INTELLECTUAL CAPITAL DISCLOSURE AMONG MALAYSIAN GOVERNMENT-LINKED COMPANIES (GLCS)

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ABSTRACT

This study aims to examine the level of intellectual capital disclosure among listed Malaysian GLCs by comparing them with the Non-GLCs for the period 2007-2009. Content analysis is used to extract the intellectual capital disclosure items from the annual report. The level of intellectual capital is measured with proxies for categories of human, structural and relational capital. The result shows that the GLCs disclose more intellectual capital information than Non-GLCs. This supports the stakeholders' theory as GLCs call to provide wider information to the stakeholders especially to the public. For GLCs, relational capital is the most reported category, followed by structural capital. In contrast, Non-GLCs disclose their relational and structural capital equally. The result shows that both GLCs and Non-GLCs disclose at least the human capital.

Malaysian companies need to enhance the transparency of human capital development as it acts as a vital role in the foundational sources of innovation toward a knowledge-based economy.

Empirical tests performed in this study include only a relatively moderate sample of companies in Malaysia i.e. only based on 32 GLCs listed in Bursa Malaysia. In addition, the current study only makes use of secondary data based on the annual report of the listed GLCs and Non-GLCs, resulting in the problem of data constraints hence limiting the application of other potential measures.

Keyword: *Intellectual capital disclosure, Stakeholder's theory, Government-Linked Companies.*

Introduction

The shift from the industrial-based economy to the new knowledge-based economy has transformed the focus of the organisation on how intellectual capital would become a competitive advantage and create a corporate value (Bontis, Dragonetti, Jacobsen & Ross, 1999). As a consequence, many firms and even countries have now changed their basic principles of strategy by focusing more on the investment in intellectual capital in order to reposition them in the knowledge-based economy (Campbell & Abdul Rahman, 2010). Malaysia has also taken the same initiatives to be a knowledge-based economy country. By adopting the knowledge-based economy as part of a wider plan Malaysia is striving to achieve the nation's Vision 2020 (Mustapha & Abdullah, 2004; Fleming & Søborg, 2010). In addition, in May 2004 Malaysia launched the GLC Transformation Program to strengthen its transition to the knowledge-based economy of its controlling companies which is known as Government-Linked Companies (GLCs) (www.pcg.gov.com). This program is crucial as the activities of the GLCs not only pose a significant impact on the Malaysian economy but also they are the provider of mission-critical services, cornerstones of strategic sectors, and the key capital of the market constituent (Abdullah, 2005).

Through the revolution of this knowledge-based economy, the conventional reporting systems have considerably lost their relevance. This is because most of the intellectual capital is not reported in the traditional balance sheet and because of this it has created an information gap between the manager and stakeholders (Petty, Ricceri, & Guthrie, 2008; Zourarakis, 2009; Mouritsen, Bukh & Marr, 2005). As a result, most of the companies are calling for a voluntary disclosure of these knowledge-based resources. This is because organisations believe that they have provided the relevant information for managers, investors and stakeholders in understanding how their resources, many of which is intellectual capital which can create a value in the future (Mouritsen, Bukh & Marr, 2004; Passeti, Tenucci, Cinquini, & Frey, 2009; Mohd Saleh, Hassan, Jaafar, & Abdul Shukor, 2010; Bornemann & Leitner, 2002). In addition, the investors and stakeholders would also like companies to be more transparent by providing more information on their intellectual capital (Petty, Ricceri, & Guthrie, 2008). This is proven where they now request more reliable information like, managerial qualities, expertise, experience and integrity, customer relationship and personnel

competencies whereby these factors are related to intellectual capital (Bukh, 2003). The accessibility of this relevant information helps these investors and stakeholders in various decisions making processes.

In response to the above concern, this study aims to investigate the level of voluntary disclosure of intellectual capital by focusing on the Malaysian GLCs. This is to show that the GLCs which are controlled by the government should disclose more of their intellectual capital than other companies. In fact, the intellectual capital disclosure is an important channel of information to investors and stakeholders. It is crucial to prove the GLCs' contribution in developing their knowledge resources. Thus, it is worth examining if the GLCs have disclosed more of their intellectual capital information relative to Non-GLC.

Literature Review

Definition of Intellectual Capital

Garcia-Meca and Martinez (2005) and Stewart (1997) define intellectual capital as the intellectual material-knowledge, information, intellectual property, experience- that can be put to use to create wealth. It explains that knowledge has transformed the economy by investing in IT to make production more efficient.

