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THE EFFECT OF CORPORATE GOVERNANCE MECHANISMS ON INTEGRATED REPORTING: A STRUCTURAL EQUATION MODELLING (SEM) APPROACH

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ABSTRACT

This study investigates the level of integrated reporting of Malaysian listed companies and explores the potential effects of corporate governance mechanisms on integrated reporting. The annual reports of 150 companies listed on the main market, Bursa Malaysia, for the year ended 2014 were examined to analyze the companies' integrated reporting practices using content analysis. An integrated reporting index was constructed following the key elements of the integrated reporting framework established by the International Integrated Reporting Committee (IIRC). The study considered four corporate governance mechanisms: board composition, board size, board diversity, and ownership structure. The study used Multiple regressions to measure the impact of corporate governance mechanisms on the companies' integrated reporting initiatives. Structural Equation Modelling (SEM) was used to measure the effect of corporate governance mechanisms on the level of the companies' integrated reporting. The results showed that Malaysian companies' reporting of financial and non-financial information has not yet been integrated. Based on SEM analysis, the results indicated that only one variable, namely, the board size, was associated with the extent of integrated reporting. Board size was the most significant variable that influenced the level of integrated reporting of Malaysian public listed companies in 2014. The study contributes to the integrated reporting literature. It presents empirical evidence that corporate governance mechanisms influence companies' disclosure of integrated reporting information and, thus, providing additional data or information that will be significantly helpful for other researchers. The study will also stimulate the interest of academics in research activities concerning the characteristics of corporate governance mechanisms on integrated reporting activities. The findings are limited to the context of the study. It only looks at corporate governance mechanisms as a critical driver of integrated reporting and uses only the annual report disclosures from a single year.

Keywords: Integrated reporting, Corporate governance, board size, board diversity, ownership structure, structural equation modelling (SEM).

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1. INTRODUCTION

Integrated reporting refers to an emerging phenomenon that will accumulate information on an organization's strategy, its performance, governance, and prospects that reflect commercial, social, and environmental contexts where it operates (Stubbs & Higgins, 2011). The International Integrated Reporting Committee highly promotes integrated reporting as it connects financial and non-financial data to support non-financial objectives like corporate social responsibility reporting in a competitive business context (Dragu & Tiron-Tudor, 2014).

Malaysia has improved its accountability culture, including corporate governance practices and transparency in disclosure practices (Joshi et al., 2016). These efforts can be seen from the establishment of the Malaysian Code of Corporate Governance (MCCG) in 2000. The MCCG 2000 Code explains ideal corporate governance structures and internal practices, which include information disclosure. The Code was reviewed in 2007 and 2012 correspondingly to encompass the main revisions, i.e., intended to reinforce the functions and duties of the board of directors and audit committee, and to make sure responsibilities are carried out effectively. This paper puts forward that integrated reporting that focuses on value creation information would bridge the gap between management and investors. Acknowledging the importance of corporate governance and in response to the MCCG 2012, it is imperative to carry out a study focusing on the effectiveness of corporate governance and integrated reporting. Malaysia was chosen as a research setting because it is an emerging country differentiated by centralized shareholding-the high levels of ownership concentration and cross-holdings and the dominance of owner-managed or family-owned firms (Zainal et al., 2013). As such, Malaysia offers an interesting avenue for research into board characteristics. This study expects that the Code MCCG 2012 will serve as a wake-up call for Malaysian companies to promote better-integrated reporting practices.

Hence, organizations should provide one report that integrates all the activities of which they undertake. "One Report" refers to companies that provide reports that are beyond separate reports for both financial and non-financial information, such as sustainability or corporate social responsibility. As both financial and non-financial information are integrated into a single integrated report, this one report provides more detailed information to all their stakeholders, and will improve the companies' accountability. Furthermore, "One Report" illustrates how integrated reporting can increase the value of the companies and stakeholders and contribute to a sustainable society (Eccles & Krzus, 2010). As a result, academics and practitioners have focused a great deal of emphasis on integrated reporting. A review of the related literature has suggested that the issues of integrated reporting are the essential aspects of the organizations to show their commitment to society. Several prior studies also analyzed integrated reporting information and were directed towards many fundamental issues. Kiron (2012), for example, addressed integrated reporting issues such as what efforts may be made when integrated reporting is voluntary and the key drivers and motivators for implementing integrated reporting.

In 2017, the Association of Chartered Certified Accountants (ACCA) released a report highlighting the advantages and challenges of early adopters of Integrated Reporting, as well as specific recommendations for those who have yet to embrace it. The results were based on a study of 41 corporate reports by participants of the IR Business network, which is made up of companies committed to implementing IR. The findings revealed that integrated reporting leads to more integrated thinking, better clarity on business problems and performance, and deeper insights into the variables that drive company success. Furthermore, the study's results showed that businesses' corporate reputation and stakeholder relationships would improve if they embraced integrated reporting. Additionally, integrated reporting can be more cost-effective and transparent, as well as helpful for executives in implementing planning and budgeting methods (Kaya & Turegun, 2014).

