INTELLECTUAL CAPITAL DISCLOSURE AND CORPORATE GOVERNANCE STRUCTURE AMONG MALAYSIAN GOVERNMENT-LINKED COMPANIES

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Abstract

This study examines the level of intellectual capital disclosure among the 32 Malaysian GLCs by comparing with the Non-GLCs for the period 2007-2009. In addition, this study also investigates the impact of board structure on the intellectual capital disclosure of Malaysian GLCs. The board structure mechanisms comprise; board composition, role duality, board size and cross directorship. The control variables consist of the company-specific characteristics – leverage, profitability and age of the company. The content analysis is used to extract the intellectual capital disclosure items from the annual report. The results show that the GLCs disclosed more intellectual capital information than Non-GLCs. Board size and leverage are significant and positively related to the intellectual capital disclosure of Malaysian GLCs.

Keywords: Intellectual Capital, Government Linked Companies, Board Of Directors, Malaysia

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Introduction

Malaysia has taken the initiative to be a knowledge-based economy country as part of a wider plan in striving to achieve the nation's Vision 2020 (Mustapha & Abdullah, 2004; Fleming &Soborg, 2010). The development of the Multimedia Super Corridor (MSC) and communication network is evidence of Malaysia's transition towards aknowledge-based economy (Kamaluddin& Abdul Rahman, 2007; Hamzah& Mat Isa, 2010; Fleming &Soborg, 2010). One of the flagships of MSC is "Research and Development Cluster" in which the primary focus is to develop a multimedia technology and human, as well as the intellectual capital. In addition, in May 2004 Malaysia launched the GLC Transformation Programme to strengthen its transition of the knowledge-based economy on its controlling companies, which is known as Government-Linked Companies (GLCs) (www.pcg.gov.com). This programme is crucial as the activities of the GLCs have a significant impact on the Malaysian economy, provide mission-critical services and the key capital of the market constituent, and comprise the cornerstones of strategic sector (Abdullah, 2005).

As a result, there is an increasing demand for greater transparency in disclosing the intellectual capital information in the marketplace. This is because the intellectual capital information is crucially important to investors and stakeholders in which they can effectively and properly assess the value of a company's intellectual capital. For example, information on intellectual capital can help a potential investor in making a decision on a firm's investment as this information can reduce uncertainty about future prospects and facilitate a more accurate valuation of the firm (Lundholm& van Winkle, 2006; Abeysekera, 2010). Furthermore, employees use it to evaluate the firm's growth so as to inspire their confidence to stay in the company (Backhuijis, Holterman, Oudman, Overgoor, &Zijlstra, 1999). In addition, customers are more interested in employing the best technology that is available for their own purpose to gain more confidence in their business (Bornemann&Leitner, 2002).

However, the traditional financial reporting is not efficient in capturing these new values and is of limited use to the investors and stakeholders. This is because traditional reporting only focuses on the financial and physical assets that are normally expressed in monetary or quantitative measures. In addition, the intellectual capital information, which is not expressed in monetary and quantitative measures, depends solely on the company's voluntary disclosure. For this reason, a lot of academic research has debated the determinants of intellectual capital disclosure, particularly in investigating the mechanism of corporate governance and its contribution towards business efficiency, transparency and accountability, which, in turn, could enhance intellectual capital disclosure. Furthermore, the Board of Directors (BOD) play a major role in corporate governance, whereby their main responsibility is to act as an internal control function in reviewing and monitoring the control and procedures within the firm to maintain its integrity. This includes reviewing and monitoring the procedures and its compliance with financial reporting – either mandatory disclosure or voluntary disclosure.

As for Malaysia, the introduction of the Malaysian Code on Corporate Governance (MCCG) in 2000 and later revised in 2007 was issued with the hope of strengthening the BOD and audit committees. Thus, this would enable them to discharge their roles and responsibilities effectively in the monitoring of companies' disclosure, based on the intellectual capital information. However, previous studies, such as Cerbioni&Parbonetti (2007), Li, Pike, &Haniffa (2007) Li, Pike, &Haniffa (2008), Zourarakis (2009), Abeysekera (2010), Hidalgo, Garcia-Meca, & Martinez (2010) and Gan, Saleh, &Abessi (2008) provide mixed results between the role and characteristics of corporate governance concerning intellectual capital disclosure. Thus, the influence of the good practice of corporate governance on the intellectual capital disclosure is still questionable.