Edvinsson and Sullivan (1996) define intellectual capital as knowledge that can be converted into values that encompass inventions, ideas, general knowledge, designs, computer programmes, data processes and publications. It involves the process of transforming the innovations produced by the human resources (employee) into intellectual assets to which the firm can assert its rights of ownership.

Another similar definition by Andriessen and Stam (2005, p.3) is that intellectual capital is "all intangible resources that are made available to an organisation, that give relative advantages, and the combination of which is able to produce future benefit". Mohd Saleh et al. (2010, p.40) describes it as "intellectual capital lead organisations to drive future benefit or structure and activities that can create value to organisation". In addition, Kamaluddin and

Abdul Rahman (2009, p.13) confirm that "intellectual capital is imperative to resources which determine the survival and competitive success of any firm". In conclusion, the intellectual capital is about the cooperative knowledge and expertise of the employee that include creativity and inventiveness adding value to products and services. It is created through learning, an environment that supports learning new knowledge and retaining knowledge. This resource is expected to generate income and create the company's wealth in the future.

The Components of Intellectual Capital

Generally, based on several studies (Sveiby, 1998; William, 2000; Roos & Roos, 1997; Stewart 1997; Edvinsson & Sullivan 1996; Huang, Luther, & Tayles, 2007; Kamaluddin & Abdul Rahman, 2009; Ramezan, 2011) intellectual capital can be divided into different categories known as (1) human capital, (2) structural capital and (3) customer/relational capital as shown in Figure 2.1.

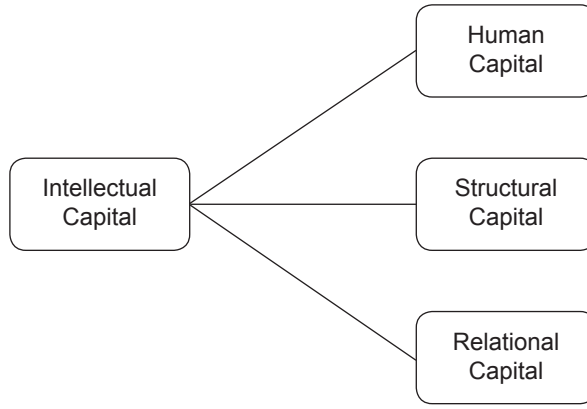

Figure 2.1: The Components of Intellectual Capital
(Source from Ramezan, 2011 p, 89)

Human Capital

Human capital presents the individual's tacit knowledge that is embedded in the mind of the employee. These resources include collective experience, ability, competency, creativity, teamwork capacity, motivation, skill and general know-how and these resources can generate to a company's value

(Edvinsson & Sullivan, 1996; CIMA 2000; Kamaluddin & Abdul Rahman, 2009). Human capital contains knowledge that is provided by the employees in the form of commitment, motivation and loyalty as well as advice or tips. The knowledge that embodies in employees can be formalized through patents, copyright and brands (Van der Meer-Kooistra & Zijlstra, 2001).

Ramezan (2011) defines human capital as the tacit or explicit knowledge which people possess, as well as their ability to generate it, which is useful for the mission of the organisation and includes values and attitudes, aptitudes and know-how. Another good definition is from Sveiby (1998) who defines human capital as the knowledge brought to the network by its member organisation. This knowledge is brought into the firm by the employee and it can be accumulated through experience and education. By looking at one organisation as a sample, the challenges faced by an executive are firstly, how to manage the talent of the truly outstanding members among its staff and secondly, how to use it to the utmost level without depressing them. As this talent does not belong to one company, the company will then need to explore further on how to improvise these skills so that it can be transformed into an added value for the company.

Bontis (1998), Isaac, Herremans, and Kline (2009), and Ramezan (2011) state that human capital has played a vital role in the foundational source of innovation of the economy changing it from being capital intensive to knowledge-based. Employees are the only true agents in business where all assets and structure, whether tangible physical products or intangible relations, are the result of human action depending ultimately on people for their continued existence (Sveiby, 1998.) By interacting with both structural and relational intellectual capital, human capital is able to bring in revenues when there is an investment in their knowledge, skills and other abilities (Isaac et al., 2009). This situation will then lead to the creation of valuable products and services which could attract more customers, inject revenues and stimulate long term growth to the organisation.

A study done by Mohd Saleh et al. (2010) finds that the majority of companies investing in human capital are able to retain the existing quality employees and attract potential high skilled employees to join the organisation. Majority of companies prefer to disclose their employee satisfaction index, a description of how they value their employees, current

employees' profile and programme for employees. This later on, will enable the organisation to retain the selected employees who have the ability to contribute positively to the whole corporate culture and to chart the strategic direction to accomplish the overall potential of the company. According to Choo (2008) various aspects of human capital or human resources are being considered by the financial analyst and fund managers when they are reviewing the company's prospect. The information obtained is to know how well the employees are compensated and rewarded because it is important to attract and retain the necessary talents. This is due to the fact that retaining a talented employee is a crucial feature in ensuring that the company is long-lasting as well as being successful in creating the company's value.