Another issue raised by the study is the potential main drivers and motivators that may anticipate the uptake of integrated reporting. Most companies prepare their report in an integrated manner due to a legislative requirement, political or economic reason, as well as to enhance their corporate reputation, and prior research has proved that the legal aspect is one of the key drivers and motivators in the prevalence of integrated reporting. The corporate governance mechanism is another element that may be one of the main drivers and motivators for embracing integrated reporting. However, there is a limited number of studies on the effect of corporate governance mechanisms (e.g., the proportion of non-executive directors on the board, the proportion of women directors on the board, the proportion of foreign nationals on the board, and the proportion of shares held by foreign investors) on integrated reporting in Malaysia. There is a scarcity of studies on integrated accounting practices since it is considered a new way of reporting. As a result, the advantages and significance of integrated reporting may be overlooked by the majority of the corporate community. As a result, the purpose of this study is to look at the degree of integrated reporting used by Malaysian public companies and the possible impacts of corporate governance mechanisms on integrated reporting.

2. LITERATURE REVIEW

2.1. Integrated Reporting

Integrated Reporting Committee (IIRC) was launched to create a globally accepted framework that will bring together financial, social, and environmental, and governance information in a concise, consistent, transparent, and comparable format or an integrated format. The aim is to develop more comprehensive and understandable information relating to an organization's total performance and perspective and retrospective. Other than that, it is to meet the needs of the emerging and more sustainable and global economic model (Eccles & Armbrester, 2011). The emergence of integrated reporting is due to the investors' need to have a complete picture of the value of the company and additional information in financial statements (Kuzina, 2014). Akash and Kamble (2013) defined integrated reporting as a process to communicate information about an organization's economic and non-economic activities to its stakeholders besides providing the ability for the organization to discover the causes of their success and failures in conducting business. Navi (2014) defined integrated reporting as the linkages between strategy, financial performance, economics, governance, and the social and environmental context of an organization. The International Integrated Reporting Committee (IIRC) defined integrated reporting as:

> "brings together the material information about an organization's strategy, governance, performance, and prospects, reflects the commercial, social, and environmental context within which it operates. It provides a clear and concise representation of how an organization demonstrates stewardship and creates value, now and in the future. Integrated reporting combines the most material elements of information currently reported in spate reporting strands (financial, management commentary, governance and remuneration, and sustainability) in a coherent whole,

and most importantly: shows the connectivity between them and explains how they affect the ability of an organization to create and sustain value in the short, medium, and long-term."
(International Integrated Reporting Council, 2011, p.6)

2.2. Corporate Governance and Information Disclosure

The events of the Asian financial crisis in 1997 should serve as a springboard for a debate on corporate governance. Since several corporate failures have increased in Malaysia, such as Perwaja Steel Company, Transmile Group Berhad, Megan Media, and Malaysian Airlines System (MAS), corporate governance has become essential in Malaysia. The situation led to the establishment of the Malaysian Institute of Corporate Governance in March 1988 to instill awareness and good corporate governance practice in Malaysia. The Malaysian Code of Corporate Governance was introduced in 2000 by the Finance Committee (Alnasser, 2012). In January 2001, the Malaysian Code of Corporate Governance, which outlines the principles and good governance practices for firms, was published by the Finance Committee on Corporate Governance (Said et al., 2009). In December 2004, in order to improve the Code of Corporate Governance, Malaysia established 13 broad principles based on the finance committee's report (Alnasser, 2012).

The Malaysian Code on Corporate Governance 2012 defines corporate governance as:

"The process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective of realising long-term shareholder value, whilst taking into account the interests of other stakeholders."
(Malaysian Code on Corporate Governance, 2012, p.4-5)

Nowadays, the corporate governance issue has significantly been widened. For example, it has been perceived as part of integrated reporting. Reflecting on the numerous accounting and ethical scandals, such as WorldCom, Enron, Ahold, and Parmalat, many companies have made efforts to improve corporate governance processes relating to boards and their composition, control and risk, managers and auditors, ethical issues relating to compensation, employee and management behavior, as well as complaint procedures for organizations (Khan, 2010). Characteristics of corporate governance have extensively been used in the area of corporate information disclosure by numerous researchers. For example, a study conducted by Kelton and Yang (2008) investigated the impact of corporate governance mechanisms, such as shareholder rights, board composition, ownership structure, and audit committee characteristics, on the disclosure of Internet financial reporting (IFR); and another study conducted by García Sánchez et al. (2011). García Sánchez, et al. (2011) investigated the effect of corporate governance mechanisms, such as board activity, the board size, board independence, and block holders, on disclosure of strategic information on the internet.

Similarly, Suttipun and Bomlai (2019) looked at the amount of integrated reporting on the Thai Stock Exchange from 2012 to 2015, evaluated variations in integrated reporting over the tested period, and investigated the connection between corporate governance and the level of integrated reporting. The research showed that intellectual capital reporting was the most frequently reported category of integrated reporting, while environmental capital reporting was the least prevalent. In all three year periods between 2012 and 2015, the quantity of integrated reporting in annual reports increased significantly. The number of institution-owned companies, the board size, and CSR award recipients all had a significant positive relationship with the degree of integrated reporting.

