CHAPTER 1

OVERVIEW OF RESEARCH

1.1   INTRODUCTION

Since independence in 1957, Malaysia has achieved much in nation-building, in developing its economy as well as in improving the quality of life of its people. It has moved from an economy which was fundamentally commodity-based, with a heavy dependence on rubber and tin, to a highly technological export-driven one as a result of the emergence of various knowledge-based and capital-intensive industries. The Malaysian economy grew at an average rate of 5.8% per annum in 2006 to 6.3% in 2007. Malaysia's per capita gross national income increased by 8.6% per year from RM4,537 to RM25,874 between 1987 and 2008 (Abdullah, 2009)[1].

The various policies laid out by the Government such as the Ninth Malaysian Plan, Government-Linked Companies (GLC) transformation programme[2], establishment of Malaysian Institute of Corporate Governance (MICG) and Minority Shareholders Watchgroup Malaysia (MSWG) shows her quest to achieve its Vision 2020[3] from a developing to a developed nation. This is evident as it has improved from being ranked 23rd position in 2007 to 19th in 2008 and in year 2009 ranked 18th in terms of world competitiveness (IMD, 2009). Malaysia also developed the Knowledge-Based Economy

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[1] Tan Sri Dr Wan Abdul Aziz Wan Abdullah is the secretary-general of Treasury, Ministry of Finance, Malaysia.
[2] GLC transformation programme was first launched in May 2004 where Key Performance Indicators (KPI) was introduced and changes were made to the management of some GLCs.
[3] Vision 2020 was first outlined in 1990 with a long-range thirty year plan. The ultimate objective is for Malaysia to be a fully developed country by 2020. At the point of writing, Malaysia is now at the mid-point of its journey towards attaining the status of a developed nation as outlined in Vision 2020

Development Index (KDI) (EPU, 2007) in order to assess its readiness to become a knowledge-based economy. The KDI as shown in Table 1.1 was derived from selected key factors required to drive a knowledge-based economy, namely, computer infrastructure, infostructure, education and training as well as research and development and technology. It compares Malaysia's position relative to 21 other countries, the majority of which are developed nations. Malaysia remained at 17th position in 2007, just after Ireland, with USA, Sweden and Denmark reigning the 1st, 2nd and 3rd positions respectively. Table 1.1 shows the rank and breakdown of the KDI 2000/2007 of all the 21 countries.

After the outbreak of the Asian financial crisis in 1997 and in the aftermath, having seen the destructive effect of that on its economy, Malaysia then implemented important corporate governance reforms[4]. A high-level Finance Committee on Corporate Governance, consisting of both government and industry representatives was formed to identify and address weaknesses encountered in the Asian financial crisis. Amongst the reforms were the developments of a comprehensive master plan to further develop the capital market, the demutualization of the stock exchange, Bursa Malaysia, introduction of a Code of Corporate Governance and changes in the composition of Board of Directors. Disclosure rules and corporate whistleblower protection initiatives were strengthened in 2004 followed by a major overhaul in terms of GLCs in 2005.

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[4] Appendix A provides the corporate governance reforms post 1997 financial crisis.

Table 1.1

THE KNOWLEDGE-BASED ECONOMY DEVELOPMENT INDEX (KDI), 2000/2007

Countries/ Rank	Computer Infrastructure		Infostructure		Education & Training		R&D and Technology		OVERALL	
	2000	2007	2000	2007	2000	2007	2000	2007	2000	2007
USA	1	1	4	8	9	11	3	2	1	1
Sweden	14	14	6	12	12	11	4	11	6	2
Denmark	7	4	5	4	1	1	9	8	5	3
Japan	6	7	1	3	2	5	2	4	2	4
Finland	4	11	2	11	5	2	5	3	3	5
Norway	3	10	3	1	3	6	12	11	4	6
Netherlands	5	2	8	2	12	12	13	12	10	7
Switzerland	10	13	10	6	10	10	4	6	7	8
United Kingdom	13	5	14	7	13	14	7	9	12	9
Canada	2	8	9	14	7	3	14	13	8	10
Germany	16	12	7	9	16	13	11	7	16	11
Australia	9	9	6	5	6	7	15	15	9	12
Singapore	8	3	11	10	14	15	8	10	11	13
Korea	15	16	16	13	4	8	10	14	13	14
New Zealand	11	14	13	15	8	9	18	19	15	15
Ireland	12	15	15	17	15	16	6	5	14	16
Malaysia	**17***	**17**	**17**	**18**	**17**	**17**	**17**	**17**	**17**	**17**
China	18	18	16	19	19	20	20	18	19	18
Thailand	19	19	20	20	17	18	19	20	18	19
Philippines	21	21	21	19	21	21	16	16	20	20
Indonesia	22	22	19	21	20	20	21	22	21	21
India	20	20	20	22	22	22	22	21	22	22

(Source: Economic Planning Unit, 2007)

*Note: Number indicates Malaysia's position compared to other countries.

The then Prime Minister, Dato' Seri Abdullah Ahmad Badawi had announced in the 2008 Budget speech that

> the Code is being reviewed to improve the quality of the board of public listed companies (PLCs) by putting in place the criteria for qualification of directors and strengthening audit committees, as well as the internal audit functions of the PLCs. To ensure the effectiveness of audit committees in PLCs, executive directors will no longer be allowed to become members of audit committee. In addition, the internal audit function will be mandated for all PLCs, and the board of directors will be responsible for ensuring adherence to the scope of internal audit functions….(Code 2007, p. i).

The World Bank Report on the Observance of Standards and Codes (World Bank, 2005) for Corporate Governance reported that Malaysia is at a commendable stage in terms of corporate governance practices with room for continuous improvement. The World Bank (2005) stressed that for emerging market countries, improving corporate governance can serve a number of important public policy objectives. Having good corporate governance reduces emerging market vulnerability to financial crisis, reinforces property rights, reduces transaction costs and the cost of capital, and leads to capital market development. Weak corporate governance frameworks reduce investor confidence, and can discourage foreign investment. As such, the government is aggressively highlighting the importance of good corporate governance to enable the country to sustain its competitive edge as well as a source for sustainable economic growth**.** In response to the World Bank Report and in furtherance to the serious commitments by the Government, The Malaysian Code on Corporate Governance (Code 2007), better known as *The Code* was revised in October 2007 with the objective of strengthening the board of directors and audit committees of companies, as well as ensuring that the board of directors and audit committees discharge their roles and responsibilities effectively.

Besides the practice of corporate governance, corporations in Malaysia are mandated to follow regulations in respect of financial reporting set out by the respective authorities. For instance, companies incorporated under the Companies Act 1965 are required to disclose mandated information. Specifically, directors in companies are required to prepare financial statements in accordance with approved accounting standards[5]. The mandated information required by Malaysian corporations is further discussed in the next Chapter. Besides mandated information, companies attempt to provide voluntary information with the view to be competitive. One such voluntary information which is much emphasized in this knowledge-based economy is the provision of intellectual capital (IC) related information in the annual reports.

Intellectual capital (IC) has attracted increasing interest in recent years as management recognizes the contribution it makes in their pursuit of competitive advantage (Fincham and Roslender, 2003). Pulic and Bornemann (1999) advocate that IC has become the one and only competitive advantage of a firm. Even though the concept of IC is at its infancy, its movement is rich in history. First popularized by Stewart (1991) in the *Fortune* magazine through the article 'Brain Power: How Intellectual Capital Is Becoming America's Most Valuable Asset', it hit the business community like a storm. This article created a keen interest in IC for many, ranging from the academia, practitioners, corporations as well as governments. IC has since then become the highly sought after goal on the management agenda for years (Serenko and Bontis, 2004). A quick search of this term in any search engine easily reaches hundreds of thousands of hits. Serenko and Bontis (2004) mentioned that the number of articles on knowledge management and IC, (KM/IC) has been increasing at an average annual rate of 50% per

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[5] For the purposes of the Companies Act 1965 and the Financial Reporting Act 1997, MASB Standards issued, International Accounting Standards (IASs) and Malaysian Accounting Standards (MASs) adopted, by MASB are approved accounting standards.

annum. They further predict that this number will easily surpass 100,000 by the year 2010, indicating the interests in IC is gaining greater attention over the years.

Petty and Guthrie (2000) had pointed out that the IC movement is in its second stage of development, with the initial stage being on raising awareness. The contributions from early thinkers such as Sveiby (1997) and Edvinsson (1997) have had a great impact on the significance of intangibles which drive the competitive advantage of organizations. Since IC has become an important source of competitive advantage, it has also gained the attention of investors. Present day investors have begun to move beyond looking at just the tangible assets to look at IC related aspects before making their investment decisions (Garcia-Meca and Martinez, 2007), signifying the importance of intellectual capital disclosure (ICD) among financial analyst. Holland and Johanson (2003) found that there is strong demand for and use of IC by fund managers and analysts while Eustace (2000) and Financial Accounting Standards Board (FASB, 2001) advocated that information on IC should be reported to the capital market. Guthrie and Petty (2000) argue that ICD is of greater importance now in comparison to the past due to the dominant industry sectors shifting from manufacturing to high technology, financial and industry services. Mouritsen, Larsen, Bukh and Johansen (2002) state that ICD is communicated to both internal and external stakeholders by combining a numbering visualization and narrative account of value creation. They further stressed that the more sophisticated form of ICD has become a way of justifying the new roles and obligations of employees within the firm and how these employees should contribute to value creation. ICD, thus, has become a new form of communication that manipulates the "contract" between labour and management.

Despite its significance, IC does not appear to have seeped into financial reporting systems. The greatest problem as argued by Starovic and Marr (2003) are; firstly, the historical nature, whereby accounting rules which were designed and incepted during the industrial age is still firmly rooted. The main source of wealth was the prominent display of physical assets such as plant and machinery. Secondly, the nature of intangibles, such as creativity, which by itself is difficult to measure, except for some internally-generated intangibles such as patents, trademarks and goodwill. Finally, the "idiosyncratic nature of IC" as put forth by Starovic and Marr (2003, p.7) which stressed that 'what is valuable for one company may be worthless for another, thus resulted in diverse measuring systems that make comparability across companies and sectors difficult'.

1.1 PROBLEM STATEMENT

Besides the mandated information required by the regulatory body, Malaysian corporations are also encouraged to voluntarily disclose relevant information in their annual reports. From the perspective of Malaysian corporations, voluntary disclosure refers to disclosure in excess of those required by the provisions of the Companies Act 1965 and applicable approved FRS issued by the MASB as well as the listing requirements by Bursa Malaysia[6]. Since there is such a need, it will be insightful to see if companies in Malaysia do indeed 'go the extra mile' to employ good governance by way of incorporating information that is not required by law such as intellectual capital (IC) related ones in their annual reports.

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[6] Effective from **August 3, 2009**, Bursa Malaysia, Malaysia's stock exchange, was transformed into a new Board structure. A single unified board, Main Market was for established companies from the two initial boards; Main board and Second board. While the MESDAQ Market, which was for technology-based and high growth companies was transformed into an alternative market for emerging companies of all sizes and sectors; called **ACE Market**. ACE refers to accessibility, credibility and efficiency.

Having discussed corporate governance and IC, what is the issue at hand? As highlighted in the Cadbury Committee Report (1992) and the OECD (1999) corporate governance and corporate disclosure are inseparable in the protection of investors as well as in efficient functioning of the capital markets. Corporate governance and voluntary disclosure thus provide "improved protection and thus making capital markets more efficient" (Cerbioni and Parbonetti (2007). Keenan and Aggestam (2001), on the other hand, opine that corporate governance and IC are connected and view that "corporate governance systems are themselves systems of IC (p. 273)". They further stressed that the success and failure of organisations in the twenty-first century, characterised by knowledge-intensive industries, rests on the "wisdom and expertise of corporate governance to create and leverage IC (Keenan and Aggestam, p.273)". However, information on IC is not easily extractable in current reporting systems, due to the inadequacy of current reporting systems (Canibano, Garcia-Ayuso and Sanchez, 2000; Stewart, 2001). Canibano *et al.,* (2000) urged that the traditional accounting model be modified or at least be broadened to reflect intangibles so as to increase the usefulness of accounting information. They argued that users as well as the preparers are handicapped as to how to assess the wealth of a company from the IC perspective. Stewart (2001) opines that in the knowledge-based economy characterized by technological advances, traditional financial reporting is not sufficient in meeting the information need of stakeholders.

In view of the limitations of the traditional financial reporting, the emerging useful and relevant IC information in this knowledge-based economy (Bozzolan *et al*., 2003) is being examined and explored by researchers. These reporting as well as accounting for IC is voluntarily reported (Striukova, Unerman and Guthire, 2008). ICD thus, has begun to gain prominence in academic research by way of using content analysis (Guthrie and

Petty, 2000; Brennan, 2001; Bontis, 2003; Bozzolan, Favotto and Riccceri, 2003; April, Borma and Deglon, 2003; Goh and Lim, 2004; Abdolmohammadi, 2005; Abeysekera and Guthrie, 2005; Vergauwen, Bollen and Oirbans, 2007). A review of relevant literature shows that most of these studies (Guthrie and Petty, 2000; Bontis, 2003; Goh and Lim, 2004; Abeysekera and Guthrie, 2005) on ICD were purely descriptive in nature. Exception was Bozzolan et al., (2003) who investigated the effect that industry type and company size have on the level of ICD. Bozzolan et al., (2003) found industry and size are relevant in explaining the reporting behaviour of IC information in the Italian companies studied. Besides the lack of inferential statistics, the investigations on the level of IC disclosure were carried out using content analysis of a small sample of studies. Furthermore, most studies on IC disclosure concentrated on one year only (Brennan, 2002; Bozzolan et al., 2003; Cerbioni and Parbonetti, 2007; Li, Pike and Haniffa, 2008; Foong, Loo and Balaraman, 2009), this has thus given rise to the opportunity to expand and add on to this body of knowledge.

In a survey by McKinsey (2002) on global investor opinion, it was reported that a majority of institutional investors are willing to pay a premium of up to 20% in Malaysian equity markets that have good corporate governance practices. In this study, corporate governance is investigated as it is the board of directors that manages information disclosure in annual reports (Gibbins, Richardson and Waterhouse, 1990). A study conducted by Abdul Rahman, Omar, Ismail and Fahmi, (2006) examining corporate governance issues from the perspective of corporate social responsibility with IC being one of the attributes in the corporate governance score checklist, found that the reporting of IC was low. Abdul Rahman et al., (2006) advocate that despite IC being globally recognized as a critical corporate social reporting issue, Malaysian corporations are focusing on mandatory disclosure and neglected information that will be useful to

the investing public. As advocated by Firer and Williams (2003), the likelihood of changing current accounting principles and practices in incorporating IC in financial statements have been at a very slow phase, if not completely non-existent.

In Malaysia, ICD studies (Gan and Rajasegaran, 2004; Goh and Lim, 2004; Huang, 2007; Foong *et al.,* 2009) were conducted by manual reading of annual reports except Huang (2007) who used an electronic search of keywords for IC related components. Huang (2007), Goh and Lim (2004) concentrated on large companies, being main board and top-profit making companies respectively. Conversely, Gan and Rajasegaran (2004) covered extensively from all companies listed in Bursa. As most studies on ICD conducted on Malaysian corporations are descriptive in nature except Foong *et al.,* (2009), this study attempts to explore voluntary disclosure of IC information by investigating the inferential statistics. Correlations and multiple regressions are employed in answering the research questions proposed on the relationship between corporate governance, ownership structure and ICD.

Many studies have been carried out on the relationship between corporate governance and voluntary disclosure of financial information (Chen and Jaggi, 2000; Haniffa and Cooke; 2002, Chau and Gray; 2002, Eng and Mak, 2003; Barako, Hancock and Izan, 2006; Cheng and Courtenay, 2006; Ghazali and Weetman, 2006). However, there are only limited studies on the effect that corporate governance and voluntary disclosure have on IC (Firer and Williams, 2003; Cerbioni and Parbonetti, 2007; Li *et al.,* 2008). Though many studies[7] have been carried out on ICD, little is known on the extent of the relationship between corporate governance and ICD (Cerbioni and Parbonetti, 2007). One of the earlier studies on the relationship between corporate governance and ICD

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[7] Striukova *et al.,* (2008) provides summary of 23 empirical studies on IC content analysis.

was carried out on UK corporations by Li *et al.,* (2008) focusing on these corporate governance variables; board composition, ownership structure, audit committee size, frequency of audit committee meeting and duality role. Cerbioni and Parbonetti (2007), on the other hand conducted ICD and corporate governance across 10 European countries on biotech sector, focussing on proportion of independent directors, board dimension, CEO duality and board structure. They found that all the corporate governance variables examined have a significant impact on the quantity of ICD, however, from the quality angle, different results were reported.

In Malaysia, studies have investigated corporate governance and voluntary disclosure (Adams and Hossain, 1998; Haniffa and Cooke, 2002; Ghazali and Weetman, 2006) however not much is known on corporate governance and voluntary disclosure of IC. Haniffa and Cooke (2002) found family members sitting on board and non executive chairman as two significant corporate governance variables in determining voluntary disclosure in Malaysian corporations. Ghazali and Weetman (2006) found significant relationship between director ownership and voluntary disclosure while governance initiatives had no impact on voluntary disclosure. The Code has emphasised the need for the board to create a "balanced" ownership structure for the company in its role in protecting and enhancing the stakeholders' value. It is thus important to study corporate governance and ownership structure as they, the Board, are the top management who oversee information disclosure in annual reports (Gibbins *et al.,* 1990). In retrospect, as not much is known on the practices of corporate governance, ownership structure and voluntary disclosure of IC in Malaysian corporations, this study is motivated to add knowledge to this body of literature.

1.3   RESEARCH QUESTIONS

Due to the lack of understanding on ICD and its the relationship between practice of corporate governance, ownership structure, the following research questions are postulated. What type and the extent of IC related information is disclosed in companies listed in Bursa Malaysia? Do corporate governance attributes have an influence on voluntary disclosure of information on IC? Does ownership structure influence the voluntary disclosure of information on IC?

1.4   RESEARCH OBJECTIVES

The objectives of this study are to find out the nature and extent of IC related information that is disclosed in companies listed in Bursa Malaysia, as well as investigating the relationship between corporate governance attributes, ownership structure and ICD. The research objectives and research questions are summarised below.

Research Questions (RQ)	Research Objectives (RO)
RQ1.	RO1.
What type and extent of IC related information is disclosed in the annual reports of companies listed in Bursa Malaysia?	To examine the nature and extent of IC related information that is disclosed in the annual reports of companies listed in Bursa Malaysia.
RQ 2.	RO 2.
Do corporate governance attributes have an influence on voluntary disclosure of information on IC?	To examine the relationship between corporate governance attributes and voluntary disclosure of IC.

RQ 3.	RO 3.
Does ownership structure influence the voluntary disclosure of information on IC?	To examine the relationship between ownership structure and voluntary disclosure of IC.

This study investigates ICD drawing from both agency and institutional theories and employed Statistical Package on Social Science (SPSS) 16 in analyzing and testing the hypotheses developed from the literature.

1.5   RESEARCH MOTIVATION AND CONTRIBUTION

Studies have been carried out on corporate governance and voluntary disclosure from various perspectives such as corporate social responsibility around the world as well as in Malaysia (Haniffa and Cooke, 2002; Eng and Mak, 2003; Gul and Leung, 2004; Haniffa and Cooke, 2005; Cheng and Courtenay, 2006; Ghazali and Weetman, 2006). However, few have investigated on corporate governance and voluntary disclosure of IC (except Cerbioni and Parbonetti, 2007; Li *et al*., 2008) at the time of writing, and none on Malaysian corporations. As such, this study which investigates corporate governance attributes as well as ownership structure on voluntary disclosure of IC will provide fresh evidence from the Malaysian context. This paper contributes to the literature from various perspectives as discussed below.

Malaysia, being an Asian country, has unique ownership structures which will offer insights on how different ownership structures influence the provision of voluntary information on IC. The ownership structures examined are family owned (FAMC), government-linked companies (GLCs) and widely held, also known as diffused ownership (OWNDIFF). GLCs are examined as they constitute a significant part of the

economic structure in Malaysia and are deemed leaders of the corporate sector as well as key partners in the Government's quest in achieving Vision 2020. Listed GLCs make up only 4% of the total number of listed companies but in terms of capitalisation they represent 49% in Bursa Malaysia employing more than 300,000 people (PCG, 2009). As stressed by the then Deputy Prime Minister of Malaysia, Y.A.B Dato' Sri Mohd Najib bin Tun Haji Abdul Razak (2009), GLCs are "called on to develop new growth prospects; role-model good stewardship and governance; and move the corporate sector to a higher level of performance and merit". Thus, their performance as well as its transparency in financial reporting behaviour plays a significant role model in working towards achieving Malaysia's Vision 2020. This study provides insightful findings on the extent of transparency of GLCs and its influence on other corporations. In Malaysia, many listed companies are dominated by family founders and their descendants (Claessens *et al.,* 2000; Abdul Rahman, 2006). This is further supported by Mohd Sehat and Abdul Rahman (2005) that the ownership and control of corporations are highly concentrated in Malaysia. This unique family ownership structure in Malaysia provides an interesting avenue to explore the reporting behaviour of IC in this vein. The final structure studied is diffused ownership. In this study, diffused ownership also known as widely-held firms. From the agency theory viewpoint, with greater ownership diffusion, firms are more likely to "experience pressure" from shareholders to enhance disclosure of voluntary information so as to reduce agency costs and "information asymmetry" (Raffournier, 1995).