Structural capital

Structural capital is best defined as knowledge in the organisation which is independent of people or can be simply defined as the knowledge that stays within the organisation whenever employees leave at the end of their working days (CIMA, 2000; Kamaluddin & Abdul Rahman, 2009). In addition, Ramezan (2011) states that structural capital contains both the organisational and technological elements that pursue integration and coordination within the firm. As for Stewart (1997), he defines structural capital as the transformation of know-how into the group's property. Sveiby (1998), Edvinsson and Sullivan (1996) and Vergauwen and van Alem (2005) define structural capital as consisting of a wide range of patents, concepts, models, and computer and administrative systems that are created and documented by the employees and are generally owned by the firm.

In other words, structural capital is about the infrastructure that is used to build up the human capital of a company (Edvinson & Sullivan, 1996) or it can be used by the employees to put their knowledge and skills to work (Vergauwen & van Alem, 2005). Structural capital is important in supporting the development of human capital in creating the employees' ideas and it includes both direct and indirect support (Edvinsson & Sullivan, 1996; Bontis, 1998). The direct support includes computers, desks, telephones, information systems, computer software, work procedures, marketing planning and company know-how. The indirect support is like strategic plans, payroll system and costing relationship. Also, structural capital includes all the non-human storehouses of knowledge in an organisation which includes the database, organisational charts, process manual,

strategies, routines and anything whose value to the company is higher than its material value (Bontis et al., 1999).

According to Bontis et al. (1999), an individual can have a high level of intellect, but if the organisation has poor systems and procedures by which to track his or her actions, the overall intellectual capital will not reach its fullest potential. Organisations with strong structural capital will have a supportive culture that allows an individual to try new things, to fail and to gain knowledge through experience. Furthermore, this culture contains elements of efficiency, transaction times, procedural innovativeness and access to information for codification into knowledge. Besides, it also supports elements of cost minimization and profit maximization per employee. Thus, structural capital is the critical link that allows intellectual capital to be measured at an organisational level.

A study done by Kamalludin and Abdul Rahman (2009) finds that, managers perceive that their firm's unique resources criteria are only applicable in structural capital. They see that, the firm's structural capital should not only comprise of innovative activities such as support for development of new ideas and efficiency in performing tasks but, also it should consist of resources unique criteria such as the use of patents/licence to store knowledge, high investment in research and development, benefits gained from research and development. Choo (2008) stresses that the structural capital information is an important report that needs to be shared with the outsider as know-how realistic strategies for getting a product to the market, and investment in patents, research and development, and their success rates. In addition, the users will refer to the company's structural capital as they want to see how well the company has positioned itself in a knowledge-based economy.

Relational capital

Sveiby (1998) defines relational capital as valuable knowledge that is composed of resources linked to the external relationship of the firm with customers, suppliers, creditors, networks, strategic alliances, and distribution channels. According to Bontis et al. (1999), these intangibles encompass the knowledge embedded in all the relationships that an organisation develops whether it is from customers, from the competitors, from suppliers, from trade associations or from the government. These external sources create

a positive perception toward an organisation, which includes image, reputation, customer loyalty, commercial power, negotiating capacity with financial entities and environmental activities (CIMA, 2000).

Relational capital is the most valuable and critical component of intellectual capital as it directly affects the realisation of a company's wealth as compared to human and structural capital (Ramezan, 2011). This is because the satisfaction of external parties of the company could maintain the business relationship and directly improve the company's prestige and increase the company's sales. A study done by Woodcock and Whiting (2009) finds that relational capital is disclosed most often as the company might want to emphasize its relation with its customers and other organisations, and also promote its brand. In addition, Choo (2008) states that a financial analyst regards a customer's perception as important when comparing with the competitors. He considers the customer's level of satisfaction as important to determine the future strength of the company. Besides, this information is crucial to evaluate whether the company is doing well or not, and basically it shows whether the relationship will last.

Research Methodology

Hypothesis Formulation

The main idea of having the GLCs Transformation programme is to improve the company's performance, inculcate efficiency at all levels and strengthen the integrity in the soft infrastructure which covers the government institution's key (www.pcg.com.my). This includes policies, judiciary, education and human development and public delivery system which refer less to the intellectual capital factors (www.pcg.com.my). This initiative seeks to strengthen this country as a knowledge-based economy. Due to this, 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 implemented the GLCs Transformation programme well. Moreover, disclosing their intellectual capital information is to provide evidence that the government controlled companies are continuously improving in developing their intellectual capital to develop Malaysia as a knowledge economy.