In response to the above concern, as Malaysia aims to achieve a competitive knowledge-based economy, this study seeks to explore whether the aim of the new revised MCCG (2007) and the GLCs Transformation programme to enhance the board effectiveness has influenced the GLCs transparency concerning intellectual capital information. As both initiatives seek to strengthen the board's effectiveness, it is professed that the GLCs' BOD should effectively monitor the management of the organization in adopting the intellectual capital paradigm as well as disclosure. Specifically, this study aims to answer two major questions: how do the Malaysian GLCs disclose their intellectual capital information in relation to the Non-GLCs, and what is the association between the board structure (independent board, board leadership, board size and cross directorship) and the voluntary intellectual capital disclosure among the Malaysian GLCs?

The motivation for undertaking this study is also generated by the limitations of previous studies concerning the association between intellectual capital disclosure and corporate governance in Malaysia, especially in respect of GLCs. A study done by Gan et al. (2008) examined the association between the intellectual capital disclosure and corporate governance. However, their study focused on Malaysian public listed companies. Another study by Abdul Rahman& Ismail (2010) looked at the intellectual capital and corporate governance of Malaysian firms; however, their study was restricted to intellectual capital performance. Bontis, Keow& Richardson (2000) investigated the relationship between intellectual capital and company performance by looking at the service and non-service sector. In addition, Goh& Lim (2004) focused on the disclosure of the intellectual capital based on the top 20 profit-making Malaysian public listed companies. Yau, Chun, &Balaraman (2009) also examined the association between corporate characteristics and the intellectual capital disclosure.

The remainder of this paper consists of five sections. The following section enumerates the relevant literature on CG and Intellectual capital. The third section describes the methodology of the study. The fourth section highlights the summary and findings. Finally, in the last section conclusions are drawn and suggestions are made.

Materials and Methods

Literature Review and Hypotheses Development

GLCs' Intellectual Capital Disclosure

The Malaysian GLCs are hybrid organizations, as they have to achieve financial returns while fulfilling their social responsibilities (Norhayati&SitiNabiha, 2009). The GLCs were previously government

agencies or public enterprises in the early 1980s, and, since then, have progressed through privatisation and corporatisation. The government holds a substantial degree of ownership in these companies through Khazanah, Minister of Finances (MoFInc), Kumpulan Wang Amanah Pencen (KWAP), and Bank Negara Malaysia (BNM). The GLCs are also controlled by other federal government linked agencies, such as PermodalanNasionalBerhad (PNB), Employees Provident Fund (EPF) and Tabung Haji. Apart from the percentage ownership, the controlling stake refers to the Government's ability (not just percentage ownership) to appoint the board members, senior management, and/or make major decisions (e.g., contract awards, strategy, restructuring and financing, acquisition and divestment,etc.) for the GLCs either directly or through the Government-linked Investment Companies (GLIC).

The GLC Transformation Programme was launched in May 2004, with the aim of improving the company's performance, inculcate efficiency at all levels and strengthen the integrity in the soft infrastructure, which includes policies, judiciary, education, human development and the public delivery system (www.pcg.com.my). In addition, the programme intends to enhance the board effectiveness in monitoring the management. Consequently, it is predicted that the GLCs will be more transparent in disclosing their intellectual capital information so as to prove to the stakeholders, especially the public, that they have successfully implemented the GLCs Transformation programme. Moreover, disclosing their intellectual capital information is to provide evidence that the government controlling companies are continuously improving in developing their intellectual capital to progress Malaysia as a knowledge-based economy.

Furthermore, the stake holder theory suggests that politically sensitive companies, such as the GLCs, are likely to disclose more information than those companies (Non-GLCs) whose major shareholders are from the private sector (Yau et al., 2009). In addition, Gan et al. (2008) and Said et al. (2009') argued that as the GLCs are controlled by the government, they are perceived as disclosing more voluntary information in support of the government's policies and initiatives. The GLCs are also expected to have superior disclosure of their initiatives in developing intellectual resources to boost stakeholders' support and satisfaction for these organizations to continue to exist (Yau et al., 2009).

Although Gan et al. (2008) found no significant association between the Malaysian government ownership in GLCs and intellectual capital disclosure, Yau et al. (2009) found that there is a positive association between the Malaysian government ownership in GLCs and intellectual capital disclosure. Eng&Mak (2003), and Firer and Williams (2005) also found that there is a significant relationship between the ownership by the Singapore government and voluntary disclosure. The findings in these studies advocate that government ownership increases the moral hazard and agency problem and disclosure is a means to mitigate these problems. The results in the study by Yau et al. (2009) support the expectations that greater transparency and the role of good corporate management have developed their intellectual capital for future success. They argued that politically sensitive companies, such as the GLCs, would use more extensive voluntary disclosure policies to improve investors' relationship and reduce political cost. Hence, it is hypothesised (H1)in this study that the level of intellectual capital disclosure is higher for the GLCs rather than the Non-GLCs.