Chanatup et al. (2020) investigated the links between corporate governance mechanisms, integrated financial reporting, and investment risk in the Thai stock market. The research discovered a favorable connection between stakeholder-oriented corporate governance structures and integrated financial reporting. Velte (2022) analyzed 85 quantitative peer-reviewed archival studies on the governance, (non) financial performance, and reporting-related drivers of integrated reporting and its contribution to company value. Based on previous IR research, the study summarizes the following key counting findings. First, as corporate governance subcategories, board composition and stakeholder pressure are positively related to IR quality. Second, better (non-financial) performance leads to more IR adoption and quality. Finally, IR adoption and quality enhance overall performance indicators and, consequently, firm value.

2.3. Underpinning Theory (Agency Theory)

Jensen and Meckling (1976) defined an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf, which involves delegating some decision-making authority to the agent. The agency theory predicts that the separation of owners (principal) and managers (agents) potentially leads to managers of firms taking actions that do not maximize the shareholders' wealth (Jensen & Meckling, 1976). The managers are believed to favour decisions or plans that maximize their welfare at the expense of the shareholders. In other words, the managers will try to fulfill their interests without considering the shareholders' wealth. In this situation, a conflict of interest amongst the principals and agents will occur. The agency theory framework foresees a board of directors as the ultimate mechanism of corporate control. Boards monitor and review the agents who may be acting on behalf of the principal (owner). Without the boards' monitoring, agents may pursue their interests at the principal's expense (Jensen, 1986; Jensen & Meckling, 1976).

3. HYPOTHESES DEVELOPMENT

3.1. Board Composition and Integrated Reporting

Corporate governance mechanisms, for example, a board of directors (BOD), play an essential role in providing good practices of corporate social responsibility and implementing policies for stakeholders engagement, as well as achieving holistic transparency (Frias-Aceituno, Rodríguez-Ariza, & García-Sánchez, 2013).; Hassan et al., 2017a; Hassan et al., 2015a). Furthermore, the role of the board of directors as a monitoring tool is considered the most crucial element for an effective corporate governance mechanism as it will enhance the integrity and quality of the accounting information. In addition, Kelton and Yang (2008) and Akhtaruddin et al. (2009) found that board independence influences a company’s disclosure of information. A study conducted by Sharif and Rashid (2013) found a positive relationship between non-executive directors and corporate social responsibility (CSR) reporting information. This is further supported by Patelli and Prencipe (2007), who measured the relationship between the presence of independent directors on the board and voluntary disclosure. They found a positive relationship between the proportion of independent directors on the board and the level of voluntary disclosures. In addition, studies conducted by

Samaha et al. (2012) and Samaha te al. (2015) also found a positive relationship between the proportion of independent directors on the board and the extent of voluntary disclosure. However, Eng and Mak (2003) found a negative relationship between independent directors and the company's disclosure of information, while Said et al. (2009) found no relation between board independence and corporate social responsibility (CSR) disclosure. Based on the discussion, the following hypothesis was developed:

H1: The higher the proportion of independent non-executive directors on the board, the greater is the degree of integrated reporting information by an organisation.

3.2. Board Size and Integrated Reporting

The presence of many directors on the board may affect the level of integrated information disclosure by such organizations as they will provide the organizations with different types of knowledge, expertise, and skills, especially in financial and non-financial information. Empirical evidence has supported the relationship between information disclosure and the size of the board of directors. Ezat and El-Masry (2008) reported that a large number of members on the board of directors has a positive effect on the level of voluntary disclosure, while Akhtaruddin et al. (2009) found that the larger the number of directors on the board, the greater the degree of voluntary disclosure of information. Furthermore, Frias-Aceituno et al. (2013) found that the board size has a positive effect on the production of integrated information by the firm since they believed that a large number of directors having different types of expertise are required to produce integrated reports. This is further supported by Samaha et al. (2015), who found a positive relationship between board size and the extent of voluntary disclosure. However, Prado-Lorenzo and Garcia-Sanchez (2010) found a negative relationship between the size of the board of directors and the extent of voluntary disclosure.

On the other hand, Cheng and Courtenay (2006) found no relation between the board size and the level of voluntary disclosure. García Sánchez et al. (2011) also reported no significant relationship between the board size and disclosure of information. A study conducted by Al-Saidi et al. (2014) found no relation between board size and corporate disclosure by listed firms in Kuwait. Based on the discussion, the following hypothesis was developed:

H2: The larger the number of directors on the board, the greater is the degree of integrated reporting information by the organisation.