The Malaysian government's seriousness in its quest to stay competitive as a result of its reforms signifies the importance of studying corporate governance and provision of voluntary disclosure of information from the IC lens. The corporate governance attributes examined in this study will provide fresh findings and add to the body of knowledge on how these attributes influence the reporting characteristics of IC.

From theoretical perspectives, past literature has used agency theory in explaining corporate governance and ICD (Li *et al.,* 2008), however this study looks beyond the agency theory, by incorporating the institutional theory in explaining corporate governance and ICD, whereby organisations are pressured in practising voluntary reporting in order to appear to be legitimate as well as to stay competitive. The significance of agency theory and institutional theory is further explained in Chapter 4.

The findings in this study which investigated 162 companies listed in Bursa Malaysia covering period from 2006 to 2008 will provide empirical evidence on the relationship between corporate governance and ownership structure and disclosure of IC. From a practical view point, the disclosure of IC will be of interest to various stakeholders such as governmental and regulatory bodies, owners and institutional investors, analysts as well as policymakers.

1.6   METHODOLOGY

This study uses content analysis in the investigation of voluntary disclosure of IC in the annual reports of Malaysian companies listed in Bursa Malaysia from years 2006 to 2008. The original IC framework was derived from several pronouncements such as the International Federation of Accountants (IFAC) (1998) and the Society of Management Accountants of Canada (SMAC) (1998). After an extensive literature review and comparison, the final IC checklist is divided into three categories; Human Capital (HC), Structural Capital (SC) and Customer Capital (CC). These three categories are further divided into 33 IC items with HC having 17 items, SC 7 items while CC has 9 items. The total number of companies investigated is 162, comprising companies from the top

100 companies by way of market capitalization as at 31st December 2006, 2007 and 2008.

1.7   THESIS STRUCTURE

This thesis comprises seven chapters. The first chapter is the introduction of the study. The literature review is covered in two chapters, namely Chapter 2 and Chapter 3. Chapter 2 elaborates on the evolution of IC from the various stages of defining, classifying, measuring, valuation and reporting of IC, while Chapter 3 draws on three streams of literature; voluntary disclosure, corporate governance and ownership structure. The research framework is described in Chapter 4, explaining the measurement of the dependent and independent variables in this study. Hypotheses developed were also covered in this chapter. The research methodology is given in Chapter 5, discussing the paradigm employed for this study. The research design, covering sample selection, explanation of dependent, independent and control variables are provided in this chapter. Chapter 6 presents the findings, while Chapter 7 reports on the conclusions as well as recommendations put forth as a result of the study.

CHAPTER 2

LITERATURE REVIEW

2.1   INTRODUCTION

The literature review is divided into two chapters. In order to understand the concept of IC, this chapter elaborates on the evolution of IC from defining, classifying, measuring, valuation and reporting of IC. IC is by nature complex and multidimensional, thus the review has been drawn from multidisciplinary areas. Before embarking on the evolution of IC, an overview of the mandated information required by the Malaysian regulatory bodies is visited, followed by voluntary disclosure of information in annual reports. As the main motivation of this thesis is on IC reporting, literature on this aspect is discussed extensively. Chapter 3 will review literature related to ICD, corporate governance and ownership structure.

2.2   MANDATORY AND VOLUNTARY DISCLOSURE

The objective of general purpose financial statements is primarily to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in helping them make economic decisions. Financial statements also show the results of managements' stewardship of the resources entrusted to them. To meet this objective, financial statements provide information about an entity's assets, liabilities, equity, income and expenses, including gains and losses, other changes in equity and cash flows.

In Malaysia, companies incorporated under the Companies Act 1965 are required to disclose information which is mandatory. Directors of the respective companies are required to prepare financial statements in accordance with approved accounting standards. By virtue of section 27 of the Financial Reporting Act 1997, financial statements that are required to be prepared or lodged under any law administered by the Securities Commission, the Central Bank of Malaysia (Bank Negara Malaysia) or the Companies Commission of Malaysia (CCM) shall be prepared in compliance with the Financial Reporting Standards (FRS).

A complete set of financial statements includes these components: balance sheet; income statement; a statement showing either all changes in equity or changes in equity other than those arising from capital transactions with owners and distribution to owners; cash flow statement and accounting policies and explanatory notes (FRS 101, para 8). Besides these, enterprises are also encouraged to present additional statements for instance environmental reports and value added statements if management believes that these will assist end-users in making economic decisions. Indirectly, the FRS is encouraging voluntary disclosure of information in the annual report.

Voluntary disclosures can be in the form of press releases, conversations and meetings with financial analysts, letters to shareholders and the provision of additional information in annual reports, internet reporting and investor relations. The Financial Accounting Standards Board (FASB, 2001) in its broad report entitled *Improving Business Reporting: Insights into Enhancing Voluntary Disclosures,* recommended companies to voluntarily disclose more available information for which the investment community and shareholders have a keen interest. The 14-person Steering Committee in the project recognizes that many of these "voluntary disclosures" are made to comply

with the Securities and Exchange Commision's (SEC) requirements concerning description of a business and management's discussion and analysis of financial conditions and results of operations (MD&A). The information recommended include identifying factors important to the financial success of the company, delineating management plans and strategies for managing those factors in the past and future, and specifying measurements used by management to assess its effectiveness in implementing those plans and strategies.

The FASB project[8] found that many leading companies are voluntarily disclosing an extensive amount of business information that appears to be useful in communicating information to investors. This project opines that the importance of voluntary disclosures is expected to increase in the future due to the fast pace of change in business environments. It was also found that disclosing management's view of the company's "critical success factors" as well as trends surrounding those factors is very useful. Besides that, it also brought to light some disclosures regarding unrecognized intangible assets. FASB (2001) suggests that additional disclosure on unrecognised intangible assets be provided due its importance to a company's value. These unrecognized intangibles include not just research and development but human resources, customer relationships, innovations and others which is much in line with the definition of IC. The benefits of such disclosures, as advocated by FASB, are that it helps to make the capital allocation process more efficient and lowers the average cost of capital lower, as informative disclosures will help investors to better interpret companies' economic prospects and thus reduce the cost of capital (FASB, 2001).

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[8] For further reading of the findings and recommendations, refer to FASB (2001), available at www.fasb.org, http://72.3.243.42/brrp/BRRP2.PDF

However, the benefits derived from such voluntary disclosures come with a cost. As discussed in the report, the main potential costs to companies (and their owners) are; competitive disadvantage, bargaining disadvantage from their disclosure to suppliers, customers, and employees as well as litigation from meritless suits attributable to informative disclosures. However, Healy and Palepu (2001) stressed that corporate disclosure is critical for the functioning of an efficient capital market and it is not only directed to investors but to stakeholders as well.

Voluntary disclosure is defined as disclosures, primarily outside of the financial statements, that are not explicitly required by generally accepted accounting principles (GAAP) or a Securities and Exchange Commission (SEC) rule. Voluntary disclosures, from the view of Meek, Roberts and Gray (1995, p.555), are "disclosures in excess of requirements, representing free choices on the part of company management to provide accounting and other information deemed relevant to the decision needs of users of their annual reports". From the perspective of Malaysian corporations, voluntary disclosure refers to disclosure in excess of those required by the provisions of the Companies Act 1965, and applicable approved FRS issued by the MASB as well as the listing requirements by Bursa Malaysia.

In order to facilitate comparability worldwide as well as to increase transparency, the Financial Reporting Foundation (FRF) and MASB have committed to converge fully to International Financial Reporting Standards (IFRS) by 1 January 2012. Convergence will in part play its role in ensuring Malaysia capital market and businesses moving on level playing field in tandem with globalisation in view of the fact that more than 100 countries are converging with IFRS. In Malaysia context, the current financial reporting standards (FRSs) are similar to the respective IFRSs.

2.3   EVOLUTION OF IC

Various parties ranging from academics, industry, practitioners as well as Governments, have shown and taken various initiatives and interests on IC. The literature review traces the development or evolution of IC from the stages of defining, classifying, measuring, valuing and reporting of IC. These stages are summarized in Figure 1 below, with explanations in the following sections.
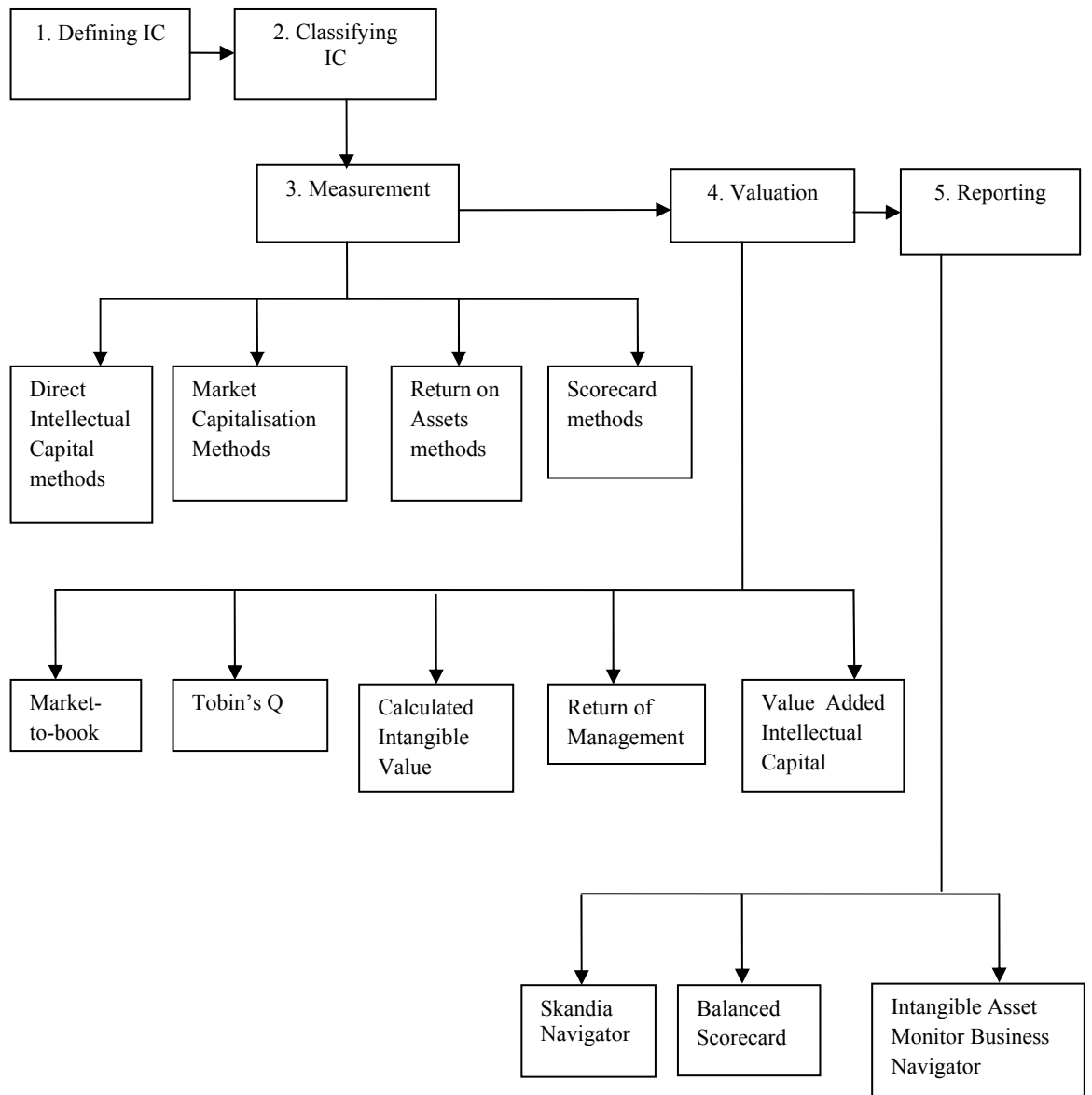
The growing importance of IC as a source of wealth for an organisation was emphasized by Stewart (1991), however, Roslender and Fincham (2004) opine that the interests began to escalate only in the mid-1990s. European countries took the lead in IC resulting in the publication of popular management books including Brooking (1996), Edvinsson and Malone (1997), Roos *et al.,* (1997). From the period 2000 onwards, research on IC was covering on issues from identifying, measuring as well as reporting of IC Petty and Guthrie (2000); April *et al.,* (2003); Bontis (2003); Bozzolan *et al.,* (2003); Abdolmohammadi (2005); Abeysekera and Guthrie (2005); Abeysekera (2006) and Garcia *et al.,* (2007). Table 2.1 gives a brief overview of the timeline of the evolution of IC from the early 1990s to 2000s.

Table 2.1

TIMELINE OF THE DEVELOPMENT OF IC

Time period	Development	Author/s
Early 1990s	European countries took the lead in IC resulting in the publication of popular management books.	Brooking (1996); Edvinsson and Malone (1997); Roos *et al.,* (1997); Stewart (1997); Sveiby (1997).
Mid 1990s	Impetus of IC research picks up.	Fincham and Roslender (2003).
Late 1990s	Establishment of IC framework for classifying and managing framework.	Brennan and Connell (2000).
2000 onwards	Identification, measurement and reporting of IC.	Petty and Guthrie (2000); April *et al.,* (2003); Bontis (2003); Bozzolan *et al.,* (2003); Abdolmohammadi (2005); Abeysekera and Guthrie (2005); Abeysekera (2006) and Garcia *et al.,* (2007).

The researcher would like to emphasise that this study focuses on the reporting of voluntary information on IC, the review on measuring and valuing is discussed for the purpose of providing insights on issues surrounding IC.

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┌─────────────┐      ┌─────────────┐
│ 1. Defining IC │ ───> │ 2. Classifying │
│             │      │     IC      │
└─────────────┘      └─────────────┘
                            │
                            ▼
┌───────────────┐    ┌───────────────┐    ┌───────────────┐
│ 3. Measurement │ ──> │ 4. Valuation  │ ──> │ 5. Reporting  │
└───────────────┘    └───────────────┘    └───────────────┘
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┌──────────────┐ ┌──────────────┐ ┌──────────────┐ ┌──────────────┐
│ Direct   │ │ Market   │ │ Return on   │ │ Scorecard   │
│ Intellectual │ │ Capitalisation│ │ Assets   │ │ methods   │
│ Capital   │ │ Methods   │ │ methods   │ │   │
│ methods   │ │   │ │   │ │   │
└──────────────┘ └──────────────┘ └──────────────┘ └──────────────┘

┌──────────┐ ┌──────────┐ ┌──────────────┐ ┌──────────────┐ ┌──────────────┐
│ Market- │ │ Tobin's Q │ │ Calculated   │ │ Return of   │ │ Value Added │
│ to-book │ │   │ │ Intangible   │ │ Management   │ │ Intellectual │
│   │ │   │ │ Value   │ │   │ │ Capital   │
└──────────┘ └──────────┘ └──────────────┘ └──────────────┘ └──────────────┘

┌──────────────┐ ┌──────────────┐ ┌──────────────────┐
│ Skandia   │ │ Balanced   │ │ Intangible Asset │
│ Navigator   │ │ Scorecard   │ │ Monitor Business │
│   │ │   │ │ Navigator   │
└──────────────┘ └──────────────┘ └──────────────────┘

FIGURE 2.1

EVOLUTION OF IC

2.3.1 DEFINING IC

Andriessen (2006) and Bontis (1998) state that the term "intellectual capital" was first introduced by the economist John Kenneth Galbraith in 1969. Others have different views. Stewart (2001) claimed that IC dates back at least to 1958, while Marr, Gupta, Pike and Roos (2003) suggest that it goes even further back to 1836 where it was used by the economist Nasseau William Snr. The ground-breaking news on IC was when Stewart (1991) published an article in the *Fortune* magazine entitled "Brainpower" where he stressed that IC is the most important asset in a business. Since then, much interest has emerged on IC from various groups ranging from academics, practitioners, industry and governments, to name a few.

The IC term has seen much confusion, and very often, it is closely associated with intangibles. Fincham and Roslender (2003) explain that in general understanding, the terms "intangible" and "intangible assets" are used in the accounting literature, "knowledge assets" by economists and "intellectual capital" is seen as originating from the human resources literature. The debate on the issues of IC and intangibles is further discussed in the following sections.

2.3.1.1   IC AND INTANGIBLES

There are concerns about the definition as well as the value creation of IC. Cannibano *et al.,* (2000) observe that,

> There is widespread tendency to use the terms "intangible", "intellectual capital" or "intellectual assets" interchangeably. Some will find differences between these terms, but they refer to the same reality: a non-physical asset with a potential stream of future benefits (Cannibano *et al.,* 2000, p.105).

Brennan and Connell (2000) stressed that intangible assets were defined very narrowly and thus failed to include assets such as human resources, customer loyalty, and company reputation. Accordingly, Brennan and Connell said these elements of IC; human resources, customer loyalty and company reputation, if managed properly, have a huge potential for creating value which many companies feel can no longer be ignored. Mouritsen, Larsen and Bukh (2001) stressed that "intellectual capital is attributed to intangible assets which create value."

Accounting standards shed some light on the term intangible, specifically, Financial Reporting Standards (FRS) 3 and FRS 138 deal with intangibles. Intangibles are defined as identifiable non-monetary assets without physical substance and shall be treated as meeting the identifiability criterion in the definition of an intangible asset when it is (a) separate or (b) arises from contractual legal rights (FRS 3, para. 46). FRS 138 allows for recognition of purchased or internally-generated intangibles provided they are purchased. The problems that surface here are in fulfilling the issue of estimating future economic benefit and in measuring the cost reliably. This rigid requirement of FRS 138 will virtually be impossible or very unlikely that IC may surface in the current reporting system as it fails to fulfil conditions required of an asset.

From the financial reporting standards viewpoint, it is obvious that the elements of IC such as human resources, company reputation and customer loyalty are not included. This is due to the fact that the definition is confined to those factors over which legal rights have been assigned such as patents, trade-marks and copyrights. On the other hand, the European High Level Expert Group (HLEG)[9] is of the view that control is more important than ownership, as such the definition should cover factors such as

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[9] The HLEG is a study on the Intangibles Economy requested by the European Commission Directorate General for Enterprise.

competencies, skills and know-how, networks and business relationships and external factors arising from the legal, administrative and regulatory environment (Eustace, 2000). Eustace (2000) thus was of the view that the definition of intangibles depends on the perspectives of the different interest groups and can be classified into various categories. For the Human Resource (HR) manager, IC refers to skills, knowledge, and attitudes of employees. On the other hand, brand recognition and customer satisfaction is IC to a marketing manager whereas, to the IT manager, IC refers to software applications and network capabilities, (Marr and Moustaghfir, 2005) as cited by Marr (2005). As such, it can be concluded that intangibles can be looked at from various perspectives and disciplines and it needs to be interpreted with care. Stewart (1997) advocates that IC is "the intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth". Roos, Roos, Dragonette and Edvinson (1997) traced the theoretical roots of IC to two different streams of thought: the strategic stream and the measurement stream (Figure 2.2). The strategic stream focuses on the creation, use of knowledge and the relationship between knowledge and value creation. The measurement stream relates to the need to develop a new information system, measuring non-financial data with the traditional financial ones. Other terms which are often seen to be synonymous with IC include "intangible assets" and "knowledge assets".
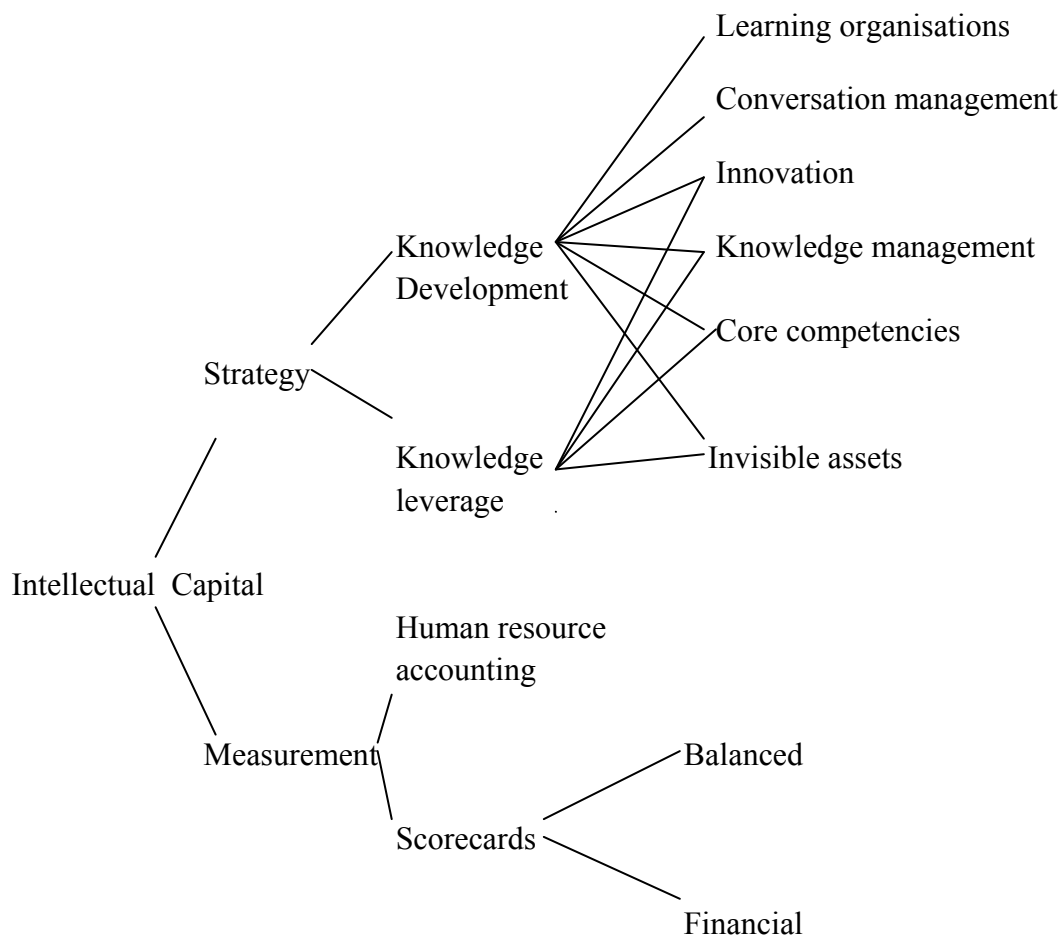
Figure 2.2

THE STRATEGIC STREAM AND THE MEASUREMENT STREAM

From Lev's (2001) view point, the terms knowledge assets, intangible assets, and IC, are widely used. Intangible assets are commonly found in the accounting literature, while the economist will use knowledge assets and IC in the management and legal literature. He concludes that they refer to the same thing: a non-physical claim to future benefits.

