaysian companies. Hence, this study has paved the way

for future research on the motivations for SR by Malaysian companies. Changes to SR standards are also affected by the relationship between Malaysian corporates and industry, whereby the often externally identified standards can be adapted to suit the local context and therefore improve the intrinsic motivation of companies to disclose information on their SR.

Overall, the findings of this study can support the reform initiative to improve the performance and SR practices of IPO companies, which have been found to be still lacking in some aspects. The regulatory bodies in Malaysia could use the findings to develop specific processes that would improve the quality of SR. Also, they will be able to utilise the findings to define efficient SR dimensions.

The hypothesis development in this study is underpinned by legitimacy theory. The current study contributes to this theory by enhancing the existing understanding on SR and its impact on IPOs in the Malaysian context. Legitimacy theory was used together with SR literature, in which each SR dimension is supported by a different theory. For example, the society dimension has been used with legitimacy theory in most of the studies (Deegan & Rankin 1997). Essentially, an effective SR is one that looks after the best interest of the stakeholders of listed companies. Meanwhile, the relevant regulatory bodies are responsible for ensuring that companies listed on Bursa Malaysia conform to the SR requirement. These regulatory bodies must also keep abreast of the attributes of IPO success due to the ongoing changes on the SR policies made by the government and Bursa Malaysia's listing requirements. This is so that they can advise IPO issuers and investors about the importance of SR. In the Malaysian context, the findings of this study can establish the basis for advanced empirical studies on the implications of the SR dimensions for Malaysian IPOs. Additionally, the findings could contribute to the activities of academic researchers in examining SR and IPO-related issues.

The focus of this study is only on Malaysian companies. Thus, future studies are suggested to conduct a cross-sectional comparison between Malaysia and other Asian Economic Community (AEC) countries such as Vietnam, Singapore, Bangladesh, Indonesia, Cambodia, and Brunei Darussalam. A comparison between developed and developing countries could also enhance the understanding about the association between SR extent and quality of IPOs.

Appendix

Table 6 List of SR items

Theme I- Society -SR items	
1	Donations programme
2	Educational programme
3	Health projects
4	Development society programmes and activities
5	Sports programme
6	Charity programme
Theme II- Environmental -SR items	
1	Pollution control
2	Conservation of natural resources
3	Award for environmental programs
4	Waste management
5	Water management
6	Renewable
Theme III- Employee -SR items	
1	Employee health and safety
2	Employee trainings
3	Safety award
4	Improve employee working conditions
5	Employees awards
6	Employee welfare fund
Theme IV- Product -SR items	
1	Products development
2	Product safety
3	Green product
4	Product quality
5	Product awards
6	Consumer satisfaction

Declarations

Ethics approval This article does not contain any involvement from human and animals.

Consent to participate Not applicable.

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