3.3. Board Diversity and Integrated Reporting
3.3.1. Board Diversity (Women Directors) and Integrated Reporting

Previous research in the corporate governance literature has also shown that board diversity may be considered a corporate governance mechanism. According to Branco and Rodrigues (2008), board diversity is linked to the stakeholder theory structure. Meanwhile, Bjorklund (2010) and Hassan and Marimuthu (2014) defined board diversity as a demographic statistic on a board that may include young members and the proportion of women on the board. Adams and Ferreira (2004), Hassan et al. (2015b), and Hassan et al. (2016) suggested that boards with the high existence of women directors would conduct more board meetings and make the diverse boards more successful than the homogenous board. Adams and Ferreira (2004) claimed that boards with women are essentially more stable than boards with men, while Prado-Lorenzo and Garcia-Sanchez (2010) stated that having more women in top management positions may improve transparency. Frias-Aceituno et al. (2013) discovered that the number of women on the board indicates gender diversity, which positively affects an organization's level of integrated information disclosure. On the other hand, Khan (2010) discovered that the number of women on the board was not significantly related to the level of corporate social responsibility (CSR) reporting disclosure. Since the discussion is related to information disclosure, this aspect has been included in the present study even though it was not mentioned. Based on this discussion, the following hypothesis was developed:

H3: The higher the proportion of women directors on the board, the greater is the degree of integrated reporting information by the organisation.

3.3.2. Board Diversity (Foreign Directors) and Integrated Reporting

Durak (2013) stated that the presence of foreign directors on the board influenced corporate reporting behavior, while Branco and Rodrigues (2008) indicated that the involvement of foreign nationals might lead to the issue of causality in reporting. Khan (2010) found that the proportion of foreign nationals on business boards was significantly related to the degree of corporate social responsibility (CSR) reporting. However, a study conducted by Branco and Rodrigues (2008) in Kenya reported no association between the percentage of foreign nationals on the board and the level of corporate social responsibility (CSR) reporting disclosure. A study conducted by Sharif and Rashid (2013) in Pakistan found no relationship between the percentage of foreign nationals on the board and the extent of CSR disclosure. As a result, even though integrated reporting was not mentioned in the study, it was included since it is linked to the degree of information disclosure. Based on this discussion, the following hypothesis was developed:

H4: The higher the proportion of foreign nationals on the board, the greater is the degree of integrated reporting information by the organisation.

3.3.3. Ownership Structure and Integrated Reporting

Meanwhile, the firm’s ownership structure may lead to legitimacy gaps (Khan, 2010) in which there is a discrepancy between an organization’s actions and society’s expectations. Therefore, ownership structure influences and identifies the direction and performance of the organization, and these have profound implications on a firm’s corporate governance system (Hua & Ragayah, 2007; Hassan & Marimuthu, 2015). The previous study found that ownership structure may be used as a corporate governance mechanism. For example, a study conducted by Marn and Romuald (2012) used ownership structure as one of the corporate governance mechanisms. They investigated the relationship between corporate governance mechanisms and corporate performance. As a result, it might be argued that ownership structure is an essential component of corporate governance mechanisms. Furthermore, Haniffa and Cooke (2002) found a link between the percentage of shares owned by foreign investors and the degree of voluntary information disclosure. In addition to this, Barako ET AL. (2006) reported that foreign ownership positively impacted voluntary disclosure of information in Kenya. However, a study conducted by Said et al.

(2009) found no relation between the proportions of shares held by foreign investors and the level of corporate social responsibility disclosures. Since the discussion is relevant to the business case relating to integrated reporting, it was included in this present study. Based on this discussion, the following hypothesis was developed:

H5: The higher the proportion of shares held by foreign investors, the greater is the degree of integrated reporting information by the organisation.

4. RESEARCH METHODOLOGY

4.1. The Sampling and Data Collection Method

The population for the study consists of the companies listed on Bursa Malaysia. The samples involved 150 companies from the main board of Bursa Malaysia for the year ending in 2014. Data from 2014 were chosen since it was the year after the implementation of the Malaysian Code of Corporate Governance (MCCG) 2012, which aims to improve board structure and composition as well as emphasizing directors' roles as active and responsible fiduciaries.

The study used a proportional stratified random sampling method to determine the sample size of each sector from the main board of Malaysian listed companies. The sample firms were selected from ten sectors listed on the main board of Bursa Malaysia, including construction, consumer products, hotels, industrial products, IPC, mining, plantations, properties, technology, and trading and services in the year 2014. On the other hand, all companies from the financial and insurance sectors were excluded from the sample due to the significant differences in terms of the evaluation of their assets as well as their corporate structures.

Table 1: Sample Distribution by Industry

Industry	Total Sample	Percent
Industrial Product	48	5.3
Plantation	8	6
Construction	9	10.7
Properties	16	4
Technology	6	17.3
Consumer Product	26	23.3
Trading and Services	35	1.4
Other	2	5.3
	150	**100**

For the year ended 2014, the final sample of 150 businesses is a valid representation of the target population of 750 main board companies of public listed companies in Bursa Malaysia. The sample reflects 20% of the target population. According to Roscoe's rules of thumb, ten sample sizes are required for each item examined. As a result, 50 samples are required for the study, with four items for corporate governance characteristics and one item for Integrated Reporting Disclosure, implying that a sample size of 150 would be adequate.