Bozzolan *et al.*, (2003) refer to IC as all information that is perceived as being important for investors and analysts. On the other hand, Brennan (2001) refers to IC as knowledge that is transferred to produce higher valued assets in order to increase the value to a firm. Brennan (2001), in turn, suggests that the value of IC is the difference between

the market value and book value of a firm. Abeysekera and Guthrie (2005) allude to a similar definition when they state that all ICs are considered unaccounted capital in the traditional accounting system. It could be argued, therefore, that the market value of a firm is influenced by several factors, some of which are controllable, and others that are not controllable by a firm. The book value is also influenced by accounting standards, policy guidelines and legislation. If the market to book value represents IC, then IC should diminish when the share market has fallen in a firm, assuming that such a fall is indicative of diminishing IC value creation in the firm. However, this is not consistent with the definition of value creation offered by Mouritsen *et al*., (2001), who state that value creation is what occurs as a result of the transformation or improvement of corporate routines and practices.

Besides the criterion issue on ownership or control in arriving at a definition for IC, there is also considerable ambiguity as to what constitutes intellectual assets. Roos *et al.,* (1997) for instance include all intangibles, while Caddy (2000), Edvinsson and Sullivan (1996) do not recognise intangibles in financial statements. Roos and Roos (1997) view IC as the sum of "the hidden" assets of the heads of organizational members, and what is left in the company when they leave.

Edvinsson (1997), defines IC as,

> The possession of knowledge, applied experience, organizational technology, customer relationships, and professional skills that provides Skandia AFS with a competitive edge in the market (p.368).

Rylander, Jacobsen and Roos (2000) define IC as any stock or flow under the control of the firm that contributes to the value creation of the firm and it is subdivided into human and structural capital. They define IC stocks as consisting of human resources – the knowledge, experience, competence and abilities of the employees that is of value to the

firm, and structural resources - the firm's valuable relationships, processes, structure, systems, brands, intellectual property and corporate culture. By flow, they mean the transformations between and within stocks of human, structural, physical and financial capital. This diversity of definitions highlight the need for further debate and effort towards arriving at a uniformity of definitions as well as perhaps even more complex issue of agreement on a generally accepted theory of IC. It can be concluded from this review, that there is no consistent definition of intangibles/intellectual capital.

2.3.2 CLASSIFICATION OF IC

As evidenced from the literature above, there are various definitions and explanations for IC. Two distinct classifications of IC by researchers from universities across Europe, collectively known as the Meritum (2002) Project and The International Federation of Accountants (IFAC) 1998, is summarised in Table 2.2. Both the Meritum and the IFAC classified IC under three categories, which are Human Capital, Relational Capital and Structural Capital. IFAC interprets Relational as synonymous to Customer Capital[10] and Organisational to Structural Capital. IFAC further breaks downs Organisational (Structural Capital) into Intellectual Property and Infrastructure Assets.

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[10] In this thesis, Customer Capital is used instead of Relational Capital since it is synonymous as expressed by The International Federation of Accountants (IFAC).

Table 2.2

CLASSIFICATION OF IC AND ITS SUB-CATEGORIES

Meritum (2002, p.12)	IFAC (1998)
Human Capital Definition: Refers to the knowledge, skills and experience that employees take with them when they leave. Some of this knowledge is unique to the individual; some may be generic. Examples are: innovation capacity, creativity, knowhow and previous experience, teamwork capacity, employee flexibility, tolerance for ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training and education.	**Human Capital** ➢ Know-how ➢ Education ➢ Vocational qualification ➢ Work-related knowledge ➢ Occupational assessments ➢ Work-related competencies ➢ Entrepreneurial plan, innovativeness, proactive and reactive abilities, changeability
Relational capital Definition: Refers to all resources linked to the external relationships of the firm – with customers, suppliers or partners in research and development. It comprises that part of human and structural capital involved with the company's relations with stakeholders investors, creditors, customers, suppliers), plus the perceptions that they hold about the company. Examples are: image, customer loyalty, customer satisfaction, links with suppliers, commercial power, negotiating capacity with financial entities and environmental activities.	**Relational (Customer) Capital** ➢ Brands ➢ Customers ➢ Customer loyalty ➢ Company names ➢ Backlog orders ➢ Distribution channels ➢ Business collaborations ➢ Licensing agreements ➢ Favourable contracts ➢ Franchising agreements
Structural capital Definition: Refers to the knowledge that stays within the firm. It comprises organisational routines, procedures, systems, cultures and databases. Examples are organizational flexibility, a documentation service, the existence of a knowledge centre, the general use of information technologies and organisational learning capacity. Some of them may be legally protected and become intellectual property rights, legally owned by the firm under separate title.	**Organisational (Structural Capital)** *Intellectual Property* ➢ Patents ➢ Copyrights ➢ Design rights ➢ Trade secrets ➢ Service marks **Infrastructure assets** ➢ Management philosophy ➢ Corporate culture ➢ Management processes ➢ Information systems ➢ Financial relations

Others classify IC into five resources (Roos and Roos, 1997, as cited in Roos, Pike and

Fernstrom 2005), divided into three intangible (three resources) and two tangible

resources (two resources). Intangible resources refer to human, organisational and relational resources, while monetary and physical resources represent the tangible perspective. They further distinguish these resources between owned and otherwise by the firm. Tangible resources are owned by the firm, so are organizational resources such as "all the structures, systems and processes that the company uses to support their operations, but also items such as brands, image, culture, prototypes, documented information, and intellectual property" (Roos *et al.,* 2005, p.23). On the contrary, human resources such as the knowledge, competence, intellectual agility, relationship ability and attitude of the employees are not owned. This classification includes tangible resources which are already accounted for in traditional reporting.

The review shows that IC can be defined and interpreted into different ways from different perspectives. Besides the issue of inconsistency in the definition and classification of IC, there are various ways of breaking the categories of IC. Some classify IC as elements (Marr and Moustaghfir, 2005), while others, components (Andriessen, 2001), and categories (Marr and Schiuma, 2001).

Marr and Moustaghfir (2005, p.1116) summarize that the essential elements of IC as "embraces any valuable intangible resource gained through experience and learning that can be used in the production of further wealth". Marr and Moustaghfir (2005) further conclude that a definition of IC should take into account three dimensions: perspective, role, and components. They call on the need for the discussion of these three dimensions in an attempt to define IC so as to further improve the understanding of the field as well as enhancing cross-disciplinary learning.

IC did not stop at three categories. Marr and Schiuma (2001) divided IC into six categories. These are stakeholder relationships, human resource, physical infrastructure, culture, practices and routines, and intellectual property. Marr and Schiuma (2001) emphasise that stakeholder relationships include all form of relationships that a company has with its stakeholders. These relationships might include licensing agreements, partnering agreements, contracts, and distribution arrangements. It may also cover relationships with customers, for instance customer loyalty and brand image, as a fundamental link between the company and one of its key stakeholders. Human resource refers to knowledge assets provided by employees in the form of skills, competence, commitment, motivation and loyalty as well as in the form of advice or tips. Marr and Schiuma (2001) quote some of the key components being know-how, technical expertise, and problem solving capabilities, creativity, education, and attitude. With regard to physical infrastructure, it is in reference to all infrastructure assets, such as structural layout of buildings as well as information and communication technology like databases, servers, and physical networks such as intranets.

Marr and Schiuma (2001) stressed that culture is of fundamental importance for organizations. They then divide culture into corporate culture, organizational values, networking behaviour of employees and management philosophies. Practices and routines include formal or informal internal practices such as process manuals providing codified procedures and rules, virtual networks, tacit rules and informal procedures, tacit rules of behaviour as well as management style. Lastly, intellectual property is explained by Marr and Schiuma (2001) as the sum of knowledge assets such as patents, copyrights, trademarks, brands, registered design, trade secrets and processes whose ownership is granted to the company by law. Edvinsson (1997) distinguishes IC into human capital and structural capital, which is further divided into relational and

organizational capital. The resultant tripartite taxonomy has been thus popularized, as shown in Table 2.3 below.

Table 2.3

COMPARISON OF THE CLASSIFICATION OF IC

	Human/People/Employee competence	Internal/Structural Organisational	External/ Customer/ Relational
Edvinsson and Malone (1997)	√	√	n/a
Bontis (1998)	√	√	√
Stewart (1997)	√	√	√
Sveiby (1997)	√	√	√
Roos *et al.*,(1997)	√	√	√
O'Donnell and O'Regan (2000)	√	√	√
Huang *et al.,* (2007)	√	√	√

2.3.3   EMERGENCE OF THE IC TAXONOMY

Lynn (1998) developed a tripartite taxonomy of IC (Table 2.4) which provided the starting point leading to a more detailed investigation into the nature of IC. In summarizing the literature on the classification and definitions of IC, it can be divided into three components: one relating to human abilities, another to internal organizational structure and third to external structure (Fincham and Roslender, 2003). It is apparent that synonymous terms are being used; employee competence is used in place of 'human capital', while 'internal capital' or 'organizational capital' refers to structural

capital and lastly, relational capital includes relationship with customers, suppliers and other groups external to the firm.

Table 2.4

TRIPARTITE TAXONOMY OF IC

Human Capital	Relational (Customer) Capital	Organizational (Structural) Capital	
		Intellectual Property	Infrastructure Capital
Know how Education Vocational qualification Work-related knowledge Occupational assessments Psychometric assessments Work-related competencies Model and frameworks Cultural diversity	Brands Customers (names, purchase history) Customer loyalty Customer penetration and breadth Company name Backlog orders Distribution channels Business collaborations (joint ventures) Licensing agreements Favorable contracts Franchising agreements	Patents Copyrights Design rights Trade secrets Trademarks Service marks Trade dress	Management philosophy Corporate Culture Management processes Information systems Networking systems Financial relations Corporate strategies Corporate methods Sales tools Knowledge bases Expert networks and teams Corporate values

Source: Lynn (1998)

Despite the lack of an agreed definition, a broad consensus exists that IC comprises three major categories: Human capital (HC), Structural Capital (SC) and Relational capital (RC) (Stewart, 1997; Sveiby, 1997; Roos *et al.,* 1997; O'Donnell and O'Regan,

2000; Huang, Luther and Tayles, 2007). In this study, to be consistent, three categories of IC is adapted; Human Capital (HC), Structural Capital (SC) and Customer Capital (CC).

2.4   IC MEASUREMENT AND REPORTING

In this study, no attempt is made in measuring IC as it is not part of the objective of the dissertation. However, an overview on the measurement is provided in this section to give some insights to the various methods that are available. Before attempting to measure intangibles, Roos *et al.,* (2005) suggested five conditions derived from the measurement theory in order for any measurement scale to be capable in measuring business performance, which are: completeness, distinctness, independence, agreeability and scaling. These conditions are further elaborated below:

> 1. Completeness. If the system to be measured is the whole company, then the attributes of the company which are to be the subject of measurement must completely describe the company. In practical terms, the meanings of the attributes of business performance must be fully defined and their aggregate must reflect all the resources used by the firm and the ways in which they are used.

> 2. Distinctness. This is a simple requirement aimed at eliminating double counting. An attribute is acceptable and an entity to be measured if there is no element of its meaning that is contained within the meaning of any other attribute.

> 3. Independence. The test for preference independence requires that there is no instantaneous change in the score for each attribute if the input to any of the others is varied. Suppose all measures in a normalised business measurement scheme are set at 0.5 and then one of the inputs becomes first zero, then one. If you can show that all the others can remain unchanged during this process then they are independent. If this cannot be shown then the attributes to be measured are ill defined.

4. Agreeability. The issue of agreeability concerns the mapping from the empirical to the numerical relation system. This means that it must be agreed that the meaning of the attribute in the empirical relation system has been fully reflected in the numerical system where the measurement is actually taken. In other words, the attribute must not be represented in the numerical system by a proxy which has a different meaning.

5. Scaling. To make the measurements and any subsequent aggregation of measures valid, they must be observed using a ratio scale. Failure to do this will render meaningless many of the conclusions drawn from the data (Roos *et al.,* 2005, p.29).

In measuring intangibles, four categories are suggested (Pike and Roos, 2004; Sveiby, 2001; Williams, 2001). These methods are; direct intellectual capital methods; market capitalization methods; return on assets methods and the scorecard methods. These methods are further explained below:

1 Direct Intellectual Capital methods (DIC). Estimates the $-value of intangible assets by identifying its various components. Once these components are identified, they can be directly evaluated, either individually or as an aggregated coefficient.

2 Market Capitalisation Methods (MCM). Calculates the difference between a company's market capitalisation and its stockholders' equity as the value of its intellectual capital or intangible assets.

3 Return on Assets methods (ROA). Average pre-tax earnings of a company are divided by the average tangible assets of the company. The result is a company ROA that is then compared with its industry average. The difference is multiplied by the company's average tangible assets to calculate average annual earnings from the Intangibles. Dividing the above-average earnings by the company's average cost of capital or an interest rate, one can derive an estimate of the value of its intangible assets or intellectual capital.

4 Scorecard methods (SC). The various components of intangible assets or intellectual capital are identified and indicators and indices are generated and reported in scorecards or as graphs. SC methods are similar to DIC methods, except that no estimate is made of the $-value of the intangible assets. A composite index may or may not be produced (Roos *et al.,* 2005, p.30).

These various measurement methodologies have been developed to cater to the call to capture IC, as shown in Appendix B. The following section provides a brief overview of

the three well-known IC reporting frameworks (Fincham and Roslender, 2003); namely,

the Skandia Navigator, the Balanced Scorecard and the Intangible Asset Monitor.

2.4.1   THE SKANDIA NAVIGATOR

One of the first companies to report intellectual capital assets of its business was

Skandia AFS, a Swedish financial services company. Edvinsson and Malone (1997)

came out with the Skandia IC Navigator, for managing IC. Fincham and Roslender

(2003, p. 25) state that the Skandia Navigator was aimed in providing "a more balanced

overall picture of operations, as well as furnishing a new business planning mode in

which the long run is integrated with the concerns of yesterday and today". In other

words, it reflects the past, present and future of an organisation. The Skandia IC

Navigator comprises five areas of focus. These five areas of focus are; financial,

customer, process, renewal and development and human capital which is presented in

the shape of a house, as shown below.
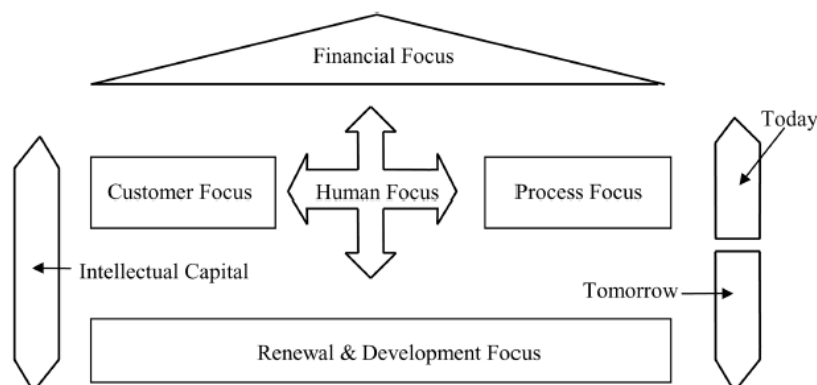
Source: Edvinsson and Malone (1997)

Figure 2.3

THE SKANDIA NAVIGATOR

The financial focus, the attic, refers to the balance sheet, reflecting the past, historical cost. The wall is represented by IC, the present, as well as the activities the company focusing on, human, customer and process focus. The final focus, the foundation of the navigator, refers to the future, research and development focus.

2.4.2   THE BALANCED SCORECARD

Kaplan and Norton (1992) introduced the Balanced Scorecard as a performance management system that gained worldwide attention when introduced in the early 1990s as an approach to business reporting. Designed to give top management a fast but comprehensive view of the business, the Balanced Scorecard includes measures that are linked to an organization's mission and strategy, and are especially designed to inform and motivate continuous efforts toward their achievement. Typically, the balanced scorecard has the following four elements:

Customer Perspective

This element tracks how well the organization is in meeting the expectations of its customers. It includes customer satisfaction, customer retention and customer acquisition.

Internal Business Perspective

Focuses on the internal processes that the organization must excel in order to meet customers' expectations.

Learning and growth

The organization taps into the three sources, namely people, system and organization in order to meet customers' expectations

Financial perspective

This element is related to the profitability measures of the organization. Brennan and Connel (2000) noted the following differences between the ideas underlying these two frameworks by Sveiby (1997) and Kaplan & Norton (1992) as shown in Table 2.5 below:

Table 2.5

IC Framework by Sveiby (1997) and Kaplan & Norton (1992)

Intangible Asset Monitor	Balanced Scorecard
Assumes only people generate profit in an enterprise.	Makes no such assumption.
Supports the use of indicators of the growth, renewal, stability and efficiency of intangible assets to see how they are developing.	Aims to balance the traditional perspective by adding the customer, process and learning and growth perspectives.
Looks at the firm from a 'knowledge perspective'	Does not question "what constitutes a firm"

Source: Brennan and Connel (2000)

2.4.3   THE INTANGIBLE ASSET MONITOR

One such reporting which emphasise on the financial and non-financial value creation factors of the company is the Intangible Asset Monitor by Sveiby (1998).   In the Intangible Asset Monitor, Sveiby (1998) assumes only people generate profit in an organization. Indicators of the growth, renewal, stability and efficiency of intangible assets are used as supporting tools. The distinction between the Intangible Asset Monitor and the Balanced Scorecard is shown in Table 2.5 above.

2.5   LITERATURE REVIEW ON VALUATION OF IC

Five different methods are available to facilitate the valuation of IC. These are market-to-book ratio (M/B), Tobin's Q, Calculated Intangible Value (CIV), Return of Management (ROM), and finally, Value Added Intellectual Capital (VAIC). These methods of valuation are explained individually below.

2.5.1   MARKET-TO-BOOK RATIO (M/B)

The value of IC can be measured by the difference between market and book value (M/B) of the firm (Brennan, 2001). M/B assumes that the portion of the market value of a company in excess of its book value is the market value of its IC. In other words, the difference between the book value and market value of a company is taken as equalling the level of IC of the business. As such, in a company which is more knowledge-intensive, the M/B value will be greater (Stewart, 1997). However, Brennan (2001) advocates that it is not the best measure due to the fact that not all differences can be assigned to intangibles and also because fluctuation in share prices also has an impact on the market value. The most obvious flaw under this method is that IC is valued as one asset and makes no attempt to separate the items that might comprise it. Despite this criticism, the difference in market value to book value or MBR is used as a contemporary measure in representing IC assets (Brennan, 2001).

2.5.2   TOBIN'S Q

Tobin's "q", developed by James Tobin, refers to the ratio of the market value of the firm to the replacement cost of its assets. Technology and human capital assets were

traditionally associated with high q values. It could be argued that Tobin's q is more accurate than the market-to-book method because it uses replacement, rather than historic costs. However, finding these replacement costs is more difficult than simply referring to a balance sheet. The model is also subject to the same drawbacks as previous ones, since it uses the market value as one of its key measures.