A stakeholder theory suggests that the politically sensitive companies such as the GLCs are likely to disclose more information than the Non-GLC companies whose major shareholders are from private sectors (Yau, Chun, and Balaraman; 2009). In addition, Gan, Saleh, and Abessi (2008) argue 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. Said, Zainuddin, and Haron (2009) stress that the government interventions may generate pressures for companies to disclose voluntary information because the government is a body that is trusted by the public. Hence, in order to support the existence of the organisations, the managers of the GLCs are believed to have taken into consideration the interest of their major stakeholders that consist of government agencies and other government-related organisation (Yau et al., 2009). In turn, the GLCs are expected to ensure superior disclosure of their initiatives in developing intellectual resources to boost stakeholder support and satisfaction.

Eng and Mak (2003) find that there is a significant voluntary disclosure in Singapore's government controlled companies. From the intellectual capital perspective Firer and Williams (2005) who studied in Singapore and Yau et al. (2009) who studied in Malaysia, find that there is a positive association between the GLCs and intellectual capital disclosure. Eng and Mak (2003) advocate that their finding supports that the government ownership increases the moral hazard and agency problem and disclosure means to mitigate these problems. Firer and Williams (2005) argue that their finding supports the fact that the senior government officials and the board may directly or indirectly influence the disclosure policies in support of the initiatives by government policies. Besides, Yau et al. (2009) support the expectations that greater transparency and role of good corporate management have developed their intellectual capital for future success. They argue that the politically sensitive companies such as the GLCs would use more extensive voluntary disclosure policy to improve investors' relationship and reduce political cost.

In contrast, Gan et al. (2008) find that there is no association between the Malaysian GLCs and intellectual capital disclosure. They argue that the finding shows the GLCs do not truly support the government policies and initiative toward a knowledge-based economy. Hence, based on the above argument it leads to this hypothesis;

Hypothesis 1; The level of intellectual capital disclosure is higher for the GLCs than the Non GLCs.

Sample Selection

This study examines the level of intellectual capital disclosure among the listed GLCs and Non-GLCs in Malaysia for a period of 3 years starting from 2007 to 2009. The Non-GLCs act as a control sample for comparative purposes with GLCs. The corresponding number for the Non-GLCs is selected based on the specific characteristics of the industry and the size of the GLCs itself. Such comparative sample has also been adopted by Najid and Abdul Rahman (2011) and Ab Razak, Ahmad, and Aliahmed, (2008). As a point to ponder, actually there are 33 listed GLCs in Malaysia as of 13 March 2009 (www.pcg.com.my). However, the company (UEM Land Berhad) which was listed in 2008 has been disqualified from this sample due to inaccessibility of it financial data. As a result, the total samples for this study is limited to 64 companies which consist of 32 GLCs and 32 Non-GLCs. Thus, the total number of observations for the 3 year period for GLCs and Non-GLCs are 96 observations respectively. The details are shown in Table 3.1.

Table 3.1: The Breakdown of the GLCs and Non-GLCs by Industry Types for the 3 years (2007 to 2009)

			No. of observation			Percentage
		No. of company	GLC	Non-GLC	Entire Sample	Total
1	Construction	2	3	3	6	3.125
2	Consumer product	6	9	9	18	9.375
3	Finance	14	21	21	42	21.875
4	Industrial product	6	9	9	18	9.375
5	Infrastructure	2	3	3	6	3.125
6	Plantation	4	6	6	12	6.25
7	Technology	2	3	3	6	3.125
8	Trading and services	28	42	42	84	43.75
	Total	64	96	96	192	100%

As illustrated in Table 3.1, the largest observations are from the Trading and Services industry which makes up 43.75% out of the total sample. The second largest observations are from the Finance industry which covers up to 21.875%. This is followed by the consumer products and industrial product sector which is at 9.375% respectively.