Independent non-executive directors

The supervisory capability of the board will depend on the ability of the individual board to represent the shareholders by assessing the firm activities and controlling the behaviour of the firm's manager (White et al., 2007). To have effective control, the BOD must be independent, or, in other words, they should mainly consist of non-executive directors (John &Senbet, 1998). Outside directors who are less aligned to management may be more inclined to encourage firms to disclose more information to outside investors (Eng&Mak, 2003) and could reduce information asymmetry between managers and shareholders as well as stakeholders (Cerbioni&Parbonetti, 2007).

There is mixed empirical evidence concerning the influence of independent directors on intellectual capital disclosure. Haniffa et al. (2007), Gan et al. (2008) and Zourarakis (2009) found that the board composition does not significantly explain intellectual capital disclosure. Haniffa& Cooke (2002) and Ho& Wong (2001) found a negative association between the board composition and voluntary disclosure. However, Cerbioni&Parbonetti (2007), and White et al. (2007) found that the proportion of independent directors is positively associated with the amount of intellectual capital disclosed. Their results provide evidence that the conduct of independent non-executive directors through more thorough monitoring and

analysis of the managers' activities serves as a more effective watchdog function over the presentation of non-financial information in the report. This, in turn, reduces the advantages gained by withholding information, and, thereby, could improve the company's transparency.

Furthermore, the agency theory and MCCG 2007 state that a higher independent BOD will enhance the effective monitoring of voluntary disclosure to reduce the benefits of withholding information, which, in turn, could improve the company's transparency concerning intellectual capital disclosure. With this argument the current study hypothesised (H2) that there is a positive association between the proportion of independent directors and the level of intellectual capital disclosure among the GLCs.

Role Duality

Similar to the best practices of MCCG (2007), proponents of agency theory support the separation of the role of the CEO and chairman as the dual leadership structure will ensure a balance of power and authority in which no individual has unfettered powers of decision making. Haniffa& Cooke (2002) stressed that a separation of the roles of the CEO and board's chairman will help with better monitoring, reduce the benefits of withholding information and lead to more efficient intellectual capital management and disclosure. In addition, the separation of the role of the CEO and board's chairman will also allow the board to develop a greater affinity with a more diverse set of stakeholders, such as employees and customers, which will increase the firm's overall intellectual capital disclosure (William, 2000). Moreover, a dominant personality (combining the role of the CEO and chairman) that is imposed by a firm may be harmful to the shareholders' interest, and, in turn, will to be associated with poor disclosure (Forker 1992, as quoted by Li et al., 2008).

Cerbioni&Parbonetti (2007) found a negative association between CEO duality and intellectual capital disclosure. Their finding supports the agency theory that states that separating the role of the CEO and board chairman will increase the board's ability to control the top management effectively and thoroughly, which could generate the company's transparency and minimize the withholding of information by the manager. In other words, GLCs with role duality will reduce the effective monitoring of the board over management and so could affect the company's transparency concerning intellectual capital information. Therefore, it is hypothesised (H3) that there is a negative association between role duality and the amount of intellectual capital disclosure among the GLCs.

Board size

Board size is viewed as another important element in the board characteristics that may have an effect on monitoring voluntary intellectual capital disclosure. Abeysekera (2010) and Hidalgo et al. (2010) provided evidence that large boards can make better collective decisions as they have a variance of expertise that can influence the strategic and tactical intellectual capital disclosure of the company.

However, proponents of the agency theory argue that as more directors are added, the board of directors lose their ability to direct and be decisive in their operation and, therefore, it will be easier for the CEO to control the board of directors (Jensen, 1993). Cerbioni&Parbonetti (2007) found a significant negative association between the board and the level of intellectual capital disclosure, indicating that a large board monitors activities less effectively. Thus, it could harm the company's transparency and lead to withholding of information between the management and shareholders. Thus, limiting the size of the board may improve their monitoring role. When a board gets too big, co-ordinating and processing problems become difficult, while a small board also tends to reduce the possibility of individual directors becoming free riders, thus increasing the accountability of the board (Abdul Rahman& Mohamed Ali, 2006). A small board can also be effective, as decisions can be made more quickly and the performance of each director is easier to monitor (Haniffa and Hudaib, 2006).