2.5.3   CALCULATED INTANGIBLE VALUE (CIV)

Calculated intangible value (CIV) is similar to the super-profits method of valuing a company – the difference between the maintainable profit and the expected return on the tangible assets employed. Stewart (1998, p.228) illustrates the method by using data from US pharmaceutical company Merck.

> Stage one - Calculate average pre-tax earnings for three years- $3.694 billion; Stage two - Go to the balance sheet and get the average year-end tangible assets for three years-$12.953 billion; Stage three - Divide earnings by assets to get the return on assets (ROA) – 29 per cent; Stage four- For the same three years, find the industry's average ROA.

IFAC (1998) computes CIV by referring to industry norms in establishing rates of return for tangible assets and calculates the level of IC by attributing to it any return exceeding the industry norm.

2.5.4   RETURN ON MANAGEMENT (ROM)

ROM measures management efficiency in using both physical assets and IC. It is obtained by dividing management value by the sum of sales and administrative expenses. One of the setback of this method is it assumes management to be the only

value contributing factor and thus neglects the contribution of other employees'
contribution to corporate success.

2.5.5 VALUE ADDED INTELLECTUAL CAPITAL (VAIC)

This measure is the total sum of the value creation efficiency of the physical capital of a
company and two components of intellectual capital (namely human capital and
structural capital). This measure is designed to indicate the intellectual capital efficiency
of a company, and high VAIC value is associated with good management utilization of
the potential value creation from physical and IC (Williams, 2001). VAIC is an output
oriented, process method, that can be applied across different business forms and at
various levels of operations (Pulic and Bornemann, 1999).

An exploratory study using VAIC in measuring the efficiency of IC was carried out by
Gan and Saleh (2008) in a homogenous sample on technology companies in Bursa
Malaysia. The findings show that this model is able to explain profitability and
productivity, however fails to explain market valuation. Due to the limitations in VAIC,
no further attempt is taken to pursue it in this thesis.

2.6 SUMMARY

The literature shows that earlier studies on IC focus on defining and classifying IC
before moving on to measurement, valuation and reporting. As seen from literature
review, there are various definitions as well as classifications that have emerged over
the period on IC, and a consensus seems to have developed with the tripartite taxonomy
as the starting point. This study adopts the tripartite taxonomy. Chapter 3 provides this

literature covering three streams drawn from voluntary disclosure, corporate governance

and ownership structure.

CHAPTER 3

LITERATURE REVIEW ON VOLUNTARY DISCLOSURE, CORPORATE GOVERNANCE AND OWNERSHIP STRUCTURE

3.1   INTRODUCTION

This chapter draws on three streams of literature review. The first stream focuses on literature on voluntary disclosure, while the second part draws on literature on corporate governance and the final part elaborates on ownership structure. Literature on voluntary disclosure is elaborated under Section 3.2. Next, corporate governance is discussed under Section 3.3, while Section 3.4 provides further explanation on various ownership structures adopted in this study.

3.2   LITERATURE REVIEW ON VOLUNTARY DISCLOSURE

With regard to disclosure in accounting literature, Verrecchia (2001) suggests three broad categories. The first category is "association-based disclosure" whereby, the researcher attempts in finding out to what extent disclosure have impacts on investors competing in the capital markets. "Discretionary disclosure" is the second category whereby managers exercise discretion in disclosure. Managers disclose information based on incentives that accrue to them or the firm. Finally, "efficiency-based disclosure", disclosure arrangement is discussed and arranged assuming there is no knowledge of information. Verrecchia (2001, p.97) suggests "information asymmetry reduction as a vehicle to integrate the efficiency of disclosure choice, the incentives to

disclose, and the endogeneity of the capital market as it involves the interactions among individual and diverse investors".

Literature found that there were many studies examining the relationship between corporate characteristics and disclosure in annual reports (Cooke, 1991-1993; Hossain *et al.,* 1994; Wallace *et al.*, 1994; Hossain, Perrera and Abdul Rahman*,* 1995; Raffournier, 1995; Ahmed and Courtis, 1999; Chen and Jaggi, 2000; Haniffa and Cooke*,* 2002). In fact, according to Ahmed and Courtis (1999), since 1961, studies were carried out to investigate the association between corporate characteristics and disclosures. Typical methodology adopted was by constructing country-relevant disclosure index in an attempt to examine the association between corporate characteristics and voluntary disclosure.

Cooke (1991) found that size, stock market listing and industry type have impact on the provision of voluntary information for the annual reports of Japanese corporations. He also reported that the most significant variable in explaining voluntary disclosure is size. Size in that study was proxies by total assets, number of shareholders and turnover. Stock market listing was found to be a significant predictor in the manufacturing companies in the provision of voluntary information as compared to other industry.

Earlier empirical evidence was provided by Hossain *et al.,* (1994) on Malaysian corporations with regard to voluntary disclosure. They examined the influence of firm size, ownership structure, leverage, assets-in-place, size of audit firm, and foreign listing status in providing voluntary information in the annual reports of listed companies in the then Stock Exchange of Kuala Lumpur. They found that firm size, ownership

structure and foreign listing status were significantly related to voluntary disclosure while leverage, asset-in-place and size of the audit firm failed in this vein.

The meta analysis of 29 studies conducted by Ahmed and Courtis (1999) concluded that large companies with listing status, high leverage and having their accounts audited by large audit firms disclose more corporate information in their annual reports. Ahmed and Courtis (1999, p.57) reasoned that provision of voluntary information has "becomes a proxy by which the investment community can be alerted to undertake more careful analysis of companies before making resource allocation resources". Thus, it may be concluded that companies are motivated to provide voluntary information in the annual reports in part in fulfilling investors' needs.

Other motivation in disclosing voluntary information in excess of the requirements 'to reduce the firm's agency and political costs' as advocated by Chavent *et al.,* (2006). This study deviates from the disclosure and determinants accounting research. Chavent *et al.,* (2006, p.181) explained that such disclosure studies are "restricted to determination of the disclosure index". They proposed a divisive clustering method on large French companies and found that the disclosure pattern is associated with provision of intensity, size, leverage and market expectation.

Literature review show that inconsistent results were obtained from empirical studies conducted. Results linked disclosure levels to leverage, profitability and auditor firm were inconsistent (Marston and Shrives, 1995). Ahmed and Courtis (1999) attribute these mixed results due to differences in socio-economic as well as political environments between countries. Other possible reasons advocated were different organizational structures and sampling errors. Gul and Leung (2004), on the other hand

are of the view that the inconsistent results could be due to failure to incorporate corporate governance variables. Gul and Leung (2004, p.355) stressed that 'since corporate governance disclosure policies emanate from the board and firms with strong boards are more likely to pursue policies that ensure financial transparency'. As such, Section 3.3 looks at the next stream of literature on corporate governance in examining corporate disclosures. However, as this study focuses on voluntary disclosure of IC, literature review on the disclosure of IC is conducted in Section 3.2.1 below.

3.2.1   LITERATURE REVIEW ON IC DISCLOSURE (ICD)

Wiedman (2000, p.663) states that "One way to describe the disclosure literature is to identify three components: the disclosure environment, the disclosure attributes, and the disclosure impact". Wiedman (2000) further explains that the disclosure environment refers to the characteristics in which disclosure decisions are made. Disclosure attributes refer to the nature of the actual disclosures made, for example, type, frequency, timeliness and credibility while the disclosure impact covers cost of capital, agency costs and shareholder mix. This chapter adapts the three components recommended by Wiedman (2000), which are further described in Table 3.1 below.

Table 3.1

LITERATURE FRAMEWORK ON ICD

The disclosure environment	The disclosure attributes	The disclosure impact
Strategies and policies by management of individual corporations; in this instance referring to corporate governance features as well as the ownership structure.	Type of ICD; Human Capital (HC), Structural Capital (SC) and Customer Capital (CC).	Impact of ownership structure and corporate governance on the disclosure of ICD using agency theory and institutional theory.

The significance of external reporting and information on IC, the value creation agent, is much sought after due to the demand for information by investors. Holland (2003) argues that the barriers of capital market actors in using IC information lie on the lack of understanding and utilizing information. Other researcher such as Bukh (2003) concludes that investors and analysts demand for intangible information which has not been met. From the perspective of the preparers, Eccles, Herz, Keegan and Phillips (2001) are of the opinion that they attempt to provide the market the information it wants. Thus, it may be concluded that both users and preparers are looking into the value creation factors, in reference to IC and trying to fill the missing gap.

As with all attempts in filling the gaps in the literature in IC reporting (Guthrie and Petty, 2000; Bontis, 2003; Brennan, 2001; Bozzolan *et al.,* 2003; Goh and Lim, 2004; Abeysekera and Guthrie, 2005 and Foong *et al.,* 2009), there are challenges. This is apparent in the study carried out by Rylander *et al.,* (2000) in presenting IC information. Their study was carried out in Sweden where they found that users there were not happy with the information on IC as presented in annual reports. The users expressed concern that IC information is difficult to interpret, and does not provide enough insights to

deliver any real value to users. Bukh (2003) is of the opinion that capital market actors suffer from the knowledge problem. He proposes that the business model, the strategy for managing IC be enhanced to enable a consistent way of interpreting and digesting the IC information.

In contrast to a basic content analysis method, a study conducted by Garcia-Meca (2005) compares the information contained in the presentations to analysts and in the analyst's report. In this study, 257 reports presented to all financial analysts were analysed. The study was conducted on companies listed in the Madrid Stock Exchange during the years 2000 and 2001. Garcia-Meca (2005) found that information regarding IC was widely reported by financial analysts in arriving at their investment decision-making.

The literature shows that ICD using content analysis has begun to gain prominence in academic research. Most of such studies are cross-sectional in nature and country specific too, Australia (Guthrie and Petty, 2000), Canada (Bontis, 2003), Ireland (Brennan, 2001), Italy (Bozzolan *et al.,* 2003), Malaysia (Goh and Lim, 2004; Foong *et al.,* 2009), Sri Lanka (Abeysekera and Guthrie, 2005), South Africa (April *et al.,* 2003) and UK (Striukova *et al*., 2008; Li *et al*., 2008). Others investigated international comparatives studies, for instance Vergauwen *et al*., (2007) look into Sweden, UK and Denmark, while longitudinal study was carried out by Abdolmohammadi (2005) on 58 Fortune companies over the period of 1993-1997.

3.2.2 PIONEER IN ICD STUDY

One of the earlier studies on ICD was carried out by Guthrie and Petty (2000). They studied the top twenty Australian companies by market capitalization. Their objectives were to assess the extent to which these large companies were publicly reporting their IC. In this pioneer study, the popular framework developed by Sveiby (1997, p. 8-11) was chosen. Sveiby classified intangibles into three parts, the details extracted from Guthrie and Petty (2000) were given below:

1. Internal structure

This consists of such items as patents, concepts, models research and development, and computer and administrative systems. These are usually created by the employees or are brought in. Decisions can be made to invest in or replace these intangibles. Organisational culture and spirit are also considered part of the internal structure, as are organizational structure and legal parameters.

2. External structure

This consists of relationships with customers and suppliers, brand names, trademarks and reputation. Some of these can be considered proprietory, but only in a temporal sense and, even then, not with any degree of confidence. For instance, a company has some influence over the value of its customer relationships; however, reputation and relationships can change over time and a company cannot control the behaviour of customers or suppliers if they are not compliant. The tenuous nature of the supplier-firm-customer nexus complicates the measurement process. Hence, the economic value of this relationship is at present not determined by any generally accepted definition or measurement system.

3. Employee competence.

This refers to the individual education, skills, training, values, experiences, and so forth. The non-revenue generators are called support staff. As is the case for customers and suppliers, these cannot be owned by an organization. However, from a value-added perspective they should be measured and placed on the balance-sheet, as one cannot envisage an organization without employees. Employee competence requires the capacity to create both tangible and intangible assets in a wide variety of situations. In knowledge organizations

there is little "machinery" other than the employees (Guthrie and Petty, 2000, pp.243).

Table 3.2

IC CATEGORIES

Internal capital (Structural)	External capital (Customer/relational)	Employee competence (Human capital)
Intellectual property	Brands	Know-how
Patents	Customers	Education
Copyrights	Customer loyalty	Vocational qualification
Trademarks	Company names	Work-related knowledge
Infrastructure assets	Distribution channels	Work-related competencies
Management philosophy	Business collaborations	Entrepreneurial spirit
Corporate culture	Licensing agreements	
Management processes		
Information systems		
Financial relations		

Source: Sveiby (1997)

In that pioneer study, 21 variables were used; eight relating to internal capital, seven variables on external capital while there were six variables covering human capital. These variables are reproduced in Table 3.2 above which were later adapted by Guthrie and Petty (2000). Changes were made to the framework to those of Sveiby (1997). Guthrie and Petty modified the framework, resulting in 24 variables (Table 3.3) to reflect items likely to be reported by Australian companies.

Table 3.3

Framework of ICD used by Guthrie and Petty

Internal (structural) Capital	External (customer/relational) capital	Employee competence (human capital)
Intellectual Capital	Brands	Know-how
Patents	Customers	Education
Copyrights	Customer loyalty	Vocational qualification
Trade marks	Company names	Work-related knowledge
Infrastructure assets	Distribution channels	Work-related competence
Management philosophy	Business collaborations	Entrepreneurial spirit
Corporate culture	Licensing agreements	
Management processes	Favourable contracts	
Information systems	Franchising agreements	
Networking systems		
Financial relations		

Source: Guthrie and Petty (2000)

Guthrie and Petty (2000) carried out study on voluntary disclosure of IC on top companies in Australia based on the revised framework from Sveiby (1997). They found that the key components of IC were not reported within a consistent framework with the main areas of IC reported on human resources: technology and intellectual property rights; and organizational and workplace structure. They further concluded that there was no established and mutually agreed framework for reporting IC, and were of the view that "there seems to be a lot of empty rhetoric surrounding the notion of measuring, valuing, and reporting IC (Guthrie and Petty, 2000, p.246)".

3.2.3 OTHER ICD STUDIES

Brennan (2001) replicated Guthrie and Petty (2000)'s study on eleven knowledge-based companies listed on the Irish Stock Exchange. In her study, manufacturing, financial, investment, property and exploration companies were excluded and disclosure under legislation or accounting standards such as trademarks, patents, copyrights, were ignored, focusing on voluntary disclosure. A comparison between market and book value of the eleven listed companies were investigated. From the eleven companies, nine have excess market to book value, and as such are expected to address "hidden" value by voluntarily disclosing IC in the annual reports. She concluded that despite the richness in IC assets, the disclosure is poor and Irish companies are making little progress in measuring these assets. Further, most of the disclosures were in qualitative terms. In this study, Brennan (2001) took a further step by showing extracts of disclosure of IC from the annual reports.

Bozzolan *et al.,* (2003) examined the ICD of listed Italian companies replicating and extending Guthrie and Petty's (2000) study by examining factors influencing ICD using the regression analysis technique. Agency and signalling theories were applied in their study. 30 non-financial companies listed in the Italian Stock exchange were the chosen sample in the study. Findings showed that Italian companies disclosed mainly external capital in particular customers, distribution channels as well as business collaborations and brands. With regard to industry and size, they found a significant impact on ICD, consistent with studies in social and environmental disclosure (SED) (Mathews, 1997). Besides the amount and content of ICD, the study took a step further in studying the influencing factors of voluntary reporting behaviors by using the regression analysis method.

A different methodology was employed by April *et al.,* (2003) in investigating IC measurement, reporting and management in the South African mining industry. They used content analysis on 20 largest listed companies by market capitalization combined with interviews and questionnaires. A dichotomous scale was used, as almost all information were in discursive form in lieu of the earlier proposed rating scales of 0 to 3. Findings showed that the top 20 companies emphasised reporting on business collaborations, work-related staff competencies, management processes, customers and brands. In comparison with Australian reporting, South African companies tended to focus on business collaboration and securing favourable contracts. They advocate that generally, "South African companies have a low awareness of their IC assets, or do not see the need to report them" (p. 178).

A longitudinal study was carried out by Abeysekera and Guthrie (2005) on top 30 Sri Lankan firms covering the period 1998/1999 to 1999/2000. They revised the earlier framework and divided it into three categories: external capital (10 items), human capital (25 items), and internal capital (10 items). Overall, the study showed increasing trends of IC information. The most reported IC information was external capital, followed by human capital, while the least reported IC was internal capital. Brand building and corporate image tops the list of disclosure under external capital. The change in market capitalisation had no impact on IC reporting. The overall increase in IC indicates that reporting was proactive rather than reactive as explained by political economy accounting (PEA) where corporate disclosure is much influenced in meeting management's agenda. Thus, financial reporting is designed in such a manner so as to reflect their economic, political as well as social arrangement and does not necessarily indicate IC (Guthrie and Petty, 2005).

Another longitudinal study was investigated by Abdolmohammadi (2005). He examined ICD and its impact on market capitalization on 58 Fortune companies over a five year period, from 1993 to 1997. This study extends Guthrie *et al.*, (2003) framework with ten IC categories and 58 IC components. The ten categories were brand, competence, corporate culture, customer base, information technology, intellectual property, partnership, personnel, proprietary process and research and development. Each of the ten categories had a list of IC components[11] ranging from a minimum of 4 under corporate culture to a maximum of 11 under competence. He found that the ICD had increased over the period under study. He also captured significant differences in reporting IC between the 'new' and 'old' economy. His findings also indicated a significant effect for ICD and market capitalization.

Other ICD studies were extended across countries. One such study is by Vergauwen *et al.*, (2007). They examined the relationship between IC categories and the relative IC levels using annual reports from three of the highest rated European countries; Sweden, the United Kingdom and Denmark. The framework used in this study had 108 items grouped under Structural Capital (SC, 46), Relational Capital (RC, 29) and Human Capital (HC, 33) using a dichotomous scale and performed electronically. Relational Capital had the highest amount of disclosure with a total of 7176 items reported and an average of 120 items per firm. HC recorded 4985 hits, while SC only 3473 hits. The relationship between ICD and disclosure was negative, inconsistent with the prior finding by Abdolmohammadi (2005). With regard to the components of IC, the empirical results indicate that there was a strong significant positive relationship between the level of structural capital possession of a firm and the firm's ICD. They found strong significant positive relationships between the level of SC and its ICD, but

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[11] For further reading, please refer to Abdolmohammadi (2005).

failed to report any relationship between HC and CC. They thus stressed the importance of separating IC into three components; HC, RC and CC.

The earlier studies on IC above used a small sample ranging from 11 to 30 companies except for Vergauwen *et al.,* (2007) who carried out longitudinal studies on 58 Fortune companies over a four year period. Most of the above studies had searched IC terms manually. Bontis (2003) however, performed an electronic search for IC attributes with an extensive coverage of 10,000 Canadian corporations. The list of 39 terms, as shown in Table 3.4 used in the study was summarized by a panel of researchers from the World Congress on Intellectual Capital. The list was reproduced below for comparison with the earlier framework adopted by Guthrie and Petty (2000) and Brennan (2001). The list as given in Table 3.4 below, did not group the attributes into any apparent category in comparison with Sveiby's (1997) framework. The term, IC, was included as one of the IC attributes. Despite the wide coverage of 10,000 companies, a surprisingly low number of companies (68) disclosed IC. Besides, out of the 39 terms, only seven terms were disclosed: Economic Value Added; Employee Productivity; Employee Value; Human Capital; Intellectual Assets; IC; Knowledge Management.

Table 3.4

LIST OF IC ATTRIBUTES

Business Knowledge	Employee Productivity	Intellectual Property
Company Reputation	Employee Skill	Intellectual Resources
Competitive Intelligence	Employee Value	KM
Corporate Learning	Expert Teams	Knowledge Assets
Corporate University	Human Assets	Knowledge Management
Cultural Diversity	Human Capital	Knowledge Sharing
Customer Capital	Human Value	Knowledge Stock
Customer Knowledge	IC	Management Quality
Economic Value Added	Information systems	Organisational Culture
Employee Expertise	Intellectual Assets	Organisational Learning
Employee Know-how	Intellectual Capital	Relational Capital
Employee Knowledge	Intellectual Material	Structural Capital
		Supplier Knowledge

(Source: Bontis, 2003)

Bontis (2003) conducted t-test and found that there was no significant difference between the sample companies that disclosed IC in terms of employee size or shareholder equity. In that study, five companies disclosed the term IC. Upon examination on these companies which disclosed the term IC, Bontis (2003) found no evidence that an actual IC statement was developed or that any IC metrics were being published. He concluded that ICD in Canadian corporations was very low and was of academic discussion. In this study, Bontis (2003), however, failed to mention whether a reliability check was carried out. It will be interesting to find out whether the result will differ should the test be performed manually but on a smaller scope. As discussed in Beattie and Thomson (2007, p. 140), "Although words have the advantage of being categorized more easily and large databases can be scanned for specific words Gray, Kouhy and Lavers (1995b), there are problems in using electronic word searches to

investigate IC disclosure". Despite the availability of technology to scan large databases using electronic search, the ability to capture the IC concept is rather restrictive. As such, in order to tap the richness of IC disclosure, the search for IC related information in this study is conducted manually.