4.2. Measurement of Variables
4.2.1. Dependent Variable

The study used content analysis, a research method that uses a set of procedures to make valid inferences from texts (Weber, 1990). This method was the main data collection method in gathering data from the 2014 annual reports of the public listed firms in Malaysia. Content analysis is an established method that has been widely used in corporate information disclosure research, and its use is valid in the context of integrated reporting research (Said et al., 2009; Khan, 2010; García Sánchez et al., 2011; Samaha et al., 2012; Sharif & Rashid, 2013; Dragu & Tiron-Tudor, 2013, 2014; Wan Ahamed et al., 2014; Lipunga, 2015). Analyses were also made of disclosures of other reports other than financial statements, such as the statement of financial position, statement of comprehensive income, statement of cash flows, statement of changes in equity, and notes to the account, because these comply with the requirements of International Financial Reporting Standards (IFRS). For this study, an integrated reporting index was developed, encompassing seven elements in the framework established by the International Integrated Reporting Committee (IIRC). The disclosure model used for integrated reporting thus measureing the company's total disclosure score is as follows:

$$\text{IRDI} = \sum {d_\text{i}}^{45} / n_j$$

Where d_i refer to "1" if the company disclosed the item d_i and "0" if the company does not disclose the item d_i. n_j refer to the maximum number of items for all possible cases of disclosure, $n_j \leq 45$. To get a score for a company, the total scores after adding the score of each item are divided by the maximum scores. Then, the total scores are multiplied by 100 to get the percentage scores. In this study, 45 items refer to the maximum possible disclosure score combining all the items from the seven elements of integrated reporting as stated by the International Integrated Reporting Committee (IIRC). For example, if a company reports half of the total items, then the company's score will be 50 percent.

4.3. Independent Variables and Control Variable

The control variable was included in the study to avoid a biased result representing the company's size. Previous researchers have widely used this variable where the relationship between corporate governance mechanisms and integrated reporting was enhanced by controlling this variable. To represent the size of a company, the firm's total assets were used in the study. This has been widely used by previous researchers (Assagaf et al., 2017; Haniffa & Cooke, 2002; Hassan & Marimuthu, 2017; Hassan et al., 2017b; Kelton & Yang, 2008; Khan et al., 2017; Akhtaruddin et al., 2009; Said et al., 2009; Frias-Aceituno et al., 2014; Hassan & Marimuthu, 2016; Frias-Aceituno et al., 2013; Hassan, et al., 2015c).

Table 2: Operationalization of the Independent Variables and Control Variables

Variables	Measurement
Independent Variables	
Board composition (BC)	The proportion of independent non-executive directors on the board
Board size (BS)	Number of directors on the board
Board diversity (BDW)	The proportion of women directors on the board
Board diversity (BDF)	The proportion of foreign nationals on the board
Ownership structure (OS)	The proportion of shares held by foreign investors
Control Variable (CV)	
Firm Size (TA)	The total assets of the firm

4.3.1. Data Analysis Strategy and Models Applied

Structural equation modeling (SEM) in AMOS 21.0 was used to analyze the data and test the hypotheses. The modeling equation below shows the relationship between the potential effects of corporate governance mechanisms (Board composition, Board size, Board diversity, Board diversity, and Ownership structure) on integrated reporting. The following model was used: Model I:

$$Integrated\ Reporting = \alpha + \beta_1 BC_{it} + \beta_2 BS_{it} + \beta_3 BDW_{it} + \beta_4 BDF_{it} + \beta_5 OS_{it} + \beta_6 TAcv_{it} + \varepsilon$$

5. EMPIRICAL RESULTS AND FINDINGS

5.1. Descriptive Analysis

The descriptive statistics of the dependent variable of the integrated reporting index gathered from annual firms' reports are shown in Table 2. The descriptive statistics include statistics, the maximum and minimum percentage, and the mean and standard deviation for the integrated reporting index. The mean for the disclosure level of the integrated reporting index was 80.11 percent, and the study results showed that governance had the highest mean of 9.98. This indicated that most of the firms provided more information on governance.

Table 3: Descriptive Statistics for the Dependent Variable

Dependent Variable (DV)	Minimum	Maximum	Mean	Std. Dev.
Integrated Reporting Index	60.00	93.00	80.11	6.85
Themes:				
Organizational overview and external drivers	3	6	4.37	0.84
Strategy and resource allocation	1	5	4.39	0.95
Business model	2	7	4.74	1.14
Governance	9	10	9.98	0.14
Risk and opportunities	3	5	4.33	0.68
Future outlook	2	5	4.70	0.58
Performance	2	5	3.56	0.91

Note: N = 150.