As more directors on the board could lead to poor communication and a reduction intheir ability tocontrol the management, which is detrimental to the interest of the shareholders and stakeholders, the current study hypothesised (H4) that there is a negative association between the board size and the amount of intellectual capital disclosure among the GLCs.

Cross directorship

Board diversity through cross directorship can help to enhance the board's effectiveness in the company's transparency of the intellectual capital information because several of the board's members have already gained some experience and knowledge obtained from other organisations (Dahya et al., 1996). In line with the resource based theory, the internal resources that the company possesses are the skill, experience and knowledge of the board of directors, and the firm will use cross directors to aid the company to be more successful or do better than other companies (Hashim& Abdul Rahman, 2011). Furthermore, the agency theory argues that cross directorship could also increase the board's independence in monitoring the management and it is quite proficient in helping companies to diminish the agency problem (Haniffa& Cooke, 2002). Board independence can be enhanced as many outside board members who are sitting on several boards in others companies may be experiencing or even expecting a conflict of interest among their board members (Randøy et al., 2006). Specifically, the CEO may be less able to manipulate a more heterogeneous board and might create a more active board to maximize the outsider interest (Carteret et al., 2003).

Haniffa& Cooke (2002), and Gan et al. (2008), however, found that cross directorship is not truly independent and is less committed to encourage company's transparency. It is possible that cross directorship may create a potential conflict of interest, competitive advantage, as well as less commitment if the directors are too busy attending various board meetings and probably have little time to think about the company's affairs.

A study by Carcello et al.(2002) supports that cross directorship is more watchful in accomplishing its duties as they have more expertise and experience. This extraability, which is gained from sitting on the board of other companies, could formulate more transparent intellectual capital information. Moreover, as argued in the agency theory, sitting on other boards might increase the board's independence in carrying out their duties, thus, this could protect the shareholders' interest. Therefore, it is hypothesised (H5) that there is a positive association between the proportions of cross-directorship on intellectual capital disclosure among the GLCs.

Research Methodology

This study examines the level of intellectual capital disclosure among the GLCs and Non-GLCs in Malaysia for the period 2007 to 2009. This period is chosen because there was a revision of the MCCG in 2007, which requires more independence of the board. The Non-GLCs act as a control sample for comparative purposes with GLCs. Similar to the adoption made by Najid& Abdul Rahman (2011), and AbRazak, Ahmad, &Aliahmed, (2008), the corresponding number for the Non-GLCs is selected based on the specific characteristics of the industry and the size of the GLC itself. There were 33 listed GLCs in Malaysia, as at13 March 2009 (www.pcg.com.my). However, one company (UEM Land Berhad), which was listed in 2008,was excluded from this sample due to inaccessibility of its financial data. As a result, the total sample for this study is limited to 64 companies, which consists of 32 GLCs and 32 Non-GLCs. The non-financial data for both the intellectual capital disclosure and board structure are collected from the annual reports of the respective companies, while the data for the control variables are obtained from DataStream.

Dependent variables consist of intellectual capital disclosure in the form of human, structural and relational capital. However, independent variables consist of board composition, role duality, board size and cross directorship. In addition, firm leverage, age and profitability act as control variables. Table 1 shows the operationalisation of the dependent, independent, control variable and expected sign for regression analysis.

Table 1. Operationalisation of the Dependent, Independent, Control Variable and Expected Sign for Regression Analysis

Variable	Acronym	Operationalisation	Expected Sign
Sample			
GLC dummy	**GLC**	Dummy variable (1=GLC and 0= Non GLCs	
Dependent			
Total Intellectual Capital disclosure	**ICDScore**	Percentage of disclosure index	
Independent			
Independent non-executive directors	INED	Proportion of independent non-executive directors to total number of directors	**+ve**
Role duality	RDUAL	Dichotomous; 1 with role duality and 0 if no role duality	**-ve**
Board size	BSIZE	The total number of directors on board	**-ve**
Cross directorship	CROSS	Average directorship in other companies to the total number of directors of directors on the board	**+ve**
Control			
Leverage	LEV	Total debt divided by total asset	+ve
Age	AGE	Months from the date of incorporation to the date of the 2007, 2008 and 2009 financial year	-ve
Profitability	PROFIT	Net income before tax/total asset	+ve

Measurement of GLCs and Non-GLCs

A dummy variable where a firm is classified as a GLC was coded one (1); otherwise the firm was coded zero (0) for Non-GLC. This measurement technique is consistent with the previous study by Najid& Abdul Rahman (2011).