In another study conducted by Bozzolan *et al.,* (2003), a sample of 30 organisations from non-financial companies listed in the Italian Stock Exchange as at 31 December 2001 was used. In that study, sentences were chosen as the recording unit to overcome problems related to the use of words or portions of pages. The coding used was as follows: a score of "0" if no information of IC is provided; a score of "1" if qualitative information is provided; or a score of "2" if quantitative information is provided. The coding differs from Guthrie and Petty (2000) where a score of "0 to 4" was used, further to that any repetition of IC information disclosed was ignored. They found that ICD of the Italian companies mainly occurs with regard to external structure focusing on customers, distribution channels, business collaboration and brands. They also found that industry and size, proxy by natural log of sales explain the significant differences in reporting behaviour of Italian companies.

As discussed in prior studies, most of the ICD concentrated on secondary data. In contrast, April *et al.,* (2003) complemented their study with interviews with senior individuals in mining companies. This study concentrated on 20 largest South African listed companies by market capitalization. The framework used consists of 24 indicators as in Guthrie, Petty, Ferrier and Wells, (1999). A dichotomous coding system was used in this study. Results from the study showed that more focus was on external capital as most of the companies under consideration competed globally and are focused on the external drivers of IC such as business collaboration, customers, brands and distribution

channels. The least reported were copyrights, patents, franchising agreements, licensing agreements and customer loyalty. A comparison of the studies using Guthrie and Petty[12] (2000)'s framework is summarized in Table 3.5 given below.

Table 3.5

SUMMARY OF FINDINGS ON ICD STUDIES

	Guthrie and Petty (2000)	Brennan (2001)	Goh and Lim (2004)	April *et al.,* (2003)
Country of study	Australia	Ireland	Malaysia	South Africa
Number of sample companies	20	11	20	20
Average number of attributes reported per company	8.9	n/a	n/a	10.4
Internal Capital reported (Structural Capital)	30%	29.3%	36.4%	30.4%
External Capital reported (Customer Capital)	40%	48.8%	41.4%	40.1%
Human Capital reported	30%	21.9%	21.9%	29.5%

From the summary in Table 3.5, it is apparent that the most disclosed IC is external capital, while the least disclosed is human capital.

This most disclosed category, external capital, was further investigated and was found that all of the companies in the country surveyed placed much emphasize on business collaboration, as summarized in Table 3.6 below. This is very much in line with the nature of business today. April *et al.,* (2003) attribute this to focus on global expansion through acquisitions and partnerships. Human capital despite being one of the most important capital in an organization, is the least disclosed in all the studies covered.

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[12] Their framework was modified from the original work by Sveiby (1997)

Table 3.6

SUMMARY OF EXTERNAL ITEMS (CC) DISCLOSED IN ICD STUDIES

External capital items disclosed (Customer capital)	Guthrie and Petty (2000)	Brennan (2001)	Goh and Lim(2004)	April *et al.,* (2003)
Customers	√	√	√	-
Business collaborations	√	√	√	√
Distribution channels	√	√	√	-
Company names	-	-	√	-
Licensing agreement	-	-	√	-
Favorable contract	-	-	√	√
Brands	-	-	√	-

3.2.4   ICD OTHER THAN ANNUAL REPORTS

Besides content analysis on annual reports, other media such as analyst reports were investigated by Garcia-Meca and Martinez (2007). They conducted a study with the effort of quantifying the extent and type of disclosure of intangibles in financial analyst's reports and to find out the relationship between some specific variables and IC information. The study examined the relevance of IC disclosure in 260 analyst reports for Spanish listed firms from 2000 to 2003. The authors constructed 60 items in an Analyst Disclosure Index (ADI). A dichotomous scale was used in the study. The 60 items were divided into five categories: human capital (16 item); customers (13 items); organizational (13 items); innovation, research, and development (6 items); and strategy (12 items). They found that a firm's profitability, high market to book ratio of a firm influences the extent of IC information provided in the reports. They found that much of the information included in analyst reports did not appear in traditional financial statements.

3.2.5   ICD AND PERFORMANCE

VAIC^{TM} is a "universal indicator showing abilities of a company in value creation and presenting a measure for business efficiency in a knowledge-based economy (Pulic, 1998, p.9)". One of the earlier studies which linked ICD with IC performance was conducted by Williams (2001). Williams found a negative association between ICD and IC performance of companies. In his study, performance was measured by VAIC^{TM}. He argued that IC disclosure was reduced so as not to signal to competitors and others as to where potential opportunities may lie. Schneider (2000) advocates that VAIC^{TM} is an effective method of measuring IC as it enables collection of IC leverage to key success processes; it is easy to calculate from information already provided in the annual report and the calculation methodology enhances understanding.

3.2.6   LITERATURE REVIEW ON ICD STUDIES IN MALAYSIA

Content analysis appears to be the most popular choice of method to study ICD in Malaysia corporations (Foong *et al.,* 2009; Huang, 2007; Goh and Lim, 2004; Gan and Rajasegaran, 2004). As summarized in the Table 3.7 below, these studies showed that inconsistent frameworks were being used for IC components adopted which range from 24 to 78 IC items. Coding of IC ranges from a dichotomous to a maximum of 7-way numerical coding system. Findings concluded that disclosure of IC was mainly narrative in nature. Out of these four studies, only Foong *et al.,* (2009) attempted inferential statistics and found that corporate size and profitability has significant impact of ICD.

Table 3.7

SUMMARY OF PRIOR RESEARCH CONDUCTED ON ICD: EVIDENCE FROM MALAYSIA

Author/s	Objective/s of the study	Sample population	Framework/ Coding method and analysis of data	Findings And critics of approach
Huang (2007)	The objective is to investigate and report on IC information disclosed by Malaysian companies.	Cross-section studies, sample of 100 companies, listed on Bursa Malaysia's main board, using stratified sampling technique.	Adapted Guthrie's model with modification and had 78 items in total (HC, 29; CC, 23 and SC, 26). 7-way numerical coding system 0=does not appear 1=appear in discursive form 2=appear in non-financial numerical form 3=appear in financial form 4=appear in both discursive and non-financial form 5=appear in both discursive and financial form 6=appear in both non-financial numerical and financial form 7=appear in discursive, non-financial numerical and financial form Using electronic search of keywords combined with manual Descriptive analysis only	IC information disclosed mainly in discursive form only. Disclosure suffers from uniformity in content, format and location. It was found that out of the 78 items of the disclosure checklist, most companies (74 out of 100) disclosed between 10 to 20 items. Critics: Non statistical analysis other than frequency count.
Goh and Lim (2004)	To examine the IC disclosure practices both	Top 20 profit-making public listed companies	Adopted Karl Erik Sveiby's definition of IC	All companies in the sample disclosed qualitatively

| | quantitatively and qualitatively | listed in Bursa Malaysia | Dichotomous scale, with 1 if the attribute is disclosed and 0 if otherwise.

Descriptive analysis only | information on management philosophy, corporate culture and entrepreneurial spirit.

Overall, 41% of IC was on external capital, 36.6% was on internal capital and 21.9% on employee competence.

Frequency count of each attribute was tabulated. The study also complements the findings by pulling in quotes from annual reports.

Critics

No attempt to perform statistical analysis, sample too restrictive. Possible avenue is to look into IC and overall performance of the company. |
| Gan and Rajasegaran
(2004) | To determine the nature and degree of ICD. | 269 companies listed in Bursa, covering Main board, Second board and Mesdaq. Representing 31% of the total companies as at 31 December 2002. | 36 IC related terms were adopted from Bontis (2002)

Dichotomous scale employed with 1 if the attribute is disclosed and 0 if otherwise.

Descriptive analysis only | Out of the 35 IC terms in the checklist, 25terms were disclosed, representing 71% of the list. Most commonly disclosed terms were employee skill, management quality, information systems, employee knowledge and employee productivity. Overall, only 28.3% of the samples chosen disclose IC related terms.

The extracts of IC disclosure on IP and |

				IC were disclosed in narrative form. Critics: No attempt to carry out statistical analysis
Foong *et al.,* (2009)	To investigate the extent of voluntary ICD and its relationship to corporate characteristics (corporate size, industry and profitability), of public-listed companies in Malaysia.	30 largest and 30 smallest companies from the top 100 public listed companies based on market capitalization on the 2003 annual report.	Adapted Sveiby's framework 4 way scoring system 0- attribute does not appear in the annual report 1-attribute appears in annual report in narrative form 2- attribute is given a numerical value in the annual report 3- attribute is given a monetary value in the annual report. Inferential statistics such as ANOVA and regression analysis.	IC disclosure is still scanty and at its infancy stage. They concluded that there is inconsistent format of disclosure and much of the disclosure of IC is in narrative form. Corporate size and profitability has significant impact of ICD. One of the earlier empirical studies in Malaysia to investigate the relationship between ICD and its relationship to corporate characteristics.

Table 3.8

SUMMARY OF PRIOR RESEARCH CONDUCTED ON ICD: OTHER THAN MALAYSIAN EVIDENCE

Author/s	Objective/s of the study	Country studied and sample population	Framework/ Coding method and analysis of data	Findings
Guthrie and Petty (2000)	To examine the amount and type of IC reported in the annual reports	Australia 20 top companies	Sveiby's (1997) framework. Comprises 24 variables: nine internal structures, nine external structures and six human capital	IC attribute is expressed in discursive rather than numerical terms, no attempt to translate the rhetoric into benchmark measures so as to enable performance to be measured. It was found that the key components of IC are poorly understood, inadequately identified, inefficiently managed and not consistently reported. There is however, awareness of the importance of IC variables. Overall, Australian firms fare poorly in respect of measuring and reporting IC in the annual reports.
Brennan (2001)	To find out whether market and book value are materially different and the extent to which these companies address these differences by voluntarily disclosing IC assets in their annual reports.	Ireland 11 listed companies and 10 private companies	Similar to the framework used by Guthrie and Petty (2000)	Although Irish companies have substantial intangible, IC assets, evidenced by their high market to book value ratios, they are making little progress in measuring them. She found that IC assets are rarely referred to in the Irish annual reports, and even if reported, is in qualitative terms.
Firer and Williams (2003)	To investigate the association between three	Singapore public listed companies	68-items grouped into five categories – human resources,	More closely owned companies disclose less voluntarily IC related information in contrast with

	ownership structure characteristics and voluntary ICD.	390 companies	customers, information technology, processes and intellectual property.	diffused ownership companies. Companies with high level of executive ownership also disclose less, however, GLC disclosed more IC than non-GLC.
Vergauwen *et al.,* (2007)	To investigate the relationship between intangible value drivers and the level of ICD	Countries with high IC performance index : Sweden, UK and Denmark 20 firms from the top end of the market capitalization were selected from each country, totaling 60 samples in the study.	108 items grouped into: SC (46), RC (29) and HC (33). Framework derived from various literature Dichotomous scale and performed electronically.	Relational Capital has the highest amount of disclosure with a total of 7176 items reported and an average of 120 per firm. HC recorded 4985 hits, while SC only 3473 hits. The relation between ICD and disclosure is negative, inconsistent with prior finding by Abdolmohammadi (2005). With regard to the components of IC, the empirical results indicate that there is a strong significant positive relationship between the level of structural capital possession of a firm and the firm's ICD.
Abeysekera and Guthrie (2005)	To measure the importance of IC focusing on type, amount and quality of IC reporting disclosure.	Sri Lanka Top 30 firms 1998/1999 to 1999/2000	Framework divided into three categories: external capital (10 items), human capital (25 items), internal capital (10 items). Using line counts and frequency of occurrence	Overall the study shows increasing trends of IC information. The most reported was external capital, followed by human capital, while the least reported IC was internal capital. Brand building and corporate image tops the list of disclosure under external capital. The change in market capitalisation had no impact on IC reporting. The overall increase in IC indicates that reporting was proactive rather than reactive as explained by

				PEA.
Bozzolan *et al.,* (2003)	To find out the amount and content of ICD and factors explaining the observed differences in voluntary disclosure patterns.	Italy 201 companies from the non-financial sector Model: Disclosure amount $= f$ (industry ,size)	IC framework as used in Guthrie and Petty (2000) consists of three categories: Internal structure, external structure and human capital. Sentences were chosen as the recording unit: Score of 0 if no information provided, score of 1 if providing qualitative information, 2 if providing quantitative information. If information is repeated, it is considered once only. Regression analysis is carried out in examining the factors influencing ICD	Descriptive analysis- amount and type of disclosure. Amount of disclosure on average is 51 indicating awareness of the importance of IC. Content wise, most IC related to external structure (49%); 30% on internal structure and 21% on human capital. The low disclosure of HC is due to fear of attracting unwanted attention and risk of information being used by competitors. Regression model result: Industry and are relevant factors in explaining the differences in reporting behaviour amongst Italian companies. Studies that met the three criteria (accuracy, reproducibility and stability) demonstrated by Kripendorff (1980). One of the studies that attempt to explain the reasoning for differing levels of ICD by investigating the effect of industry type and size.
Miller and Whiting (2005)	Investigates ICD in the annual reports and its relationship to the hidden value.	New Zealand 70 companies divided into high-tech and traditional groups. Rigorous statistical analysis	Recording unit for analysis: Sentences Score of 0 is no IC information, 1 if sentence with qualitative information, 2 if quantitative information provided.	No relationship was found between hidden value and the value of overall IC disclosure. All six regression analysis show neither statistical significance nor any explanatory power. The validity of the assumption that hidden value can be a useful proxy for the level if IC is disputed.

			implemented	
Bontis (2003)	To study the issue of Canadian corporate ICD.	Canada 10,000 corporations	39 terms adopted from the list compiled by a panel of researchers from the World Congress on Intellectual Capital. Use electronic search Statistical tests were performed	Only 68 out of the total 10,000 companies disclosed IC. ICD is still very much an academic discussion.
Williams (2001)	To find the relationship between IC performances (VAIC) and ICD over the period under survey.	UK, longitudinal studies from 1996 to 2000	Dichotomous scale, 0 and 1. 50 items in the ICD from literature review. 5 control variables; organizational size industry type; listing status; physical capital performance; leverage.	Did not find any systematic relationship between IC performance and IC disclosure. However, when IC performance is high, the level of IC disclosed is reduced for fear of losing competitive advantage. Leverage, industry exposure as well as listing status have influence on the quantity of IC disclosed.

Table 3.9

SUMMARY OF STUDIES AND CHARACTERISTICS OF ICD IN ANNUAL REPORTS

Author/s	Year of data selection	Country	Sample Features	Sample Size	Categories in HC	Categories in SC	Categories in CC	Ratings scale used	Search Method
Guthrie & Petty (2000)	1998	Australia	Top firm by MC	20	6	9	9	0,1,2,3	Terms/ Manual
Brennan, N (2001)	1999	Ireland	Knowledge-based	11	6	9	9	0,1	Terms/ Manual
April *et al.*, (2003)	2001	South Africa	Largest companies	20	6	9	9	1 to 5	Terms/ Manual
Bozzolon *et al.*, (2003)	2001	Italy	Non-financial companies	30	5	8	9	0,1,2	Sentences/ Manual
Abeysekera and Guthrie (2005)	1998/1999 & 1999/2000	Sri Lanka	Top firm by MC[13]	30	25	10	10	-1[14],0,1	Sentences/ Manual
Goh and Lim (2004)	2001	Malaysia	Top profit making	20	6	9	9	0,1	Word/ Manual
Vergauwen *et al.*, (2007)	No mention	Sweeden UK & Denmark	Top Market Capitalisation	60	33	46	29	0,1	Key word search/ Electronic
Foong *et al.*, (2009)	2003	Malaysia	Top Market Capitalisation	60	6	6*	9	0,1,2,3	Sentences/ Manual
This Study	2006 to 2008	Malaysia	Top Market Capitalisation	162	17	7*	9	0,1,2,3	Sentences/ Manual

* Both studies conducted by Foong *et al.*, (2009) and this study excluded patents, copyrights and trademarks classified under Intellectual Property as opposed to other studies. The reason for the omissions is due to the fact that the objective in the study is to focus on voluntary disclosure and as IP has been dealt with in the accounting standards it has thus been deliberately excluded from the study.

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[13] In the study conducted on Sri Lanka firms, the sample size chosen, despite small, is more representative at 64.2% in 1998 and 59.93% in 1993.

[14] In their study a semantic content analysis is used. '-1' refers to intellectual liability, '0' not IC item and '1' for intellectual asset.

3.2.7   CONTENT ANALYSIS STUDIES OF ICD IN ANNUAL REPORTS

As evidenced by the literature review above, content analysis using annual reports is one of the most popular research methods used to identify ICD. It was used to study ICD in Australia (Guthrie and Petty, 2000); Ireland (Brennan, 2001); South Africa (April *et al.*, 2003), Italy (Bozzolon *et al.*, 2003), Sri Lanka (Abeysekera and Guthrie ; 2005), Malaysia (Goh and Lim, 2004; Foong *et al.*, 2009). Cross-countries study of ICD on Sweeden, UK & Denmark was carried out by Vergauwen *et al.,* (2007). Table 3.9 above summarized these studies together with its framework of research.

3.3   CORPORATE GOVERNANCE

Since the Asian Financial crisis occurred in 1997, Malaysia has implemented important corporate governance reforms in identifying as well as addressing the weaknesses highlighted during the crisis. It has aggressively highlighting the importance of corporate governance in maintaining its competitive advantage and as a source for sustainability economic growth. Definitions of corporate governance are as explained below.

> Corporate governance is a framework of legal, institutional, and cultural factors shaping the patterns of influence that stakeholders exert on managerial decision making (Weimer and Pape, 1999, p.152-166).

> Corporate governance is the process and structure used to direct and manage the business and affairs of a 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 (The Malaysian Code of Corporate Governance, 2007).

The Malaysian Code of Corporate Governance, abbreviated as the "Code", was first issued in March 2000. Companies are not mandated to comply with the Code, however, listed companies are required under the Listing Requirements stipulated by Bursa Malaysia to include in their annual reports a narrative account of how they have applied the principles and best practices set out in the Code. With respect to areas of non-compliance, they are required to give reasons as well as disclose alternative practices adopted, if any. The Code was recently revised on 1 October 2007 aimed at strengthening the board of directors and audit committees, and ensuring that the board of directors and audit committees discharge their roles and responsibilities effectively. The amendments spell out the eligibility criteria for the appointment of directors and the role of the nominating committee. On audit committees, the amendments spell out the eligibility criteria for appointment as an audit committee member, the composition of audit committees, the frequency of meetings and the need for continuous training. In addition, internal audit functions are now required in all public limited companies and the reporting line for internal auditors clarified.

The literature review on corporate governance and voluntary disclosure in Malaysia corporations has yielded mixed results. Ghazali and Weetman (2006) found that there was a significant association between director ownership and the extent of voluntary disclosure while government ownership, new governance initiatives and industry competitiveness were not significant in pointing companies towards greater transparency. Haniffa and Cooke (2002) reported a significant association between duality role and domination of family members on board and the extent of voluntary disclosure.

3.3.1 BOARD OF DIRECTORS

The Enron corporate scandal caused a storm in the financial community and revealed serious flaws in the US corporate governance system. The board of directors, considered as an important part in a corporate governance system, took the largest part of the blame and the directors were accused of failure in their watchdog role, as evidenced in the conclusion reported in Enron's report[15] that the board *failed to monitor …to safeguard Enron's shareholders*". Their failure caused regulatory as well as legislative changes in the US, UK, and Canada, to mention a few. One of the notable developments in enforcement was the Sarbanes-Oxley Act (SOX hereafter) enacted in 2002, with the aim to restore credibility to the US corporate governance system.

Thus, constituents of the board are important due to the fact that they are charged with the management on behalf of the shareholders. Fama and Jensen (1983) opine that the board of directors is one of the most important internal control mechanisms in monitoring top management. The agency theory argues that in order to protect shareholder interests, the board of directors need to be effective, this is evidenced by studies conducted by McKinsey which found that institutional investors are willing to pay a premium a for well-governed company, and in the case of Malaysia up to 20%[16]. The effectiveness of the board is in turn influenced by board composition and quality, size, duality of CEO/Chairman positions, board diversity, information asymmetries and board culture (Brennan, 2006). Keenan and Aggestam (2001) are of the view that audit committees, non-executive directors and the separation of the roles of chairman and chief executive may enhance monitoring quality in critical decisions about IC

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[15] Report of investigation by the special investigation committee of the board of directors of Enron Corp, William C Powers Jr et al, 2002, at http://news.findlaw.com/wp/docs/enron/specinv020102rpt1.pdf

[16] McKinsey Global Investor Opinion Survey 2002, updated 2004

investments and performance. In response, the variables in this study looks at the size of boards, board leadership, board diversity, cross leadership, board composition, audit committee size, audit committee meeting and financial experts in the audit committee.