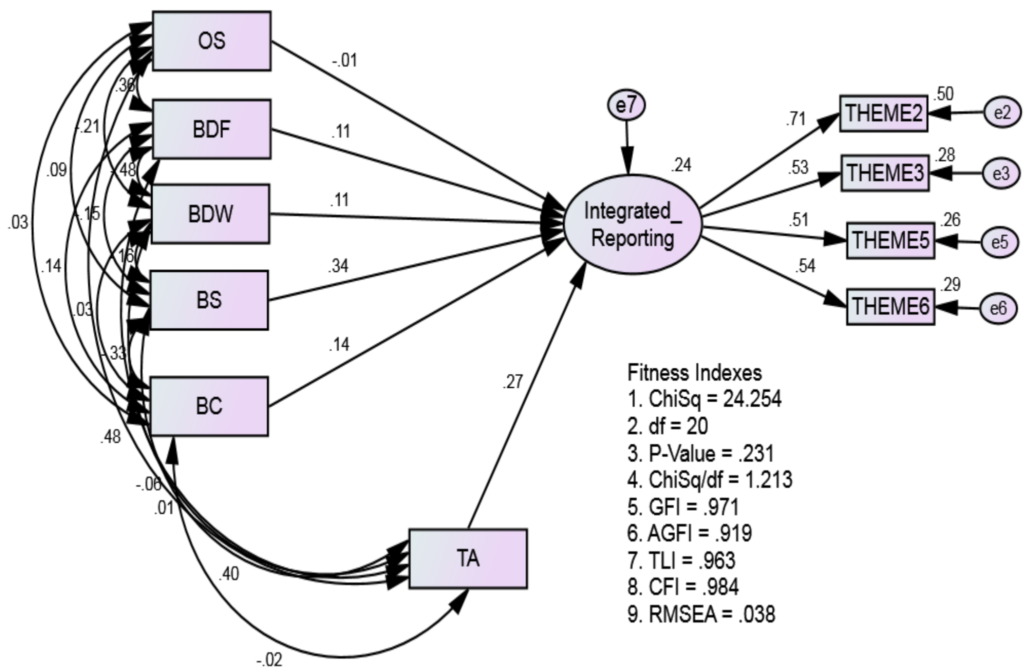
5.2. Structural Equation Modelling (SEM)

The structural model was estimated after meeting all of the assumptions of the measurement Model (Hair et al., 2010). The goodness-of-fit statistics showed that the regression model reasonably fit the current data: GFI = 0.971, AGFI = 0.919, CFI = 0.984, TLI = 0.963, and RMSEA = 0.038. The $\chi 2$ of the regression model was 24.254, df = 20, p = 0.231. The structural model is depicted in Figure 1 and Figure 2. The hypothesized relationship (H2) between Board size (BS) and Integrated Reporting was supported by the corresponding estimates, $\beta = 0.34$, $t = 2.94$, and the *p*-value was $0.003 < 0.05$. This indicates that 1 unit of standard deviation changed in the Board size (BS), resulting in a 0.34 standard deviation change in the Integrated Reporting, which was significant. Hence, H2 was supported. Board size and the degree of integrated reporting information by the organizations indicated a positive relationship. Therefore, this finding showed that there was a greater degree of integrated reporting information by the organisation where there was a larger number of directors on the board. This finding is also consistent with prior studies (Ezat & El-Masry, 2008; Akhtaruddin et al., 2009; Frias-Aceituno et al., 2013; Samaha et al., 2015), and it empirically verified that board size influences integrated reporting practices. This may be due to the presence of a large number of directors on the board, which is said to affect the level of integrated information disclosure because they will provide the organization with different types of skills, knowledge, and expertise, especially in financial and non-financial information.

Similarly, the path (H1) coefficient (β) between board composition (BC) and integrated reporting was 0.14, *t*-value was 1.42, and the *p*-value was 0.155 (>0.05). This suggests that board composition (BC) did not influence integrated reporting information by the organization. Hence, H1 was not supported. *(Independent non-executive directors on the board, the greater the degree of integrated reporting information by the organization and that the relationship was insignificant)*. This is inconsistent with the findings of prior researchers (Cheng & Courtenay, 2006; Patelli & Prencipe, 2007; Ezat & El-Masry, 2008; Kelton & Yang, 2008; Akhtaruddin et al., 2009; Sharif & Rashid, 2013; Samaha et al., 2012; Samaha et al., 2015). Therefore, this finding has empirically verified that the presence of independent non-executive directors does not influence integrated reporting practices. The reason would be that boards represented by non-executive directors may not put pressure on corporate reporting because they do not seem to symbolize the other stakeholders' benefits (Khan, 2010). The next estimation path discussed that, (H3), the higher the proportion of women directors on the board, the greater the degree of integrated reporting information. The results indicated that the path coefficient estimates between board diversity (BDW) and integrated reporting were 0.11, the *t*-value was 1.04, and the p-value was 0.294, which were insignificant. This confirmed that H3 was not supported. Therefore, the result was not supported (H3). However, this result is consistent with the prior study conducted by Khan (2010). According to Khan (2010), one possible explanation for these results would be that women might have a restricted role at the executive level due to the small numbers representing the board. In the next path (H4), the impact of Board diversity (BDF) on integrated reporting was estimated. The β estimates for this relationship were 0.11, and the *t*-value was 0.91, which were insignificant. The *p*-value was 0.361, confirming that board diversity (BDF) had no impact on integrated reporting. Hence, H4 of "the higher the proportion of foreign nationals on the board, the greater is the degree of integrated reporting information by the organization" was not supported. However, this result is consistent with prior studies conducted by Branco and Rodrigues (2008) in Kenya and Sharif and Rashid (2013) in Pakistan. One possible explanation is that only small numbers of foreign directors represented the boards and thus, having a low influence on information disclosure.