Annual Report and Content Analysis

The selective annual reports from 2007 to 2009 are gathered from the website of Bursa Malaysia. These annual reports are chosen since the useful sources of the financial and non-financial information have provided the true image and complete control of discretionary disclosure information to the company's shareholders and also the public (Goh & Lim, 2004). In addition, Petty and Guthrie (2000) also argue that the annual reports are highly useful sources of data whereby the managers commonly signal what is important through the reporting mechanism. Furthermore, they view that annual reports are communication tools which allow a corporation to be connected to various external and internal stakeholders. Most of the previous studies on intellectual capital disclosure refer to the annual reports as a medium for data collection. For example, Abeysekera and Guthrie (2005) studied 30 listed top firms in the Colombo Stock Exchange. They referred to the annual report as the data represented the concerns and interest of the corporations in a comprehensive and compact manner. Other by Brennan (2001), Bozzolan, Favotto, and Ricceri (2003), Oliveras et al. (2008), William (2000), Gan et al. (2008), also used the same medium when investigating the intellectual capital disclosure.

A content analysis is used to collect the necessary data in the annual report. This analysis will act as a checklist for the intellectual capital disclosure for the respective years. Content analysis has been conducted on annual reports by a number of intellectual capital researchers, as it is a good instrument in measuring the comparative positions and trends in reporting (Guthrie, Petty, Yongvanich, & Ricceri, 2004). For the content analysis to be more effective, it is required to meet some procedures (Guthrie et al., 2004). Firstly the categories of classification must be clear, secondly, it must be comprehensible in identifying whether an item either belongs or does not belong to a particular category, and thirdly, the information needed can be quantified. Last but not least, a reliable coder is necessary for consistency.

Measurement Procedures

Measurement of GLCs and Non-GLCs

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

Measurement of Dependent variable

In this study, a list of terms is developed for 3 intellectual capital categories comprising of; human capital, structural capital, and relational capital. The original framework is 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).

Every category of intellectual capital is identified with several sub-category attributes. From this study, there are twenty one (21) intellectual capital sub-categories recognized, similar to the study done by Yau et al. (2009) who state that this model is adopted from Huang's model (2007). As argued by Yau et al. (2009), the grouping of the twenty one intellectual capital attributes that has been used, to a large extent, is consistent with the item groupings reported in Huang et al. (2007). Another similar study conducted by Gan et al.(2008) has also adopted Huang's model (2007). Both Yau et al. (2009) and Gan et al. (2008) argue that these intellectual capital attibutes are suitable as this study is also carried out in Malaysia. As a result, it can be said that the issue of possible differences in the cultural setting does not arise (Yau et al.,2009). Table 3.3 shows 21 intellectual attributes under the three intellectual capital components based on the study done by Yau et al. (2009).

Table 3.3: 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

This analysis is carried out through a process of manual coding which covers up to 3 years of accounting period (2007-2009). The content analysis involves the reading of the data in an attempt to understand the extent to which companies disclose their intellectual capital. Goh and Lim (2004) study in Malaysia and Brennan's (2001) study in Ireland, Oliveras et al. (2008) in Spain and Abeysekera & Guthries (2005) in Sri Lanka adopt the same methodology, using a process of manual coding of the annual reports.

Disclosure index

The level of intellectual capital disclosure in this study is measured using a disclosure index, a technique used in prior accounting disclosure studies (Bozzolan et al., 2003; Goh & Lim, 2004; Bukh, Nielsen, Gomsen & Mouritsen, 2005; Firer & William, 2005).The intellectual capital information collected from the reading and the analysis of the annual reports are coded onto the attributes on a coding sheet where a numerical coding scheme is employed for each variable. For each company, a value of zero is used if the variable does not appear and a value of one to denote that the variable appears in the annual report. The categorical record is converted to a percentage for each company by simply dividing it by the sum of disclosure (White, Lee, Yuningsih, Nielsen, & Bukh, 2010). This method is applied in previous research such as White, Lee and Tower (2007), White et al. (2010), Bukh et al. (2005) and Goh and Lim (2004).

The disclosure index methodology consists of the calculation of the number of information-related item that a given report contains, based on the predefined list of the possible index items. This can be seen in the following formula, which is used to calculate the index score of each annual report. The percentage of disclosure index as a total is calculated in accordance with the following formula

$$\text{ICDScore} = \left(\sum_{i=1}^{m} di/M\right) x\ 100\%$$

Where *d*i expresses item í when the item's value is 1 with disclosure and 0 when there was no disclosure. M expresses the maximum amount of information contained in an annual report. Table 3.4 shows the number of scores for each component of intellectual capital disclosure. The detail score sheet is shown in the appendix.