3.3.2   CORPORATE GOVERNANCE AND VOLUNTARY DISCLOSURE

Failure in incorporating corporate governance resulted in inconsistent findings on corporate characteristics and voluntary disclosure (Gul and Leung, 2004). This study is in pursuant to the issue raised by Gul and Leung (2004), by incorporating corporate governance attributes as one of the variables in the study. A framework linking disclosure practices to corporate governance was provided by Jensen and Meckling's (1976) positive agency theory. Jensen and Meckling (1976, p. 308) 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 separation of ownership and management gives rise to monitoring, bonding and residual cost. One of the contending issues in a corporation is information asymmetry between principal and agent. As such, in order to reduce agency costs, voluntary information is disclosed to mitigate and narrow this gap. Survey of literature review on corporate governance attributes and voluntary disclosure shows increasing trends in 2000s. This could be due to the after-effects of the Asian financial crisis which shook the world in 1997. One of the earlier studies on corporate governance and voluntary disclosure was conducted by Ho and Wong (2001) on Hong Kong corporations. Four corporate governance attributes were examined; the proportion of independent directors to the total number of directors on board, the existence of a voluntary audit committee, the existence of dominant personalities (CEO/Chairman duality) and the percentage of family members on the

board. Results showed that the existence of a voluntary audit committee has a significant and positive influence on the extent of voluntary disclosure. In contrast, family-controlled firms have a lower extent of disclosure.

Haniffa and Cooke (2002) conducted research on corporate governance and voluntary disclosure in Malaysian listed corporations by including cultural characteristics (race and education). Corporate governance variables which had a significant impact on voluntary disclosures were the non-executive chairman and family members on the board. Haniffa and Cooke (2002) found that the non-executive chairman showed a significant negative relation to voluntary disclosure. This is in contrast to the agency theory which advocates that the non-executive chairman aids in the check and balance mechanism. Family owned businesses also reported negative association to the extent of voluntary disclosure. Haniffa and Cooke (2005) extended the earlier study on the impact of culture and governance on corporate social reporting (CSR). They found a significant relationship between CSR and boards dominated by Malay[17] directors, boards dominated by executive directors, chair with multiple listing and foreign share ownership. The legitimacy theory was adopted to explain the theoretical framework in their study of CSR. They found that non-executive directors have little influence in CSR policy and practice. In contrast, chair with multiple board were significantly positively related to CSR, implying that the chairman with experience gained by sitting on more than one board may be able to influence disclosure. They also reported that size, profitability and multiple listings were significantly related to CSR, consistent with the legitimacy theory.

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[17] Refers to 'son of the soil' (Hashim, 2009) and most commonly known as Bumiputra.

A post 1997 Asian financial crisis and the impact of corporate governance reforms study was carried out by Ghazali and Weetman (2006) with an attempt to find out the voluntary disclosure practice and its relationship with corporate governance in Malaysian corporations. Their study was compared to that of Haniffa and Cooke (2002), which focused on study prior to the crisis. They found that owner-managed and family-controlled companies as well as various initiatives undertaken by the Malaysian government do not have significant impact in providing voluntary information in response to greater transparency and accountability.

Fama (1980) emphasized that the board of directors is the central internal control mechanism for monitoring managers. Drawing on that basis, Eng and Mak (2003) researched whether ownership structure and board composition has any impact on voluntary disclosure on 158 listed firms in Singapore. They measured ownership structure via managerial ownership, block holder ownership, and government ownership. They argued that 'voluntary disclosure is a substitute for monitoring (p. 330)'. Results showed that lower managerial ownership and significant government ownership are positively associated with voluntary disclosure. However, an increase in outside directors had an inverse relationship with voluntary disclosure. They advocated that government-ownership firms increase disclosure as a way to mitigate agency problems.

Gul and Leong (2004) examined voluntary disclosure practices of 385 Hong Kong companies focusing on the following corporate governance variables; board leadership (RDUAL); the proportion of expert outside directors on the board (PENEDs). This study used sample companies for 1996, one year before the Asian Financial crisis. They found that CEO duality is associated with lower levels of voluntary disclosure,

supporting the call for the separation of the position for CEO and chairman. They also found that the 'negative CEO duality/voluntary disclosure association is weaker for firms with higher PENEDs suggesting that the expertise of non-executive directors moderates the CEO duality/corporate disclosures relationship (p. 351)'.

Surprisingly, interests on corporate governance and voluntary disclosure appear to be concentrated on developing countries, with little evidence from developed nations. Klein, Shapiro and Young (2005) addressed this by looking at corporate governance, family ownership and firm value in 263 Canadian firms. They examined the relationship between firm value, proxy by Tobin's q and corporate governance. They found a negative effect for family-owned and firm value. With regard to corporate governance, the impact depends on firm ownership. Although no significant impact was found on attributes of corporate governance, a negative correlation between board independence and performance for family firms was reported.

3.3.3   CORPORATE GOVERNANCE AND ICD STUDIES

The studies on corporate governance and ICD are gaining momentum, as evidenced in Firer and Williams (2003), Barako *et al.,* (2006), Cerbioni and Parbonetti (2007) and most recently, Li, *et al.,* (2008). Li *et al.,* (2008) investigated the relationship between ICD and corporate governance using cross-sectional studies of 100 UK listed companies. ICD was measured using the disclosure index score, supported by word count and percentage of word count metrics in assessing the variety, volume and focus of voluntary information on IC. The corporate governance variables examined were board composition, ownership structure, audit committee size and frequency of audit committee meeting, and CEO duality. They found a significant association with one or

more of the ICD measures and all the corporate governance variables except role duality.

Cerbioni and Parbonetti (2007) argued that the impact of the relationship between corporate governance and corporate disclosure could be either complementary or substitute. For complementary relationship, the practice of good governance will enhance disclosure so as to provide an 'intensive monitoring package' so that information asymmetry can be reduced Leftwich, Watts and Zimmerman (1981). In contrast, for substitute relationship, firms will strategically choose to improve one at the expense of the other (Rediker and Seth, 1995). Cerbioni and Parbonetti (2007) suggested a complementary relationship between corporate governance and disclosure. They conducted the research on a homogenous group, namely European biotechnology firms. Cerbionni and Parbonetti (2007) investigated the impact of size, board composition, structure and CEO duality in their study from both the quantity and quality of voluntary information disclosed. They examined these corporate governance variables; board size (number of directors), composition (proportion of independent directors), board leadership (CEO duality) and structure (composition of the audit, nominating and compensation committees). This study departs from prior studies in that they examined both the total quantity as well as the quality of IC disclosed. They used content, outlook orientation and economic signs as proxies in measuring the quality of ICD, in response to concerns raised by Beattie (2000) and Beretta and Bozzolan (2008), that disclosure is not confined to quantity of information disclosed. With regard to quantity of ICD, board structure, leadership, and size were negatively related to the amount of ICD, while the proportion of independent directors showed a positive association with the quantity of ICD disclosed. As such, they concluded that all the governance-related variables had a strong impact on the quantity of ICD. However,

from the angle of the quality of ICD, only the proportion of independent directors was positively related to the disclosure of internal structure, while CEO duality was negatively linked to the disclosure of forward-looking information, and lastly, board structure helped to improve the annual report's overall readability. Cerbioni and Parbonetti (2007, p.819) further confirmed that a "system of overlapping checks and balances was superior in comparison to having one single governance mechanism". Table 3.10 provides a summary and comparison of these studies.

Table 3.10

SUMMARY OF ICD AND CORPORATE GOVERNANCE STUDIES

Author	Year(s) covered/Country/Sample size/ Data Source	Objectives	CG variables and control variables examined	Findings
Li *et al.,* (2008)	2004/UK/100 cross sectional covering seven sectors/Annual report	To investigate the influence of corporate governance on ICD in corporate annual reports.	Board composition; *Ownership structure; Audit Committee size; Frequency of audit committee meetings; CEO duality. Control variables covering age of listings, profitability and firm size.	Significant association between board composition, ownership structure, audit committee size, frequency of audit committee meetings and ICD.
Cerbioni and Parbonetti (2007)	2002 to 2004/ Ten European countries/54/Homogenous sample on biotech companies/Operational Financial Review#	To examine the relationship between corporate governance variables and ICD, examining both quantity and quality of information provided.	Board size; Board composition; CEO duality; Board structure (Composition of the audit, nomination and remuneration committees). Control variables examined are firm size, leverage, profitability, growth, listing status, and legal enforcement.	All the governance variables examined have a significant impact on the quantity of ICD. As for the quality of ICD, board composition is positively related to the disclosure of internal structure; CEO duality is negatively related and board structure improves the overall readability of the annual report.
Firer and Williams (2003)	2000/Singapore/390/ Annual report	To investigate the association between three ownership structures and ICD.	Ownership structures covering ownership diffusion, percentage of inside director ownership, and government linked companies. Control variables examined are auditor; level of internationalization; leverage; firm size; profitability and industry influence.	Out of the three ownership structures examined, only GLCs disclose more ICD.

Note:* Ownership in that study refers to cumulative shareholdings by individuals or organizations to the total number of outstanding common share. Li *et al.,* (2008) incorporated ownership part of corporate governance variable, likewise, in this study, it is studied separately due to its significance in Malaysian culture, consistent with Firer and Williams (2004) on Singapore context.
#Equivalent to Management Discussion and Analysis.

In Malaysia, a study was conducted by Abdul Rahman *et al.,* (2006) aimed at examining the level of awareness on Corporate Governance (CG) issues from the perspective of corporate social responsibility (CSR). The sample in this study was Malaysian public listed companies (PLCs), covering a four-year period from 2002 to 2005. One of the attributes of the CG Score Checklist was IC. The items representing IC in the CG attributes were: training policies, knowledge management, staff welfare, medical benefits and scholarships, promotion policies, health/safety measures and efforts in enhancing intellectual capacity efficiency. Abdul Rahman *et al.,* (2006) found that all the 100 companies in the sample had low levels of reporting on IC with a mean score of 7.9 points or 26.3% of the total 30 points of IC attributes, indicating a very low level of reporting by these organizations. They advocated that despite the fact that IC being globally recognised as critical to the corporate social reporting issue, much less disclosure was reported and they opined that Malaysian corporations were focusing on mandatory disclosure and neglected information that will be useful to the investing public. The items representing IC in this study were rather restrictive and may not be totally representative, as such this study will expand the scope of IC.

3.4   OWNERSHIP STRUCTURE AND ICD STUDIES

Study carried out by La Porta *et al.,* (1999) refer to ownership structure as voting rights held either directly or indirectly. Similar to the definition given by La Porta *et al.,* (1999), ultimate owner refers to a corporation which has a controlling shareholder with direct and indirect voting rights exceeding 20 percent. In their study, firms were divided into widely held and those with ultimate owners. Ultimate holders were further divided into five categories; a family or an individual; the state; a widely held corporation and

miscellaneous (such as cooperative, a voting trust, or a group with no single controlling investor).

For the purpose of this study, the ultimate owners cover: family owned; the state owned, in this context the GLCs, and widely held corporations (in this study known as diffused ownership). Adapting the same classification for ultimate owner as La Porta *et al.,* (1999), a firm has an ultimate owner if the shareholder's direct and indirect voting rights exceed 20 percent. For FAMC, there must be a member/s sitting on the board and the total voting rights of an individual is 20 percent or more, likewise if there is controlling shareholder but no family members on board then it will be categorised as a widely held firm; in this study the definition used is diffused ownership.

Studies on ownership structure and its influence on voluntary disclosure practices are limited in Asian contexts (Chau and Gray, 2002 on Hong Kong and Singapore; Ho and Wong, 2001 on Hong Kong; Hossain *et al.,* 1994 and Haniffa and Cooke, 2002 on Malaysia and recently in the emerging economy, China by Xiao and Yuan (2007). Xiao and Yuan (2007) examined the impact of ownership structure and board composition on voluntary disclosure of Chinese corporations. The motivation for voluntary disclosure in Singapore and Hong Kong is very much influenced by the form of ownership and management structure (Lam, Mok, Cheung, and Yam, 1994; Mok, Lam, and Cheung, 1992). Malaysia shares the same characteristic and close culture proximity, and as such this study attempts to investigate the association between ownership structure and voluntary disclosure of IC. The Code has emphasised the need for the board to create a "balanced" ownership structure for the company in its role in protecting and enhancing the stakeholders' value. Not much is known of empirical evidence on voluntary disclosure and ownership structure on Malaysian corporations except studies carried out

by Hossain, Tan, and Adams (1994) and Haniffa and Cooke, (2002). Haniffa and Cooke (2002) found a significant association between domination of family members on board and voluntary disclosure of information. Hossain *et al.,* (1994) reported similar findings on ownership structure and voluntary disclosure. In response to the Code, this study provides a timely investigation of ownership structure and the reporting behaviour of corporate practices in its role of protecting as well as enhancing the stakeholders' value.

The earlier study which attempts to investigate the association between corporate governance and ICD was carried out by Firer and Williams (2003) on publicly traded firms in Singapore. Their investigation was on finding the association between three ownership characteristics and voluntary IC disclosure practices using annual reports of 390 Singapore public listed companies for the year 2000. They examined three features of ownership structure; ownership diffusion, level of inside director ownership and level of government ownership. Firer and Williams (2003) noted that diffused ownership and GLCs disclosed more IC as opposed to family-owned type of ownership structure. Xiao and Yuan (2007) found positive association between higher blockholder and foreign listing/shares ownership and voluntary disclosure.

3.4.1   FAMILY OWNED COMPANIES (FAMC)

Close members of the family of an individual are those family members who may be expected to influence, or be influenced by that individual in their dealings with the entity. They may include: the individual's domestic partner and children; children of the individual's domestic partner; and dependants of the individual or the individual's domestic partner (Financial Reporting Standards (FRS) 124 on Related Party Disclosures). From the analysis of the shareholding in the annual report, if the family

members own 20% or more they are deemed to be family controlled companies. FRS 128 on Investments in Associates, state that if "an investor holds, directly or indirectly through subsidiaries, 20% or more of the voting power of the investee, it is assumed that they have significant influence".

Singapore and Malaysia share the same characteristics of having companies with high proportion of family members on board. With substantial ownership, they are able to nominate family members to sit on the board so as to protect their interests (Ghazali and Weetman, 2006). They advocate that closely held and controlled companies are less likely to provide additional information in annual reports. Further, Ghazali and Weetman (2006) observe that high ownership concentration and family controlled companies tend to provide less public disclosure due to the fact that they have information about the company's position and activities. Study conducted on corporations in Hong Kong and Singapore (Chau and Gray, 2002) and separately on Hong Kong by Ho and Wong (2001) found negative association between voluntary disclosure and family ownership. This is consistent with Gray's (1988) 'secrecy-hypothesis' that preference for secrecy is likely to decrease in increased ownership. Chau and Gray (2002) advocate that in comparison to companies with diffused ownership, these FAMC are not much motivated to disclose more information than mandated.

3.4.2   GOVERNMENT-LINKED COMPANIES (GLC)

The government ownership feature is a particular feature of companies in Asia, in particular Singapore and Malaysia (Firer and William, 2003; Ghazali and Weetman,

2006). The term Government ownership is also widely known as GLC[18]. As argued by Firer and Williams (2003), Government ownership has a significant influence on corporate disclosure such as IC related disclosures. They advocate that since directors in GLCs are also senior government officials, they may exert influence on the disclosure policies so as to potentially reflect issues of concern to the Government. Eng and Mak (2003) found a positive relationship between Government ownership and disclosure. They advocate that government ownership increases moral hazard and agency problems and disclosure is a means of mitigating these problems. From the IC perspective, Firer and Williams (2003) are of the same view. Most directors that sit on the board are also senior government officials, as such they may directly or indirectly influence the disclosure policies in support of the initiatives by the Government policies. GLCs as such, are perceived to disclose more voluntary information in support of Government policies and initiatives from the perspective of the institutional theory. Deegan (2007, p. 312) views the Institutional Theory as "the newly emergent theory in financial reporting context". This theory can fall under either the classical or the bourgeois branch of political economy theory, and serves to provide complimentary and partially overlapping perspective to both stakeholder and legitimacy theory. Under this theory, managers may be pressurized to change, or adopt, certain voluntary disclosure. Institutional theory can be divided into two dimensions in explaining voluntary reporting practices; they are isomorphism and decoupling (Deegan, 2007). DiMaggio and Powell (1983, p.143) defines isomorphism as 'a constraining process that forces one

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[18] A GLC is defined as a company for which the government has the ability to appoint board members and senior management, and actively makes major decisions (e.g., contract awards, strategy, restructuring and financing, acquisitions and divestments). There are three types of GLCs. In the first type, the Government of Malaysia exercises control directly through Khazanah, the National Pension Fund, and the Bank Negara Malaysia. The second type are companies controlled indirectly by other federal government-linked agencies, through the Permodalan Nasional Berhad, the Employees Provident Fund, and Tabong Haji. The third type consists of companies where control is exercised through state agencies. (Source: http://www.worldbank.org/ifa/rosc_cg_malaysia.pdf)

unit in a population to resemble other units that face the same set of environmental conditions'. As such in order to avoid attracting criticisms as well as facing legitimacy problems, these organizations which operate within the same environmental conditions may conform to expectations of the norm. As such, isomorphic processes refer to organizations' adaptations and changes in their voluntary corporate reporting practices.

3.4.3   DIFFUSED-OWNERSHIP (OWNDIFF)

Agency costs increases with the separation of the principals from the decision-making function in the firm. It thus posits that greater ownership diffusion firms will disclose more information to reduce agency costs and information asymmetry (Fama and Jensen, 1983). In the situation where a firm is widely held, the shares of the company are not concentrated on a few large shareholders, in contrast such ownership will be having large number of shareholders holding a small portion of the company's shareholdings. Such ownership structure will require more accountability as well as transparency in meeting the needs of these widely held shareholders. As such, a widely held company may provide additional information so as to signal that the managers are acting in the best interests of the principals. A weak support for the relationship between diffused ownership and voluntary disclosure was reported on Australian companies (McKinnon and Dalimunthe, 1993). The study of Malaysian companies on the level of voluntary information carried out by Hossain *et al.,* (1994) found that there is a negative relationship between diffused ownership structure and the level of information voluntarily disclosed. This is in contrast with Haniffa and Cooke (2002) who found a positive relationship.

3.5   CONCLUSION

This chapter provided a review covering ICD studies conducted in Malaysia as well as in other countries. The review covering voluntary disclosure and corporate characteristics found inconsistent findings. One of the reasons as advocated by Gul and Leong (2004) is the failure to incorporate corporate governance variables in the studies. Besides corporate governance variables, this study draws upon ownership structure in examining its association of voluntary disclosure of IC. From the literature review, the following chapter draws into the research design and methodology followed by the development of hypotheses for testing in this study.

CHAPTER 4

RESEARCH FRAMEWORK

4.1   INTRODUCTION

This chapter introduces the research model for this study under Section 4.2, followed by Section 4.3 covering the theoretical framework; namely agency and institutional theories proposed in this study. The measurement of the dependent and independent variables is given in Section 4.4. Section 4.5 discusses the development of each specific hypothesis. Regression models are given in Section 4.7, while Section 4.8 discusses the data analysis and the statistical tools employed in this study. Finally the closing remark is provided at the end of the chapter.

4.2   RESEARCH MODEL

The research model for this study is shown in Figure 4.1. The study is motivated to find the relationship between corporate governance attributes, ownership structure and ICD. For the corporate governance attributes, the independent variables investigated in this study are board size, board composition, board diversity, board leadership, audit committee size, frequency of audit committee meetings and number of financial experts in the audit committee. The other independent variable is ownership structure, being FAMC, GLCs and OWNDIFF. Control variables included in this study are firm size, profitability, leverage and type of auditor.

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CORPORATE
GOVERNANCE

H1  Board Size (BSIZE)
H2  Board leadership (RDUAL)
H3  Board diversity (CRSSL)
H4  Board composition (INED)
H5  Audit Committee size (ACSize)
H6  Audit Committee ACMeeting
H7  Financial expert (FINEXPT)
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INTELLECTUAL CAPITAL
DISCLOSURE
(ICD)
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OWNERSHIP STRUCTURE

H8  Family-owned company (FAMC)

H9  Government-linked companies (GLC)

H10 Diffused ownership (OWNDIFF)
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INDEPENDENT VARIABLES   DEPENDENT VARIABLE

Figure 4.1

RESEARCH MODEL

4.3   THEORETICAL FRAMEWORK

Despite the widely debated issues on IC, there is yet to be seen of a universally accepted theoretical framework. Several researchers have attempted to explain the corporate reporting behaviour of managers on IC. Most commonly applied theories in the accounting literature are stakeholder theory, legitimacy theory and political economy theory (Guthrie and Parker, 1990; Guthrie and Petty, 2000) and agency theory and signalling theories (Bozzolan *et al.,* 2003). Depoers (2000) opine that agency theory is

the most widely applied theory in providing explanation on disclosure of voluntary information. This is evident in recent study on IC and corporate governance by Li *et al.,* (2008) and Cerbioni and Parbonetti (2007) where agency theory is used in their research framework. Despite the prominent agency theory in accounting literature on voluntary disclosure, Deegan (2007, p.312) view institutional theory as "the newly emergent theory in financial reporting context'. This study proposes both agency as well as institutional theory in linking the disclosure behaviour of IC to corporate governance and ownership structure.