Measurement of Dependent variable (Disclosure Index)

In this study, a list of attributes was developed for three intellectual capital categories comprising human capital, structural capital, and relational capital. The original framework was developed by Sveiby (1997) and the modification of it has been widely adopted in the intellectual capital literature (Brennan, 2001; Bozzolan et al., 2003; Goh& Lim, 2004; Abeysekera& Guthrie, 2005) to examine the association between intellectual capital disclosure and corporate governance (Cerbioni & Parbonetti, 2007; Li et al., 2008; Gan et al., 2008).

Every category of intellectual capital was identified with several sub-category attributes. As depicted in Table 2, there are twenty one (21) intellectual capital sub-categories recognized in this study; similar to the study done by Yau et al. (2009), Gan et al.(2008) and Huang et al. (2007).

Table 2. Attributes of Intellectual Capital

Human Capital	Structural Capital	Relational Capital
Work-related knowledge	Management philosophy	Brands
Work related competencies	Corporate culture	Customers
Entrepreneurial sprit	Management process	Customer loyalty
Education	Information system/process	Company names
Vocational qualification	Networking system	Distribution channel
Know-how	Financial relations	Business collaborations
		Licensing agreements
		Research collaboration
		Franchising agreement

Similar to the studies by Goh & Lim (2004) in Malaysia, Brennan (2001) in Ireland, Olivere as et al. (2008) in Spain and Abeysekera & Guthries (2005) in Sri Lanka, the content analysis process of manual

coding used in this study involved the reading of the data in an attempt to understand the extent to which companies disclose their intellectual capital. The intellectual capital information collected from the reading and analysis of the annual report was coded for each attribute using a coding sheet in which a numerical coding scheme was employed for each variable. For each company, a value of zero was used if the variable did not appear and a value of one to denote that the variable appeared in the annual report. The categorical record was converted to a percentage for each company by simply dividing by the sum of disclosure (White, Lee, Yuningsih, Nielsen, & Bukh, 2010), in accordance with the following formula:

$$ICDScore = (\sum_{i=1}^{m} [\frac{d_i}{M}) \times 100\ \%]$$

Where d_i expresses items *i* with the value 1 if the item *i* is found in the annual report in question and otherwise. M expresses the maximum amount of information contained in an annual report. Table 3 shows the score for each component of intellectual capital disclosure. Each company is able to obtain a maximum score of 21.

Table 3. Score for Intellectual Capital

The component of Intellectual capital	Score
Human Capital	6
Structural Capital	6
Relational Capital	9
Total score	**21**

Measurement of Independent variables

The proportion of independent non-executive directors to the total number of directors was measured based on the percentage of independent non-executive directors divided by the total number of directors on the board. This is consistent with previous studies by Abdul Rahman& Mohamed Ali (2006), CheHaat et al. (2008), Abdul Rahman& Ismail (2010) Cerbioni&Parbonetti (2007) and Wan Mohamad & Sulong (2010).

Similar to the studies by Hashim& Abdul Rahman (2011), Abdul Rahman & Mohamed Ali (2006) and Buniamin et al. (2008), the role duality in this study is captured using a dummy variable where a score of one was applied to where one member of the BOD acted as both the chairman and CEO. In contrast, a zero was applied when different individuals on the board hold the posts of chairman and CEO.
Board size was measured by the total number of directors on the board (Abdul Rahman & Mohamed Ali, 2006; Cerbioni and Parbonetti, 2007), while cross directorship was measured by the average directorship in other companies to the total number of directors on the board (Haniffa & Hudaib, 2006; and Carcello et al.,2002).

Measurement of Control factors

Previous studies have documented the association between the firm's specific characteristics and intellectual capital disclosure, such as leverage, age and profitability. The complement of the control variable is to avoid intellectual capital information being influenced by other factors. Similar to the studiesdone by Najid & Abdul Rahman (2011), Bruggen et al. (2009), Wan Mohamad & Sulong (2010) and Gan et al. (2008) the level of external financing of the companies was measured by the ratio of total liabilities over total assets at the end of the financial year. The age of the companies were measured in the months from the date of incorporation to the 2007, 2008 and 2009 financial years (White et al., 2007; Tam & Tan, 2007). Furthermore, profitability was measured by the ratio of net income before tax divided by total assets (Hashim & Abdul Rahman, 2011).