The final path (H5) estimated the influence of ownership structure (OS) on integrated reporting. The β estimates for this path were -0.01, t-value = -0.08, and p-value of 0.93, which were insignificant. This finding did not support H5. However, this result is consistent with the prior study conducted by Said et al. (2009) who found no significant relationship between the proportion of shares held by foreign investors and the level of information disclosure. Details are provided in Table 6. In addition, the structural model showed the control variable, which was the firm size (Total Asset - Natural log Total Assets). It had a positive influence on integrated reporting. The β estimates for this path were 0.27, t-value = 2.25, and p-value of 0.024, which was significant. This result is consistent with prior researchers (Kelton & Yang, 2008; Hussainey & Al-Najjar, 2011; Frias-Aceituno et al., 2013; Samaha, et al., 2012; Frias-Aceituno, Rodríguez-Ariza, & García-Sánchez (2013) ; Frias-Aceituno et al., 2014). Therefore, this result empirically verified that firms with large sizes are more likely to provide a higher level of information disclosure. In the Model, the results showed that the model's coefficient of determination (R Square) value was 24 percent. This indicated that 24 percent of the change in the level of integrated reporting of information was explained by corporate governance mechanism (Board size) variables.

Figure 1: Structural Model



Note: * Critical t-value = 2.63 ($p < 0.01$).