4.3.1   AGENCY THEORY

Jensen and Meckling (1976) as well as Fama and Jensen (1983) advocate that a company with high agency costs will be more stringent in monitoring their governance mechanism and provide more voluntary information in an attempt to reduce this cost. Jensen and Meckling (1976) opine that by disclosing more, investors reduce their uncertainty and in turn lower their cost of capital. This argument may be applicable to the disclosure of IC in annual reports investigated in this study by extending from corporate governance mechanisms to ownership structure. Board of directors being the control mechanisms and certain type of ownership structure may be motivated to disclose more information so as to increase the firm's value and attract investors. Each corporate governance variable and the ownership structure are further elaborated under the development of hypotheses in the following Section 4.5 below.

4.3.2   INSTITUTIONAL THEORY

The development of institutional theory was mooted by DiMaggio and Powell (1983). Di Maggio and Powell (1983) and Deegan (2007) are of the view that organizations

may adapt and make changes in their voluntary reporting practices. Deegan (2007) divide institutional theory into two dimensions in explaining voluntary reporting practices; they are isomorphism and decoupling. DiMaggio and Powell (1983, p.143) defines isomorphism as 'a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions'. As such in order to avoid attracting criticisms as well as facing legitimacy problems, these organizations which operate within the same environmental conditions may conform to expectations of the norm. Dillard, Rigsby and Goodman (2004, p. 509) advocate that "Isomorphism refers to the adaptation of an institutional practice by an organization". As such, organizations may practice voluntary disclosing information due to forces or pressure impound into them or for 'show' as put by Deegan (2007) and not so much of influencing corporate conduct. Three isomorphism processes set out by DiMaggio and Powell (1983) are coercive isomorphism, mimetic isomorphism and normative isomorphism. Coercive isomorphism refers to pressures from other organization which they are dependent on, such as fund provider, main suppliers, while mimetic isomorphism arises when organization copy or emulate the voluntary disclosure practices of other organizations. Organziations behave in such a manner in order to be seen as legitimate as well to be competitive advantage. The third category, normative isomorphism, on the other hand results from professionalization whereby there is collective struggle of members of an occupation to define the conditions and methods of practice and in establishing a cognitive base, DiMaggio and Powell (1983). It is thus advocated that corporate governance mechanisms and ownership structure may be adapting to organizational pressure in providing voluntary information of IC in the interest of investors as well as to stay legitimate.

4.4   MEASUREMENT OF DEPENDENT AND INDEPENDENT VARIABLES

The dependent variable in this study is the disclosure index adapted from extensive literature review on IC. The index has three components, namely human capital, structural and customer capital. It has in total 33 items in the disclosure index. There are two attributes of independent variables in this study, corporate governance and ownership structure. Seven variables are examined under corporate governance attributes while three different ownership structures are investigated to find out the association between these variables and the dependent variable. The measurements for both dependent and independent variables are further explained in next sections.

4.4.1   MEASUREMENT OF THE DEPENDENT VARIABLE

The level of ICD is measured using a disclosure index. Following an extensive review, the framework which is most widely used in ICD studies was adapted from Guthrie and Petty (2000). The framework was used by Brennan (2001), Goh and Lim (2004), April *et al.,* (2003) and Wong and Gardner (2005). The final disclosure index in this study was adapted with modification from Guthrie and Petty (2000), Bozzolan *et al.,* (2003), Huang (2007), Beattie and Thomson (2007), Vergauwen *et al.,* (2007), and Abeysekera and Guthrie (2005). There are 17 items under HC, SC has 7 items, while 9 items under CC. The details are given in Appendix C.

The level of ICD is measured using a disclosure index. The total ICDScore is computed as follows:

$$\text{ICDScore}_j = \sum_{i=1}^{m_j} \frac{\text{HCScore}_i}{m_j} + \frac{\text{SCScore}_i}{m_j} + \frac{\text{CCScore}_i}{m_j}$$

Where HCScore$_i$, SCScore$_i$, CCScore$_i$ may equal to 0, 1, 2, or 3 in each respective items, while m_j is the maximum number of items of score that a company is expected to disclose. A company that discloses any such information quantitatively would carry a maximum score of 3, down to 0 if the disclosure item does not appear in annual report. As an illustration, suppose company A obtains a maximum score for all the items in HC, SC and CC. The ICDScore will be 51/51 + 21/21 + 27/27 = 3.00. The score sheet is given in Appendix D.

4.4.2 MEASUREMENT OF THE INDEPENDENT VARIABLES

The independent variables in this study are corporate governance and ownership structures. Corporate governance variables studied were board size, board leadership, board diversity, board composition, audit committee features covering number of audit committee members, frequency of audit committee meetings and number of financial experts. Consistent with the study carried out by Firer and William (2003) the three ownership structure characteristics were employed; FAMC, GLCs, and OWNDIFF.

4.4.2.1 MEASUREMENT OF CORPORATE GOVERNANCE ATTRIBUTES

Board size (BSIZE) refers to the size of the board of directors in the corporation. It is measured by the total number of directors on the board. Board leadership (RDUAL) is in reference to the position of the Chairman of the board and its Chief Executive Officer (CEO). RDUAL will be assigned a value of 1 if the chairman is also holding the position of CEO, otherwise a value of zero is assigned. Diversity of board, coined as cross leadership (CRSSL), is measured as the ratio of directors who are also directors in other companies to the total number of directors. Board composition, measured by

(INED) is calculated from the proportion of outside directors (independent) to the total number of directors.

The size of the audit committee (ACSize) is measured by the total number of audit committee members, while ACMEETING refers to the total number of audit committee meetings held over the year. This information is derived from the Audit Committee Report in the annual report. The revised Code requires at least one audit committee member to be financial literate, to be able to read, analyse and interpret the financial data and be a member of Malaysian Institute of Accountants (MIA). This variable concerned is expressed as FINEXPT, and is derived from the profile of directors in the annual report.

4.4.2.2   MEASUREMENT OF OWNERSHIP STRUCTURE

Three ownership structures in this study, being FAMC, government- linked GLCs and OWNDIFF. The flow chart below explains the process[19] for coding the type of ownership structure. List of GLC is obtained from the Progress Review of Transformation Review (2006). Each annual report was initially examined to determine whether it falls under GLC, if yes, it is coded as GLC. Follow-on, FAMC is ascertained by reading the directors' profile in order to find out whether there is any family member on the board. If yes, this company falls under FAMC.

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[19] Prior to using this method of coding for ownership structure, attempts in extracting the percentage shareholdings for FAMC and OWNDIFF from top thirty shareholdings disclosed in the annual report is carried out. One of the constraints, in particular FAMC, is family shareholding held by nominees which are not apparent, which pose difficulties to the researcher in computing the total ownership held by family members, as such this method is abandoned. Instead of computing the percentage shareholding held, dummy variables are assigned to each of these ownership structures in this study.

However, there are circumstances where no family members are on the board, but have substantial shareholding as shown in [20]Top 30 shareholders' in the annual report. One such instance is Hap Seng Consolidated whereby the spouse of the director held substantial shares in the company. As such, both family members on the board as well as being substantial shareholders will make such companies be classified as FAMC.
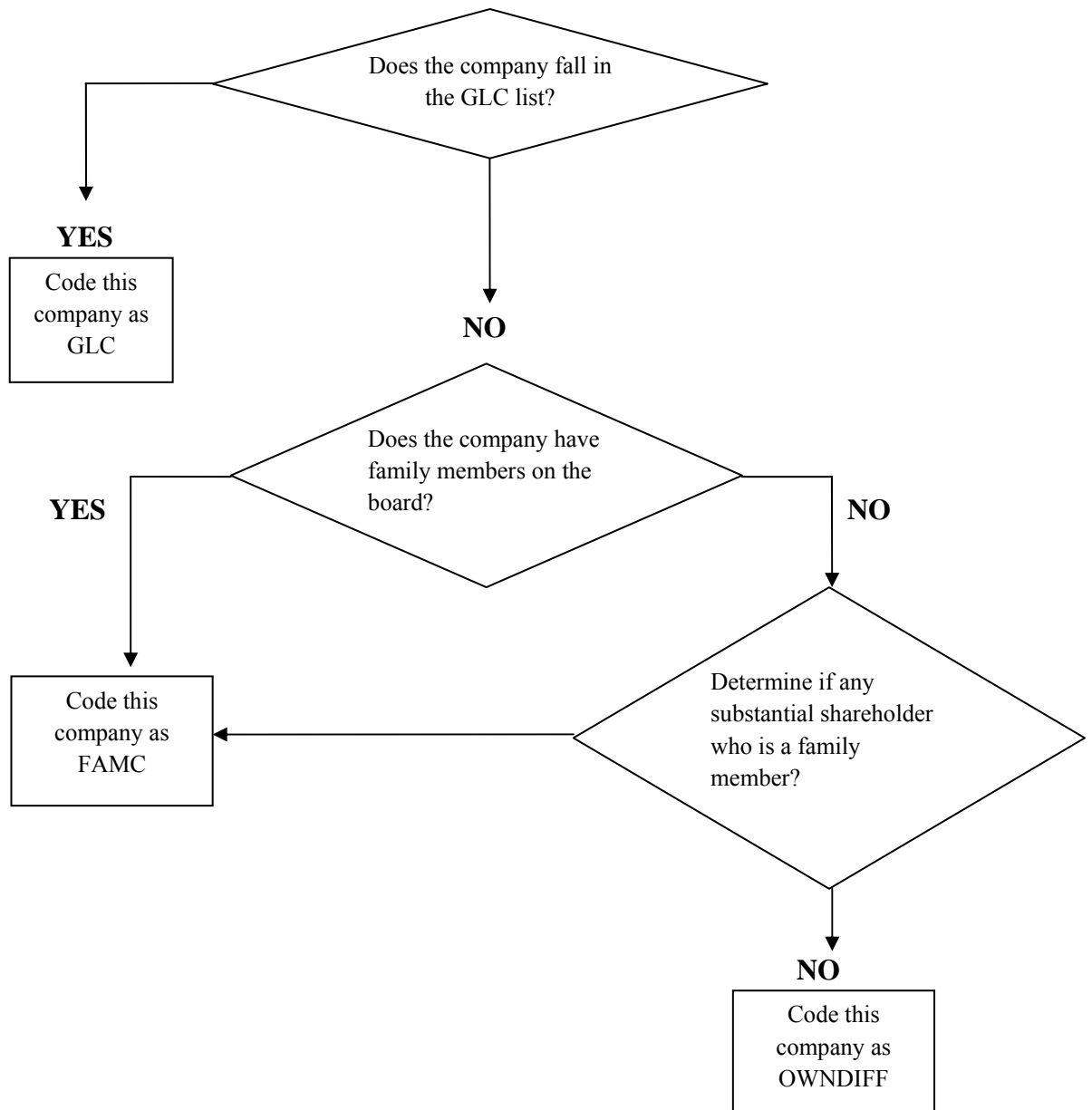
Figure 4.2

FLOW CHART FOR CLASSIFYING OWNERSHIP STRUCTURE

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[20] Malaysian companies are required by law to disclose top 30 shareholdings in the annual report.

The final ownership structure is OWNDIFF. Should the company in the sample not fall under both GLC and FAMC, will be classified as OWNDIFF. The flowchart above, Figure 4.2, further clarifies the process of classification of the three ownership structures used in this study.

4.5   DEVELOPMENT OF HYPOTHESES

Hypotheses were developed based on literature review on corporate governance and ownership structure as well as in furtherance to both agency and institutional theories in explaining the behavioural practice of corporations in providing voluntary disclosure of IC related information. Hypotheses 1 to 7 relate to corporate governance variables, while hypotheses 8 to 10 centre on ownership structure in this study.

4.5.1   CORPORATE GOVERNANCE

Corporate governance variables examined in this study covers the board size, board leadership, board diversity, board composition, audit committee size, meeting as well as finanacial expert. Each variable is discussed followed by the development of hypothesis.

4.5.1.1   BOARD SIZE (BSIZE)

The Code did not specify the maximum number of directors on the board, however, companies are required to examine its size, with a view to determining the impact of the number upon its effectiveness. There are contrasting views in respect to the size of the board on voluntary disclosure. John and Senbet (1998) advocate that having more

members on a board can help in enhancing monitoring capacities of the board. They

further state that bigger board size is offset by the incremental cost of poorer

communication as well as inefficient decision making resulting from large numbers on

board. Cheng and Courtenay (2006) conducted a study on board monitoring and the

level of voluntary disclosure on Singapore listed firms in 2000. They found that board

size is not associated with the level of voluntary disclosure. In agreement with John and

Senbet (1998) that having more members on the board, may result in more delay in the

communication process and introduce constraints to a board's effectiveness. As such it

is hypothesized that a larger board size will impede the voluntary disclosure of

information resulting from inefficiency and poorer communication, thus a larger board

size will have a negative impact on voluntary disclosure of IC.

H1: There is a negative association between board size (BSIZE) and voluntary

disclosure of Intellectual Capital Information namely: (H1a) Human Capital

Information, (H1b) Structural Capital Information, and (H1c) Customer Capital

Information.

4.5.1.2   BOARD LEADERSHIP (RDUAL)

The Code specifically mentioned in the Best Practices in Corporate Governance (Code

2007) that

> …there should be a clearly accepted division of responsibilities at the head of
> the company which will ensure a balance of power and authority, such that no
> one individual has unfettered powers of decision. When the roles are combined
> there should be a strong independent element on the board. A decision to
> combine the roles of chairman and chief executive officer should be publicly
> explained (MICG, 2007, p.10).

In accordance with the agency theory, having a unitary leadership structure could significantly impair the boards' monitoring, disciplining and compensation for senior managers (Barako *et al.,* 2006). This dominant position on the board will in turn give rise to the engagement in opportunistic behaviour. Forker (1992) found a negative relationship between disclosure quality and a CEO with duality role. Cheng and Courtenay (2006) examined the effects of the role of duality and its influence on voluntary disclosure in 104 listed Singapore corporations. Their study failed to find any association between a duality role and the level of voluntary disclosure. Similarly, Ho and Wong (2001) found no association between a duality role and voluntary disclosure. In contrast, Gul and Leung (2004), found association between duality and voluntary disclosure in Hong Kong companies and reported that CEO duality is negatively related with voluntary corporate disclosure.

A such, it is envisaged that a dominant personality holding the position as both chairman and CEO will be inclined to not disclose more information. Consistent with the view expressed by Forker (1992) that this dominant personality "impute higher opportunity losses to the disclosure of information on share option benefits". This argument may equally apply to this study, thus it is hypothesized that an independent chairman will be inclined to voluntarily disclose more IC;

> H2: There is a positive association for corporations with a Chairman who does not hold the position of CEO (RDUAL) and voluntary ICD information namely: (H2a) Human Capital information, (H2b) Structural Capital information, and (H2c) Customer Capital information.

4.5.1.3 BOARD DIVERSITY (CRSSL)

It is very common for directors on a board to be sitting on another board, in particular within Malaysian corporations. For the purpose of this study such a scenario is termed as cross leadership. Dahya *et al.,* (1993) advocates that having members of other boards can provide insights or comparisons derived from personal knowledge from other organizations. Haniffa and Cooke (2002) conducted a study in Malaysian corporations examining culture, corporate governance and voluntary disclosure. They stressed that cross-directorships may enhance transparency and as such may encourage voluntary disclosure. However, they failed to find any impact of cross directorship and voluntary disclosure. Subsequently, another study on culture and corporate governance also in Malaysian corporations was carried out by Haniffa and Cooke (2005) examining chairman with multiple directorships and the extent of voluntary disclosure. They found in this latter study that there is a significant relationship between corporate social disclosure and cross leadership. This implies that cross-directorship chairman is able to obtain greater access to information, in more than one company and thus encourage voluntary disclosure. This study proposed that cross-directorships may enhance transparency, as such may encourage voluntary disclosure. Therefore it is hypothesized that:

> H3: There is a positive association between cross leadership (CRSSL) and voluntary disclosure of Intellectual Capital information namely: (H3a) Human Capital information, (H3b) Structural Capital information, and (H3c) Customer Capital information.

4.5.1.4 BOARD COMPOSITION (INED)

Board composition in this study refers to the proportion of outside directors to the total number of directors, consistent with the definition given by Shamser and Annuar (1993). Fama and Jensen (1983) opine that companies having a higher proportion of independent, outside directors, will have greater control over managerial decisions. Furthermore, the agency theory posits that non-executive directors are needed on the boards to monitor as well as to control the actions of opportunistic executive directors (Jensen and Meckling, 1976). They thus act as the check and balance mechanism in enhancing boards' effectiveness.

Empirical studies on board composition and voluntary disclosure are limited and have yielded mixed results. Adams and Hossain (1998) and Chen and Jaggi (2000) found significant positive association between voluntary disclosure and the proportion of independent directors on the board. In contrast, a negative result was reported by Eng and Mak (2003) and Haniffa and Cooke (2002). On the other hand, Ho and Wong (2001) found no relationship. Recently, Li *et al.*, (2008) found that there was significant positive relationship between board composition and voluntary disclosure of IC. The commitment and continuous efforts to increase transparency as well as more stringent rules call upon independent directors to put their concerted effort to play their roles effectively. In line with both the agency and the institutional theories and in support of the Malaysian Government's effort in increasing the efficiency and transparency of a board, it is hypothesized that boards having more non-executive independent directors will be motivated to voluntarily disclose more IC:

H4: There is a positive association between board composition (INED) and voluntary disclosure of Intellectual Capital information namely: (H4a) Human Capital information, (H4b) Structural Capital information, and (H4c) Customer Capital information.

4.5.1.5 AUDIT COMMITTEE SIZE, MEETING AND FINANCIAL EXPERT (ACSIZE, ACMEETING, FINEXPT)

The Smith Report (2003) provides guidance applicable to all listed companies in the UK. The guidance requires that all members of the audit committee should comprise a minimum of three independent non-executive directors. Malaysia, on the other hand, as stated in its Code (2000) requires that an audit committee comprises at least three directors with a majority of them being independent and the Chairman being an independent non-executive director. The glaring distinction is the stringent requirement in the UK whereby all members must be independent non-executive, but, in Malaysia, a majority must be independent. This however was done away when the Code was revised in 2007, stipulating that executive directors are no longer allowed to be members of the audit committee. With that in mind, it would be interesting to find out whether the existence of an audit committee and its size will have any impact on voluntary disclosure. Ho and Wong (2001) are of the view that an effective audit committee should improve internal control as well as acting as a means of overcoming agency costs. They found that the presence of an audit committee results in an enhanced and increased disclosure. Based on this argument, it is hypothesized that a bigger audit committee size, more frequent audit committee meetings and having more financial expertise in the audit committee, will encourage more voluntary disclosure of IC.

H5: There is a positive association between size of audit committee (ACSize) and voluntary disclosure of IC information, namely: (H5a) Human Capital information, (H5b) Structural Capital information, and (H5c) Customer Capital information.

H6: There is a positive association between frequency of audit committee meeting (ACMeeting) and voluntary disclosure of IC information, namely: (H6a) Human Capital information, (H6b) Structural Capital information, and (H6c) Customer Capital information.

H7: There is a positive association between financial experts in an audit committee (FINEXPT) and voluntary disclosure of IC information, namely: (H7a) Human Capital information, (H7b) Structural Capital information, and (H7c) Customer Capital information.

4.5.2 OWNERSHIP STRUCTURE

Ownership structure investigated in this study is categorised as family owned companies (FAMC), government-linked companies (GLC) and diffused ownership (OWNDIFF). The development of hypotheses is derived from the perspective of the agency and institutional theories.

4.5.2.1 FAMILY OWNED COMPANIES (FAMC)

Singapore and Malaysia share the same characteristics of having companies with a high proportion of family members on the board. With substantial ownership, they are able to nominate family members to sit on the board so as to protect their interests (Ghazali and Weetman, 2006). They advocate that closely held and controlled companies are less

likely to provide additional information in annual reports. Gray's (1988) 'secrecy-hypothesis' that preference for secrecy is likely to decrease in increased ownership. Chau and Gray (2002) advocate that in comparison to companies with diffused ownership, these family-controlled firms are not much motivated to disclose more information than mandated. Family owned companies with concentrated ownership, are unlikely to disclose more voluntary information. Accordingly, the hypothesis is:

H8: There is a negative association between family owned company (FAMC) and the extent of voluntary disclosure of Intellectual Capital information namely: (H8a) Human Capital information, (H8b) Structural Capital information, and (H8c) Customer Capital information.

4.5.2.2 GOVERNMENT-LINKED COMPANIES (GLC)

As argued by Firer and Williams (2003), Government ownership has a significant influence on corporate disclosure of IC related information. They advocate that since directors in GLCs are also senior government officials, they may exert influence on the disclosure policies so as to potentially reflect issues of concern to the Government. Eng and Mak (2003) found a positive relationship between Government ownership and disclosure. They advocate that government ownership increases moral hazard and agency problems and disclosure is a means of mitigating these problems. From the IC perspective, Firer and Williams (2003) shared the same view. GLCs as such, are perceived to disclose more voluntarily information in support of the Government's policies and initiatives from the perspective of the institutional theory.