Results and Discussion

The level of intellectual capital disclosure of GLCs, Non-GLCs and entire sample

Table 4 shows that, on average, the level of intellectual capital disclosure among the GLCs (72%) is significantly higher than the Non-GLCs (42%). Therefore, the first hypothesis (H1) is accepted, as there is a significant difference in the score for intellectual capital disclosure among the GLCs and Non-GLCs. A possible reason is because 43.75% of the listed GLC sarefrom the trading and services industry whereby the majority of them are big companies, such as Malaysia Airlines System Bhd, Petronas Dagangan Bhd, Plus Expressways Bhd, Telekom Malaysia and Tenaga Malaysia Bhd. These companies support the government initiatives to progress Malaysia as a knowledge economy.

Table 4. Descriptive results for intellectual capital disclosure

ICDScore	GLCs	Non-GLCs	t-statistics	df	Entire Sample
Mean	**0.72**	**0.42**	**11.72 ****	**178**	**0.57**
Minimum	0.38	0.14			0.14
Maximum	0.95	0.95			0.95
Std. Deviation	0.15	0.20			0.23
5% Trimmed Mean	0.72	0.42			0.58
No. of sample	96	96			192

** Significant at the 0.01 level
Note: ICD Score: Intellectual capital disclosure

Further analysis shows that the relational capital is the most extensively disclosed by GLCs, followed by structural and human capital. In contrast, Non-GLCs disclosed structural and relational capital equally, and the least disclosed was human capital.

The results in this study indicate that the GLCs are more transparent in disclosing their intellectual capital. Thus, this finding supports the stakeholder theory that companies, which are "politically sensitive", such as GLCs, will disclose more information than Non-GLCs. The GLCs need to provide wider sharing to the stakeholders, especially to the public, to inform that the government controlling companies are continuously improving in developing the soft factors, such as intellectual capital, to develop Malaysia as a knowledge economy. In addition, this finding also explains that the GLCs have implemented the Transformation programme satisfactorily, covering key institutions including policies, the judiciary, education and human development. Therefore, disclosing their intellectual capital information is crucial to gain stakeholders' confidence and to prove that the GLCs are seriously focused on developing and investing the soft strategy on intellectual capital to reposition them in the emerging knowledge-based economy.

This finding is similar to Yau et al. (2009), Eng and Mark (2003), Firer & Williams (2005), who found that GLCs disclosed more information compared to others. In contrast, Gan et al. (2008) found that GLCs are not transparent in disclosing intellectual capital in Malaysia.

Independent variable (Board Characteristics)

The descriptive results on the independent variables for this study (independent directors, role duality, board size and cross directorship) for the three-year period (2007-2009) can be seen in Table 5. It shows that, on average, the independent directors of GLCs, Non-GLCs and the entire sample is 47%, 45% and 47%, respectively. Similar to that found by previous studies in Malaysia (example Hashim & Abdul Rahman, 2011), the result is consistent with the Bursa Listing Requirements (2009) in which the board of Malaysian public listed corporations should consist of at least two independent directors or one-third of the board of the company, whichever is higher.

Table 5. Descriptive result for Independent Variables

Board Characteristics	GLCs	Non-GLCs	Entire Sample
Independent Directors (INED)	0.47	0.45	0.47
Role Duality (RDual)	0	0.29	0.15
Board Size (BSize)	8.43	8.12	8.28
Cross Directorship (Cross)	0.84	0.69	0.77

Table 5 also shows that all GLCs have separated the role of CEO and board chairman, as the result shows a value of zero. Thus, this indicates that all listed GLCs have complied with the MCCG (2007) recommendation concerningeparation of the role of chief executive officer (CEO) and chairman of the board to ensure the balance of power and authority and avoid the unfettered power indecision making. Furthermore, Table 5 indicates that the average total number of directors in the GLCs, Non- GLCs and all samples of companies is8 members. The results in Table 5 also show that, on average, for the directors in GLCs who hold a directorship in other companies is 84%, whilst that of the Non-GLCs shows an average of 69%.

Multivariate Statistics Stepwise Regression Analysis

A stepwise regression analysis is used to examine the explanatory power of the independent variables on intellectual capital disclosure. Several assumptions in regression analysis were tested to contribute a good regression model (Haniffa and Cooke, 2002). Based on the analysis, there was no significant multi co linearity between the independent variables; the variable of the distribution of the dependent variable is the same for all values of the independent variables (homo scedasticity); a linear relationship exists between the dependent and the independent variables (linearity); the distribution value of the dependent variable for each value of the independent variable is normal (normality) and there is no error related to measurement.