Table 3.4: Number of Score of Intellectual Capital

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

Result

The Level of Intellectual Capital Disclosure

Table 4.1 shows the mean level of the intellectual capital disclosure for GLCs which is at 72% with the minimum and maximum score of disclosure at 38% and 95% respectively. As for Non-GLCs, the mean level of intellectual capital disclosure is at 42% with the minimum and maximum score of disclosure at 14% and 95% respectively. The T-Test analysis is conducted to determine the significant difference between GLCs and Non-GLCs on intellectual capital disclosure. The result shows that the two-tail significances for the GLCs and Non GLCs is p= 0.000, p < 0.001. Therefore, Hypothesis 1 is accepted as there is a significant difference of intellectual capital disclosure among the GLCs and Non-GLCs. The score for the GLCs is at mean = 0.72, std. deviation = 0.15, while Non- GLCs at mean = 0.42, std. deviation = 0.20 pertaining to the level of intellectual capital disclosure t (178) = 11.72, p= < 0.01. This shows that the level of intellectual capital disclosure among the GLCs is significantly higher than the Non-GLCs.

A major driving factor of the above finding is that 43.75 % of the listed GLCs are from the trading and services industry, where most of them are big companies such as Malaysian Airlines System Bhd, Petronas Dagangan Bhd, Plus Expressways Bhd, Telekom Malaysia and Tenaga Malaysia Bhd. These companies supports the government's initiatives to develop Malaysia as a knowledge-based economy which require them to make higher investment in intellectual capital and also drive them to disclose these soft resources to outsiders.

Table 4.1: 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: ICDScore; Intellectual capital disclosure

A study done by Firer and Williams (2005) states that the mean value of intellectual capital disclosure for 390 listed Singapore firms from 1998 to 2000 is 37%. Another study done by Hidalgo, Garcia-Meca, and Martinez (2010) dictates that the mean value of intellectual capital discosure of 100 companies traded on the Mexican Stock Excahnges for the 3 year period of 2005 to 2007 is 36.36%. Meanwhile, Yau et al. (2009) finds that the mean value of intellectual capital disclosure of Malaysian public listed companies in 2003 is 46.58%. These studies advocate that the level of intellectual capital disclosure is low as it discloses less than 50% from the total score.

Comparing the studies mentioned above, it shows that the Malaysian GLCs provide higher intellectual capital information as compared to the companies in both Singapore and Mexico. Furthermore, the level of intellectual capital diclosure of Malaysian GLCs over the 3 year period from 2007 to 2009 is also higher than the Malaysian public listed companies in 2003.

As for Non-GLCs and the overall sample of companies, it shows that the level of intellectual capital disclosure is found higher than companies in Singapore and Mexico. The level of intellectual capital disclosure of the entire sample is also higher than the Malaysian listed companies in 2003, but not for Non-GLCs.This difference is due to the different time period of the study and different samples employed. It is also found that there is an increase in intellectual capital disclosure in Malaysia. This proves that there is an increase in the awarness of the importance of such disclosure among the companies in Malaysia.

On the other hand, the findings from Non-GLCs as well as the entire samples have demonstrated a low level of intellectual capital disclosure which is similar with the findings of previous studies. This is especially so for Non-GLCs which report below than half of the total score. However, this finding is predicted because there is no consistent reporting framework and lack of proper guidelines for its disclosure in Malaysia and even elsewhere. Thus this contributes to the scarcity of intellectual capital information in the annual reports (Yau et al., 2009).

As for the GLCs, they are disclosing much of their intellectual capital information as they need to provide it even without proper framework and guidelines. Thus, this finding supports the stakeholders' theory which states that politically sensitive companies such as GLCs are likely to disclose more information than Non-GLCs. The GLCs need to provide information to the stakeholders especially to the public to inform that the government controlled companies are continuously improving initiatives in developing their intellectual capital to develop Malaysia to be a knowledge-based economy. This finding also explains that the GLCs have implemented well the GLC Transformation Programme, in respect of its integrity in the soft infrastructure area covering the key institutions of the state including policies, 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. This is to reposition them in the emerging knowledge-based economy.

This finding is similar to Yau et al. (2009), Eng and Mark (2003), Firer and Williams (2005) who find that GLCs have disclosed more information

compared to others. However, Gan et al. (2008) find that GLCs lack transparency on voluntary intellectual capital disclosure in Malaysia.

The Extent of Intellectual Capital Disclosure

Figure 1 and figure 2 in Table 4.2 show the level and extent of each component of intellectual capital disclosure by the GLCs, Non-GLCs and the entire samples. The result shows that the GLCs have disclosed about 30% of the relational capital which represents 42% from the overall intellectual capital disclosure. The second is the structural capital at 24% and this represents 33% of the overall intellectual capital scores. The least is on the human capital which is 18% and it represents 25% of the overall intellectual capital disclosure among GLCs.