Figure 2: Structural Model and Hypotheses Relationship

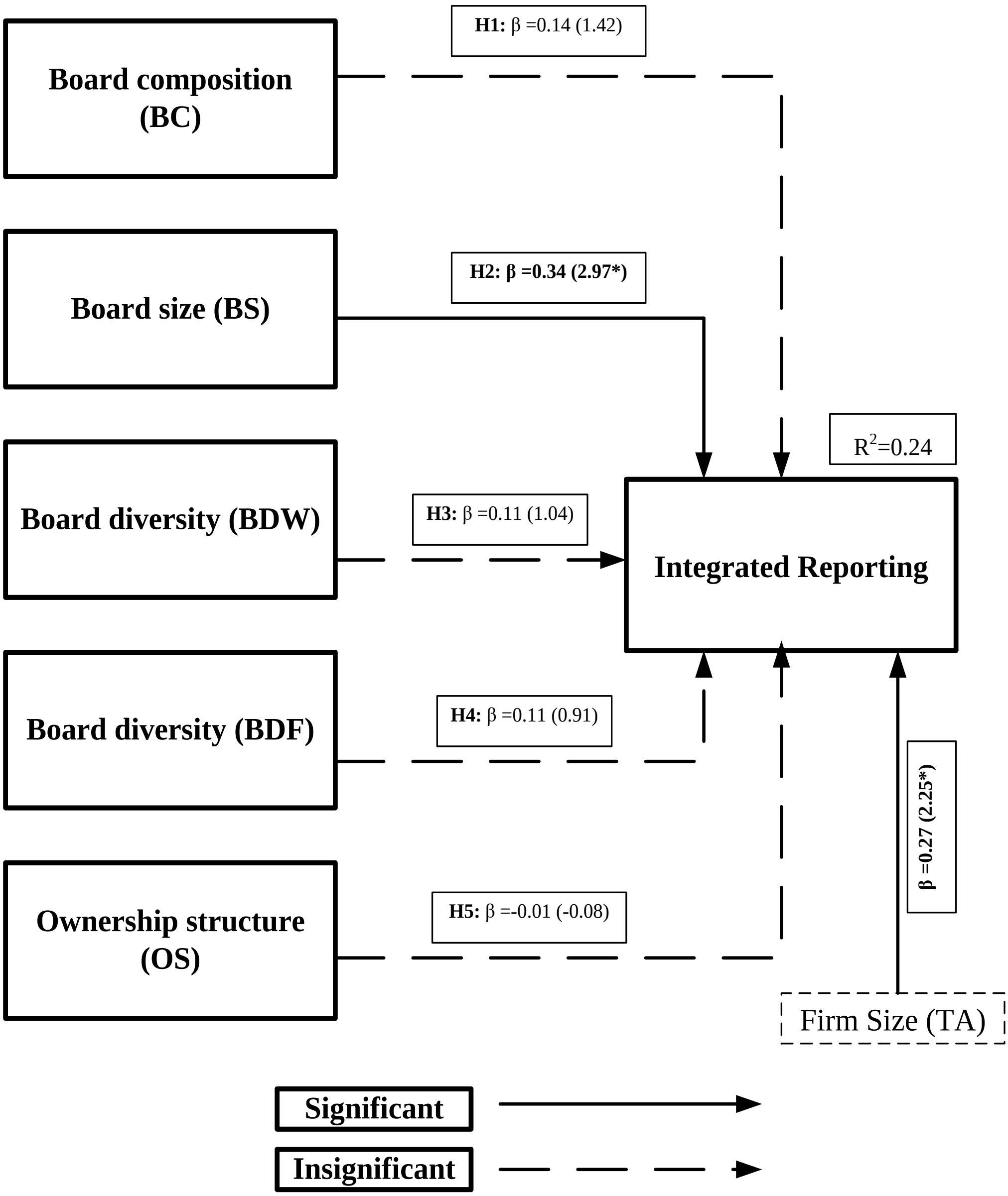


Table 4: Standardised regression weights

H	Independent variables	Path	Dependent variable	Estimate	SE	CR	P	Results
H1	Board composition (BC)	→	Integrated Reporting	0.776	0.546	1.42	0.155	Insignificant
H2	Board size (BS)	→	Integrated Reporting	0.103	0.035	2.979	0.003	**Significant**
H3	Board diversity (BDW)	→	Integrated Reporting	0.544	0.519	1.049	0.294	Insignificant
H4	Board diversity (BDF)	→	Integrated Reporting	0.354	0.388	0.913	0.361	Insignificant
H5	Ownership structure (OS)	→	Integrated Reporting	-0.024	0.274	-0.087	0.93	Insignificant

Note: * significant at the 0.05 level ($p < 0.05$); ** significant at the 0.01 level ($p < 0.01$).

6. DISCUSSIONS AND CONCLUSIONS

This study has sought to investigate the level of integrated reporting of Malaysian public listed companies and the potential effects of corporate governance mechanisms (board composition, board size, board diversity, and ownership structure) on integrated reporting. The study's finding showed that reporting by Malaysian companies has not yet been integrated as they are focusing more on describing a process rather than providing insights. Companies need to look beyond their current financial reporting models, which focus more on financial information to give a clearer and more forward-looking perspective of their business to the shareholders, thus reducing the asymmetric information for both investors and stakeholders. There are several important reasons for a company to prepare integrated reporting. The main intention of preparing integrated reporting is to develop one report that considers both financial and non-financial information in one document, and ensures a broader framework for assessing the organization's performance compared to traditional reporting (Akash & Kamble, 2013).

Consequently, there has been considerable attention given to integrated reporting from researchers and practitioners. A review of the related literature has suggested that issues of integrated reporting are necessary aspects for organizations to show their commitment to society. Other than that, a few studies have asserted the benefits of integrated reporting. There are several significant outcomes as a result of integrated reporting, including emphasizing on the company’s strategies by the management, and providing the links between financial and non-financial information, as well as providing more comprehensive information for the users of the financial statements (James, 2013). Furthermore, integrated reporting can be more cost-efficient, and may lead to greater transparency in addition to assisting the executives in implementing strategies for planning and budgeting (Kaya & Turegun, 2014).

The study's finding also revealed that only one variable (namely, board size) positively and significantly influenced the degree of integrated reporting. The result may be due to the role of the board of directors as a monitoring tool for enhancing the integrity and quality of accounting information (Hashim & Rahman, 2011). According to the agency theory, the board of directors is seen as the ultimate mechanism of corporate control that monitors and reviews the agents (managers) who act on behalf of the principal (owner) as they are believed to pursue their own interests or to maximize their wealth at the expense of the principal (Jensen & Meckling, 1976). The Board of Directors (BOD) also plays an essential role in providing the best practices of corporate social responsibility, implementing policies for stakeholder engagement, and achieving holistic transparency (Frias-Aceituno et al., 2013). However, it will depend on the composition of the board of directors in the organization, such as executive directors and non-executive directors (Hashim & Rahman, 2011). A large number of directors on the board are said to affect the 0level of integrated information disclosure as they will provide the organization with different types of knowledge, expertise, and skills, especially in financial and non-financial information. This study has provided evidence that the size of the board of directors influences the degree of integrated reporting.

Along with its interesting finding, the study has some limitations. First, the integrated reporting model was tested in the Malaysian context only. For its generalisability to other countries, further validation is needed by incorporating other listed companies of other countries. Second, it only looked at corporate governance mechanisms as a key driver of integrated reporting and used only annual report disclosures from a single year. Third, the study was purely quantitative. Therefore, it is limited to identifying constructs only. During the measurement model, the factor loading was less than 0.50. Hence, three elements were deleted from our integrated reporting score. Future research also needs to investigate the other corporate governance variables and increase the time frame and sample size. Moderation and mediation variables, for example, should be considered while investigating this issue. In terms of the methodology, econometrics techniques like Time-series cross-sectional panel data, 2SLS, OLS, and GLS, may be adopted to explore this remarkable phenomenon. The study's implications may draw attention to the board's and company's understanding of the advantages of Integrated Reporting among publicly listed companies worldwide. This study may also help the board realize the need of providing transparent information on the company's actual performance and assisting stakeholders in making some judgments about the company's operations, as the IIRC highly advised it.

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