The regression results for the total score of the intellectual capital disclosure for the GLCs, Non-GLCs and entire sample are summarized in Table 6. For Model 1, the results show that there is no significant relationship between the independent board and the separation of the position of the board's chairman and CEO with the intellectual capital disclosure among the GLCs. As such, Hypothesis 2 and Hypothesis 3 are rejected.

Similar to that found by Li et al. (2007),Gan et al.(2008), Zourarakis (2009) and Hidalgo et al. (2010), the results in this study indicate that boards dominated by independent non-executive directors do not seem to enhance the level of firm's intellectual capital disclosure of GLCs. This is possibly due to the independent boards of GLCs not needing to critically observe the company's intellectual capital disclosure, as the GLCs' management itself has properly disclosed that information.

In contrast, the results for the Non-GLCs and the entire sample show that the independent board has positive significance with the intellectual capital disclosure. It explains that the independent board is crucially important for the Non-GLCs and not for the GLCs in monitoring the intellectual capital disclosure. Thus, it supports the agency theory that the independent non-executive directors of Non-GLCs conduct an effective watchdog function over the presentation of non-financial information in the report. This, in turn, reduces the advantages gained by withholding information, thereby improving the transparency of Non-GLCs concerning intellectual capital information.

Table 6. Stepwise Regression of Intellectual Capital disclosure on Board structure and Control variables

Model:ICD Score= $ß_0 + ß_1 INED - ß_2 RDUAL_s - ß_3 BSIZE + ß_4 CROSS_+ ß_5 Lev_+ ß_6Age+ ß_7 Profit$

	Model 1= GLCs			Model 2 = Non-GLC			Model 3 = Entire sample		
	Beta	**t-statistics**	**Sig.**	**Beta**	**t-statistics**	**Sig.**	**Beta**	**t-statistics**	**Sig.**
Constant	0.544	8.195**	0.000	-0.103	-1.257	0.212	-0.091	-3.867	0.363
Independent variable									
INED	-0.82	-0.854	0.395	**0.680**	**4.573****	**0.000**	**0.389**	**2.990****	**0.003**
DUAL	A	a	A	-0.120	-1.469	0.145	**-0.189**	**-4.766****	**0.000**
BSIZE	**0.016**	**2.144***	**0.035**	**0.067**	**3.785****	**0.000**	**0.028**	**3.808****	**0.000**
CROSS	-0.179	-1.863	0.066	**.316**	**4.769****	**0.000**	**0.368**	**5.551****	**0.000**
Control factors									
LEV	**0.001**	**3.346****	**0.000**	-0.005	-0.955	0.955	-0.067	-1.097	0.274
AGE	0.042	0.410	0.683	0.099	0.239	0.239	0.057	0.368	0.368
PROFIT	-0.036	-0.378	0.706	0.091	0.279	0.279	0.053	0.393	0.393
Model Summary									
R^2	**0.155**			**0.382**			**0.321**		
Adj.R^2	**0.136**			**0.362**			**0.306**		
F value	**8.508**			**18.936**			**22.096**		
Sig. F	**0.000****			**0.000****			**0.000****		

In respect of role duality, the results in this study are also similar to Li et al. (2008) and Gan et al. (2008) who revealed that there is no association between role duality and intellectual capital disclosure among GLCs. Thus, this indicates that whether or not the role of the board's chairman and CEO is combined, it does not seem to induce the GLCs to disclose their intellectual capital to outsiders. This finding is also supported by the regression test of the Non-GLCs, which indicates that there is no significance between role duality and intellectual capital disclosure among the Non-GLCs. However, the results of the correlation coefficient and regression test of the entire sample show that role duality is negatively associated with intellectual capital disclosure. The different result is because of the sample for the group test, which combined the sample of the GLCs and the Non-GLCs. As a result, it makes the sample bigger, and, therefore, has produced better findings. Thus, this supports the agency theory, which states that separating the role of the board's chairman and CEO increases a board's ability to effectively and thoroughly control the top management, which could generate transparency of the company and minimize withholding information by the manager.