In contrast, Non-GLCs disclose their relational and structural capital equally, where both disclose at 16% and represent about 38% of the overall intellectual capital disclosure respectively. Similar to GLCs, the Non-GLCs also disclose the least of their human capital which is about 10% and represents 24% of the overall intellectual capital disclosure.

Overall, it shows that the entire sample of companies disclose more of the relational capital which is about 23 % and represents 40% of the overall intellectual capital disclosure by the entire sample of companies. The second is the structural capital at 20% which represents about 35% of the overall intellectual capital score. As for the human capital, it only shows about 14% and this represents 23% of the total intellectual capital disclosed by the entire sample of companies.

Table 4.2: Extent of Intelelctual Capital Disclosure

	GLCs		Non-GLCs		Entire sample	
	ICDScore	**%**	**ICDScore**	**%**	**ICDScore**	**%**
Human capital	18%	25%	10%	24%	14%	25%
Structural capital	24%	33%	16%	38%	20%	35%
Relational capital	30%	42%	16%	38%	23%	40%
Total	**72%**	100%	42%	100%	57%	100%

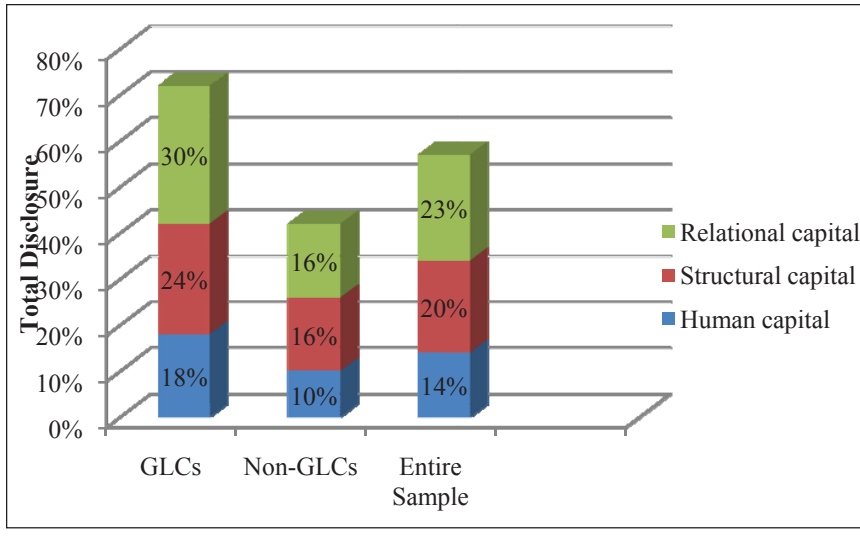

Figure 1: The Level of Intellectual Capital Disclosure

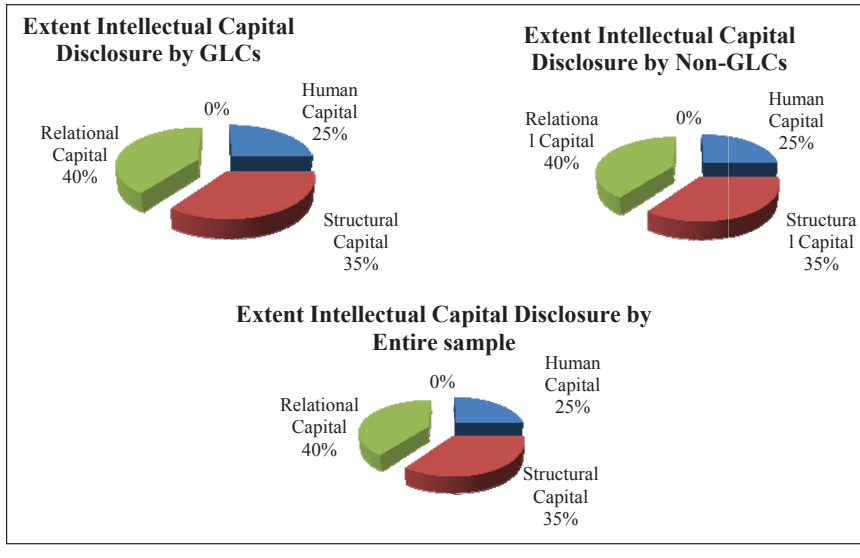

Figure2: Extent of Intellectual Capital Disclosure

Table 4.3: Comparison of Intellectual Capital Disclosure

Study	Country/ company	Human capital	Structural capital	Relational Capital
Vergauwen, Bollen, & Oirbans, 2007	Sweden, Denmark and UK	32.0%	22.0%	46.0%
Goh & Lim (2004)	Malaysia	21.9%	36.6%	41.0%
Campbell & Abdul Rahman (2010)	Marks & Spencer	27.0%	12.0%	61.0%
Oliveras et al. (2008)	Spain	21.9%	18.5%	59.6%
Yau et al. (2009)	Malaysia	13.0%	57.0%	30.0%
This study (GLCs)	Malaysia	25.0%	33.0%	42.0%
This study (Non-GLCs)	Malaysia	24.0%	38.0%	38.0%
This study (entire sample)	Malaysia	25.0%	35.0%	40.0%