As for board size, the results in Table 6 indicate that there is a positive association between the GLCs' intellectual capital disclosure and board size. Therefore, hypothesis 4, which states that there is a negative association between board size and intellectual capital disclosure of GLCs is rejected. This result supports the resource dependency theory, which argues that large boards may comprise directors with different backgrounds, expertise and values, which could help the company to make better collective decisions and influence intellectual capital disclosure. Moreover, this is also supported by the results of the Non-GLCs and the entire sample, which show a positive significance between the board size and intellectual capital disclosure. Thus, this finding does not support the agency theory, which states that a small board is more effective in monitoring the intellectual capital disclosure of GLCs. This finding is similar to Abeysekera (2010), and Hidalgo et al.(2010) who found that there is a positive association between board size and intellectual capital disclosure. However, it contradicts the findings of Cerbioni & Parbonetti (2007) who found that board size is negatively related with intellectual capital disclosure. However, Gan et al. (2008) found that there is no association between board size and intellectual capital disclosure of Malaysian listed companies.

In respect of cross directorship, the results show that there is no significant relationship between the cross directorship and the intellectual capital disclosure of the GLCs. Thus, hypothesis 5, which states that there is a positive association between cross directorship and intellectual capital disclosure among GLCs is also rejected. The results indicate that the number of directorships they hold makes no difference to the corporate managers who are independent in disclosing intellectual capital information. This is similar to Gan et al. (2008) who found that there is no association between the intellectual capital disclosure and the

board diversity proxies by cross directorship. Moreover, Haniffa & Cooke (2002) found that cross directorship is not related to voluntary disclosure.

In contrast, the Non-GLCs and the entire sample of companies show a positive significance between cross directorship and intellectual capital disclosure. This shows that cross directorship is important for Non-GLCs as it can encourage the company to make its intellectual capital information more transparent, as comparisons can be made using knowledge from other companies.

As for the control variables, leverage is positively significant on intellectual capital disclosure of the GLCs. It also supports that companies with high debt levels are expected to incur higher monitoring costs and that managers of high debt firms seek to reduce these costs by disclosing more information in the annual report. The necessity for disclosing this information is to demonstrate that GLCs, especially the knowledge-based companies, have substantial amounts of money invested in intangible assets and intellectual capital. However, the age and profitability variables for GLCs, Non-GLCs and the entire sample, do not show any significant influence on the intellectual capital disclosure of companies. Thus, explaining the history and the level of profitability of the company does not matter in disclosing their intellectual capital information to outsiders.

Conclusion

The results from the study support the stakeholder theory, as GLCs are requiredto provide wider information to the stakeholders, especially to the public,asthey continuously improve in developing the soft factors of intellectual capital to develop Malaysia into a knowledge-based economy. This also directly supports that the GLCs have executed the Transformation programme. However, only one board structure, which is board size, has a significant influence on the disclosure ofthe intellectual capital ofGLCs. Moreover, independent board and cross directorship do not influence the disclosure ofthe intellectual capital of GLCs. Thus, a possible explanation forthat scenario is that theGLCs' management has properly managed to disclosethe intellectual capital information to the stakeholders, especially to the public. The management has considerableawareness that the government controlling company should be more transparent in disclosing the intellectual capital investment inlinewith achievingMalaysia's vision 2020.

In summary, the effectiveness of board structure in terms of board independence, board size and cross directorship is crucially illustrated for Non-GLCs to ensure the transparency of a company in disclosing their intellectual capital. This supports the agency theory,in thatanindependent board should effectively monitor the company's transparency in disclosing intellectual capital information. Similar to the cross directorship, it also supports both the agency and resource dependency theory. The agency theory argues that cross directorship could also increase the board independence since board members who are also sitting on the boards of other companies can share their external experience and expertise for better results. Thus, it creates a more active board to maximize interest of the outside or other key stakeholders, which means more intellectual capital information is disclosed. Whereas, the resource dependency states that cross directorship achieves better coordination with other organizations and could reduce uncertainty. In addition, based on the results, it shows a negative association between role duality and intellectual capital disclosure of the entire sample. Thus, it supports the agency theory, which argues that separating the role of the CEO and board chairman effectively increases the ability of the board to monitor thetop management, which could generate the company's transparency and minimize withholding information by managers.

The results ofthis study help to establish a starting point for empirically exploring the importance of corporate governance structure on intellectual capital information in Malaysia. As the empirical tests performed in this study only included a relatively moderate sample of companies in Malaysia, i.e., only based on 32 GLCs listed on Bursa Malaysia, future studiesmay include performing case analysis to gain better insights concerningthe influence of corporate governance practices onintellectual capital disclosure of Malaysian GLCs and Non-GLCs.

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