In comparison to previous studies (Vergauwen et al., 2007; Goh & Lim, 2004;Campbell & Abdul Rahman, 2010; Oliveras et al., 2008; Yau et al., 2009), as summarised in Table 4.3, shows that the intellectual capital disclosure of the GLCs and the entire sample is about the same as the findings by Goh and Lim (2004) which report that the attributes of relational capital is extensively disclosed, followed by structural and human capital. In addition, the previous studies have also found that the attributes of relational capital are mostly disclosed except for the study done by Yau et al. (2009) who finds that the structural capital is extensively disclosed. In contrast, the result also shows that the Non-GLCs have equally disclosed their relational and structural capital attributes. In this study, for the GLCs, Non-GLCs and the entire samples, it finds that human capital is the least reported which is similar to the findings by Yau et al. (2009) and Goh and Lim (2004). This finding contradicts other studies that state that the structural capital attributes are least reported.

The different outcome of this finding is due to the different scoring system and the sample taken as compared to the previous studies. For example, this study adopts the attributes of intellectual capital components of Yau et al. (2009), but uses a different scoring system. Yau et al. (2009) use a "sentence" as the unit of analysis and points are awarded based on the presence or absence of each intellectual capital disclosure and the degree of specifying with which information the item is disclosed. However, this study gives one point for each attribute of intellectual capital disclosed and zero if not, which is the same with the scoring system used by Goh and Lim (2004).

The possible reasons that motivate the GLCs to extensively disclose their relational capital is because, being companies controlled by the government, they need to give the highest of priority to the stakeholders. Furthermore, the GLCs might want to emphasize relations with the outsiders such as customers and other organisations by disclosing much of their effort in order to strengthen the relationship and promote their brand (Woodcock & Whiting, 2009). Moreover, 43.75% of the listed GLCs come from the trading and services industry; most of them are big players such as Malaysian Airlines System Bhd, Petronas Dagangan Bhd, Plus Expressways Bhd, Telekom Malaysia and Tenaga Malaysia Bhd. These companies are offering products as well as services directly to the customer and this helps them to strengthen their existing relationship with outsiders, to ensure the companies remain established in the market.

On the other hand, the Non-GLCs disclose their structural and relational capital components, carrying the same weight of importance. As compared to the GLCs, the Non-GLCs have fewer stakeholders thus having less interest to focus on the relational capital. The small percentage of the human capital disclosure might be explained by the argument that both the GLCs and the Non-GLCs are not really focusing in developing their human resources. Thus, the regulatory bodies and the government should encourage the Malaysian companies to invest more in their human capital development. This is because human capital plays a vital role in the foundational sources of innovation toward a knowledge-based economy.

Conclusion

In summary, it is found that the GLCs disclose more intellectual capital information as compared to the Non-GLCs. This study emerges to support the stakeholders' theory in explaining why the level of intellectual capital disclosure in the GLCs is higher than the Non-GLCs. The GLCs need to provide information to the stakeholders concerning their effort in developing and managing their companies' intellectual capital which contributes to transform the Malaysian economy into a knowledge-based economy. In addition, this finding also explains that the GLCs have implemented well the GLC Transformation Programme which focuses on the soft infrastructures that covers the key institutions of the state including policies, judiciary, education and human development.

For GLCs, the result shows that the relational capital is the most reported category, followed by structural capital. In contrast, the Non-GLCs disclose their relational and structural capital equally. The result shows that both GLCs and Non-GLCs disclose the least on human capital. Thus, the result suggests that Malaysian companies need to enhance the transparency of human capital development as it plays a vital role in the foundational sources of innovation toward a knowledge-based economy.

Limitations of the Study

As with previous researches, there are several limitations with this study. Empirical tests performed in this study involves only a relatively moderate sample of companies in Malaysia i.e. only based on 32 GLCs listed in Bursa Malaysia. This small sample may limit to some extent the generality of the findings to all Malaysian GLCs which is not listed in Bursa. In addition, the current study only makes use of secondary data based on the annual reports of the listed GLCs and Non-GLCs. Thus, this gives rise to the problem of data constraints and limits the applicability of other potential measures.

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