H9: There is a **positive** association between GLC and the extent of voluntary disclosure of IC information namely: (H9a) Human Capital information, (H9b) Structural Capital information, and (H9c) Customer Capital information.

4.5.2.3 DIFFUSED OWNERSHIP (OWNDIFF)

Agency cost increases with the separation of the principals from the decision-making function in a firm. It is thus posited that greater ownership diffusion firms will disclose more information to reduce agency costs and information asymmetry (Fama and Jensen, 1983). As such, a widely held company may provide additional information so as to signal that the managers are acting in the best interests of the principals. The study in Malaysian companies on the level of voluntary information by Hossain *et al.,* (1994) found that there is negative relationship between a diffused ownership structure and the level of information voluntarily disclosed. This is in contrast with Haniffa and Cooke (2002) who found a positive relationship. Given the lack of evidence regarding ICD, this study assesses the impact of ownership diffusion through the following hypothesis:

H10: There is a **positive** association between diffused ownership (OWNDIFF) and the extent of voluntary disclosure of Intellectual Capital information namely: (H10a) Human Capital information, (H10b) Structural Capital information, and (H10c) Customer Capital information.

4.6   CONTROL VARIABLES

Content analysis research carried out in corporate social, ethical and environmental reporting commonly assessed the impact of size and industry (Gray *et al.,* 1995a;

Mathews, 1997). From the perspective of a linear regression analysis, control variables such as size of the firm, leverage, financial performance, and industry are generally incorporated (Firer and Williams, 2003). Besides the above, other control variables used include, assets-in-place (Hossain *et al.,* 1995), and multinationality (Riahi-Belakaoui, 2003).

Table 4.1

CONTROL VARIABLES

Control variables	Proxy	Author/s
Size	Sales	Li *et al.,* (2008)
	Natural log of total market capitalization	Firer and Williams (2003)
	log (base 10) of total assets	Ho and Wong (2001)
	Total assets	Riahi-Belakaoui (2003)
Leverage (aka debt structure, financial leverage)	Total debt divided by book value of total assets	Firer and Williams (2003)
	The ratio of total debt to the equity value of the firm	Ho and Wong (2001)
	Total debt over total assets	Riahi-Belakaoui (2003)
Financial Performance	Returns on assets (ROA)	Li *et al.,* (2008)
	Returns on equity (ROE)	Firer and Williams (2003)
	Returns on capital employed (ROCE)	Ho and Wong (2001)

Table 4.1 above summarises the commonly used control variables together with proxies used in studies using content analysis. For the purpose of this study, the control variables included are; size, profitability, leverage and top auditor. Size is measured by log of annual sales, profitability proxy by returns on equity (ROE), leverage was derived by measuring debt over shareholders equity and lastly top auditor refers to companies audited by top 4 auditors which are PricewaterhouseCooper, Deloitte Touche

Tohmatsu, Ernst &Young and KPMG. Each control variable used in this study is further elaborated below.

4.6.1 SIZE

Company size has remained a very popular feature in determining levels of disclosure. The reasons being large firms have more resources and are thus more visible and they are more likely to meet investors' demands for information. Thus, large firms have the tendency to disclose more voluntary information, consistent with the institutional theory. Petty and Cuganesan (2005, p. 42) found that size has significant influence on voluntary disclosure of IC and the institutional theory 'has the potential to explain voluntary ICD'. This is further supported by a recent study by Striukova *et al.,* (2008) where larger companies (FTSE 100) provide more ICD information in comparison with smaller companies (FTSE Small Cap Group). A meta analysis of 29 studies by Ahmed and Courtis (1999) found a significant and positive relationship between disclosure levels and corporate size. Chavent, Ding, Fu, Stolowy, and Wang (2006) view that the positive relationship between information disclosure and firm's size are first and foremost to reduce their political costs. This is due to the higher visibility which can easily lead to more litigation and governmental intervention (Watts and Zimmerman, 1978). Further, Chavent *et al.,* (2006) had stated that due to improved internal reporting systems, larger companies with higher disclosure are associated with lower unit costs. The most common proxy for corporate size is total assets (Bozzolan *et al.,* 2003; Hossain *et al.,* 1999; Raffourmier, 1995) and sales (Hashim, 2009; Li *et al.,* 2008; Chavent *et al.,* 2006; Bozzolan *et al.,* 2003). It is evident that some studies used more than one measure for proxies in measuring corporate size. Bozzolan *et al*., (2003) for instance used market capitalization, sales and total assets. Market capitalization suffers

from volatility of market price, while total assets may not be comparable among companies. As such, sales is used as the proxy for corporate size, consistent with Hashim (2009), Chavent *et al.,* (2006), and Bozzolan *et al*., (2003).

4.6.2   PROFITABILITY (ROE)

Profitable companies are more inclined to disclose corporate information so as to signal to investors their good performance (Raffournier, 1995). Returns on equity (ROE), returns on assets (ROA) (see Li *et al.,* 2008) are some of the proxies commonly used in measuring profitability. Consistent with Cerbioni and Parbonetti (2007), Gul and Leung (2004), Raffournier (1995) Garcia-Meca and Martinez (2007), this study used ROE as a measure for profitability. A profitable company has more resources financially, they are more inclined to disclose more and as such, a positive relationship is expected.

4.6.3   LEVERAGE (LEV)

Leverage is the ratio of total debts to its shareholder equity. Companies with a high leverage signify having higher borrowings, as such they are subjected to higher agency costs due to the higher costs incurred to debt-holders. In an attempt to reduce these costs, companies with a high leverage will be motivated to disclose more information in the annual reports (Ahmed and Courtis, 1999) so as to reduce agency costs. Consistent with Cerbioni and Parbonetti (2007), this study computed leverage as total debts divided by shareholder's equity.

4.6.4 TOP 4 AUDITORS (TOPAUD)

It is acknowledged that auditing adds to the credibility of disclosures in the financial reporting and a mechanism for reducing agency costs (Jensen and Meckling, 1976). Big 4 auditors (TOPAUD) have the reputation of providing quality audit as compared to small audit firms. These TOPAUDs may influence the amount of information disclosed, thus companies audited by TOPAUDs will have the tendency to disclose more voluntary information. Table 4.2 summarize the theoretical framework, operationalization of independent variables as well as the control variables in this study.

Table 4.2
Theoretical framework, independent variables and operationalization

Theoretical framework	Explanatory Variables	Operationalization
Agency & Institutional theory	A. Corporate governance	
	1. Board size (BSIZE)	1. Total number of directors on the board.
	2.Board leadership (RDUAL)	2. Dummy variable, 1 if the CEO is also chairman of BOD, 0 otherwise.
	3.Cross leadership (CRSSL)	3. Ratio of directors on the board with directorships in other companies to the total number of directors.
	4. Board composition (INED)	4. Proportion of outside directors (independent) to the total number of directors.
	5. ACSize	5. Total number of audit committee members.
	6. AC MEETING	6. Number of audit committee meetings held.
	7.FINEXPT	7. Number of financial experts in the audit committee

Agency & Institutional theory	B. Ownership Structure	
	1. Family owned companies (FAMC)	1. Dummy variable, if FAMC, coded as 1, otherwise zero.
	2.Government-linked companies (GLC)	2.Dummy variable, if GLC, coded as 1, otherwise zero.
	3.Diffused ownership (OWNDIFF)	3. Dummy variable, if OWNDIFF, coded as 1, otherwise zero.

Agency & Institutional theory	Control variables	
	1. Size	1. Natural log of sales as the proxy for size.
	2. ROE	2.ROE=Net profit/Total Shareholders' Equity.
	3. LEV	3.Total debts divided by shareholders' equity.
	4. TOPAUD	4. Dichotomous scale, 1, if audited by top 4 audit firms, 0, otherwise.

4.7 REGRESSION MODEL

A linear multiple regression was used in this study to test the impact of the dependent variable, ICD, on the independent variable of ownership structure. Besides that, as mentioned above, four control variables; size, profitability, leverage and type of auditor, were also included in the model to test the proposed hypothesis. The overall regression model, Model 1 is,

Model 1

$ICDScore_i = \beta_0 + \beta_1 BSIZE + \beta_2 RDUAL + \beta_3 CRSSL + \beta_4 INED + \beta_5 ACSIZE + \beta_6 ACMEETING + \beta_7 FINEXPT + \beta_8 FAMC_i + \beta_9 GLC_i + \beta_{10} OWNDIFF_i + \beta_{11} INSALES + \beta_{12} ROE + \beta_{13} LEV + \beta_{14} TOPAUD + \alpha_i$

BSIZE	=	Total number of directors on the board
RDUAL	=	Dummy variable, 1 if the CEO is also chairman of BOD, otherwise zero
CRSSL	=	Ratio of directors on the board with directorships in other companies to the total number of directors
INED	=	Proportion of independent non-executive directors on board
ACSIZE	=	Total number of audit committee members
ACMEETING	=	Number of audit committee meetings held
FINEXPT	=	Number of financial experts in the audit committee member
$FAMC_i$	=	Dummy variable, if family-owned, coded as 1, otherwise zero
GLC_i	=	Dummy variable, if GLC, coded as 1, otherwise zero
$OWNDIFF_i$	=	Dummy variable, if widely-held coded as 1, otherwise zero
$Size_i$	=	Natural log of annual sales
ROE_i	=	Ratio of operating net income to total shareholders' equity
LEV_i	=	Total debts divided by shareholders' equity
TOPAUD	=	Dummy variable, 1 if audited by top four auditor, otherwise zero
β_1+o β_{14}	=	coefficient of variables 1 through 14
αi	=	residual term

The individual components of IC, HC, SC and CC were further regressed against the independent variables. The objective was to find out whether the independent variables are influenced by the individual components of IC, being HC, SC and CC respectively. This is similar to a study conducted on Value Added Intellectual Capital (VAIC) by Chen, Cheng and Hwang (2005) , where both the aggregate IC and the individual

component was tested in order to find out if each component of IC may have different predictor power. Thus, Models 2, 3 and 4 were conceived and reflected below:

Model 2

$$\text{HCScore}i = \beta_0 + \beta_1\text{BSIZE} + \beta_2\text{RDUAL} + \beta_3\text{CRSSL} + \beta_4\text{INED} + \beta_5\text{ACSIZE} + \beta_6\text{ACMEETING} + \beta_7\text{FINEXPT} + \beta_8\text{FAMC}_i + \beta_9\text{GLC}_i + \beta_{10}\text{OWNDIFF}_i + \beta_{11}\text{INSALES} + \beta_{12}\text{ROE} + \beta_{13}\text{LEV} + \beta_{14}\text{TOPAUD} + \alpha i$$

Model 3

$$\text{SCScore}i = \beta_0 + \beta_1\text{BSIZE} + \beta_2\text{RDUAL} + \beta_3\text{CRSSL} + \beta_4\text{INED} + \beta_5\text{ACSIZE} + \beta_6\text{ACMEETING} + \beta_7\text{FINEXPT} + \beta_8\text{FAMC}_i + \beta_9\text{GLC}_i + \beta_{10}\text{OWNDIFF}_i + \beta_{11}\text{INSALES} + \beta_{12}\text{ROE} + \beta_{13}\text{LEV} + \beta_{14}\text{TOPAUD} + \alpha i$$

Model 4

$$\text{CCScore}i = \beta_0 + \beta_1\text{BSIZE} + \beta_2\text{RDUAL} + \beta_3\text{CRSSL} + \beta_4\text{INED} + \beta_5\text{ACSIZE} + \beta_6\text{ACMEETING} + \beta_7\text{FINEXPT} + \beta_8\text{FAMC}_i + \beta_9\text{GLC}_i + \beta_{10}\text{OWNDIFF}_i + \beta_{11}\text{INSALES} + \beta_{12}\text{ROE} + \beta_{13}\text{LEV} + \beta_{14}\text{TOPAUD} + \alpha i$$

Table 4.3

OVERALL RESEARCH FRAMEWORK

Research Objectives	Research Questions (RQ)	Hypothesis	Theory	Statistical Tool
RO1. To examine the nature and extent of IC related information that is disclosed in the annual reports of companies listed in Bursa Malaysia.	RQ1	None	Agency and institutional theory	Descriptive
RO 2. To examine the relationship between corporate governance attributes and voluntary disclosure of IC.	RQ 2	H1, H1a, H1b, H1c H2, H2a, H2b, H2c H3, H3a, H3b, H3c H4, H4a, H4b, H4c H5, H5a, H5b, H5c H6, H6a, H6b, H6c H7, H7a, H7b, H7c	Agency and institutional theory	Multiple regression analysis
RO 3. To examine the relationship between ownership structure and voluntary disclosure of IC.	RQ3	H8, H8a. H8b, H8c H9, H9a, H9b, H9c, H10, H10a, H10b, H10c	Agency and institutional theory	Multiple regression analysis

4.8   DATA ANALYSIS AND STATISTICAL TOOLS

This study used the SPSS 16 statistical software in analyzing and testing the hypotheses developed in the investigation. Both descriptive and inferential statistical analyses were employed in analyzing the data for this study.

4.8.1   FEEL FOR THE DATA AND TESTING GOODNESS OF DATA

Sekaran (2003) emphasized the importance of getting a feel for the data as the first step in all data analysis. He proposed getting a feel of the data by checking the central tendency and the dispersion for every single item that measures the dependent and independent variables. It was also suggested that for nominal variables, a frequency distribution should be obtained. Other than frequency distributions, the means and standard deviations, a correlation of the dependent and independent variables need to be carried out, as this will enrich the results in finding its correlation to each other. In sum, a feel of the data which involves obtaining frequency distribution, mean, standard deviation, range and variance on the dependent and independent variables and inter correlation matrix of the variables are necessary in generating a feel for the data.

4.8.2   DESCRIPTIVE STATISTICS

Descriptive statistics is statistics that describes the phenomena of interest (Sekaran, 2003). It refers to basic data analysis which provides insights as well as the interpretation of the results. Descriptive analysis is the transformation of raw data into a form such as frequency table for ease of interpretations as well as understanding. Most commonly, data is summarized by way of averages, frequency distributions and central

tendencies. Measures of central tendencies are the mean, median, mode, range, standard deviation and variance. In this study descriptive statistics is used to explain what information on IC as well the extent of IC related information is disclosed.

4.8.3 INFERENTIAL STATISTICS

Descriptive statistics are basic data analysis, in order to be able to find the relationship between two variables, differences in a variable among different subgroups or how several independent variables might explain the variance in a dependent variable. Inferential statistics used in this study include correlations and multiple regression techniques.

4.8.4 IDENTIFICATION OF MULTICOLLINEARITY

Ramanathan (2002) is of the view that multicollinearity is essentially a sample phenomenon arising out of the largely non-experimental data collected in most social sciences. He further stressed that there is no one single unique method of detecting it or measuring it, however, some rules of thumb need to be adhered to. One of them which are applied in this study is by performing the correlation matrix to test whether the pair-wise correlation coefficient between the independent variables is high. The rule of thumb is, if the pair-wise correlation coefficient between two independent variables is high, in excess of 0.8, then serious multicollinearity exist. In contrast, a high correlation between the dependent and independent variable is highly desirable.

In this study, the sample is cross-sectional, the independent variables data may give rise to a multicollinearity problem. As such, correlation matrix was performed to examine whether such a problem existed in this study.

4.8.5 MULTIPLE REGRESSION TECHNIQUE

With regard to examining the relationship between corporate governance variables and ownership structures on ICD, the multiple regression technique was used to test the hypotheses. Multiple regression analysis is a statistical technique used to analyze the relationship between a single dependent variable and several independent variables. As advocated by Hair, Black, Babin, Anderson and Tatham (2006, p. 169) "multiple regression is by far the more widely used and versatile dependence technique[21], applicable in every facet of business decision making". The multiple regression model in this study as stated in Section 4.7 is reproduced here;

$$ICDScore_i = \beta_0 + \beta_1 BSIZE + \beta_2 RDUAL + \beta_3 CRSSL + \beta_4 INED + \beta_5 ACSIZE$$
$$+\beta_6 ACMEETING + \beta_7 FINEXPT + \beta_8 FAMC_i + \beta_9 GLC_i + \beta_{10} OWNDIFF_i +$$
$$\beta_{11} INSALES + \beta_{12} ROE + \beta_{13} LEV + \beta_{14} TOPAUD + \alpha_i$$

Regression analysis is used when independent variables are correlated with one another and with the dependent variable. The independent variables can either be continuous or categorical but the independent variable must be continuous (Coakes, 2005). In this study corporate governance variables (BSIZE, CRSSL, MEETING, ACSIZE, FINEXPT) are all continuous, while ownership structure variables (FAMC, GLC,

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[21] Dependence technique whereby variables are clearly divided into dependent and independent variables (Hair *et al.,* 2006)

OWNDIFF) and RDUAL are categorical, as such it is coded as dummy variables. Multiple regression was used to find out the strength of both corporate governance and ownership structure variables in explaining voluntary disclosure of IC. Hair *et al.,* (2006) recommended that when stepwise procedure is employed, the ratio of observations to independent variable is 50:1. They advocate that stepwise procedure selects only the strongest relationships within the data set. This study employed the enter method procedure in running the regression analysis, as this study is aimed at finding out the relationship between all corporate governance attributes and the dependent variable, ICD.

4.8.5.1 ASSUMPTIONS IN RUNNING MULTIPLE REGRESSION ANALYSIS

The assumptions of multiple regression analysis that must be met in order to have valid interpretation of results are the ratio of observation to independent variables, outliers, multicollinearity, normality, linearity and homoscedasticity. The following section discusses each assumption accordingly.

4.8.5.1.1 RATIO OF OBSERVATIONS TO INDEPENDENT VARIABLES

Coakes (2005) suggested a minimum requirement of at least five times more observation of predictors than independent variables. Hair *et al.,* (2006) opine that even though the minimum is a ratio of 5:1, the desired level is between 15 to 20 observations for each independent variable. In this study, there are ten predictors, as such the minimum desired observations are 150, based on the desired level of 15. As such, in this study, the sample size of 162 is sufficient in analyzing the results under the multiple regression method.

4.8.5.1.2 OUTLIERS

Coakes (2005) opines that extreme cases have a considerable impact on the regression model and suggest that it should be deleted in order to reduce such an impact. In detecting outliers in this study, the statistical method, Mahalanobis distance was calculated. The result showed that the critical value of chi-square for ten independent variables, at an alpha level of 0.001 is 29.588. The Mahalanobis distance calculated in this study has maximum of 27.16358, as such the sample in this study has no outliers and thus satisfies the multiple regression assumptions on outliers.

4.8.5.1.3 MULTICOLLINEARITY

Multicollinearity refers to the degree where any variable's effect can be predicted or accounted for by the other variables in the analysis (Hair *et al.*, 2006). 'The problem of multicollinearity arises when explanatory have approximate linear relationship' (Ramanathan, 2002). The Pearson correlation matrix was calculated in order to find out whether there is a high correlation among independent variables.

4.8.5.1.4 NORMALITY, LINEARITY AND HOMOGENEITY OF VARIANCE

This can be tested by examination of residual scatterplots. One of the most common assumptions of violation in a multiple regression analysis is the presence of unequal variances, or heteroscedasticity. This was tested by examination of residual scatterplots as suggested by Coakes (2005).

4.9 CONCLUSION

This chapter elaborates on the research model this study, as well as explain the theoretical framework employed in this study. The measurement of variables was also discussed followed by the development of hypotheses proposed in this study. The following chapter elaborates on the method employed in this study.

CHAPTER 5

METHODOLOGY

5.1   INTRODUCTION

This chapter begins by introducing different types of research paradigm in Section 5.2. Section 5.3 discusses the research paradigm employed in this study. Data collection method covering the reliability, validity issues, scoring method and disclosure checklist is explained under Section 5.4. Section 5.5 provides explanation on the unit of analysis as well as the measurement, while Section 5.6 discusses sample selection in this study. Summary of this chapter is given in Section 5.7.

5.2   RESEARCH PARADIGM

A research paradigm refers to beliefs regarding the way in which data about a phenomenon should be gathered, analysed and used. The following section distinguishes between mainstream accounting research, interpretive and critical research that are used for the analysis of a wide range of studies. Accounting research has been predominantly influenced by mainstream accounting research. Tompkins and Groves (1983) observed that:

> The academic accounting fraternity seems to be locked into a myopic view of what research is. It often seems to consider alternative quantitative techniques as the equivalent of the available range of research styles (p.361).

Baker and Bettner (1997) pointed out that the type of research prevalent in mainstream accounting journals, which is characterized by a positivist methodological perspective and an emphasis on quantitative methods, is incapable of addressing accounting's complex social ramifications. Further, they stressed that interpretive and critical research is virtually absent from mainstream academic accounting journals published in the United States (Baker and Bettner, 1997). Up to date, majority of accounting research continues to follow the positivist paradigm. Roslender and Fincham (2001) suggest accounting researchers adopt a critical perspective in their study.

5.2.1 DISTINCTIONS BETWEEN MAINSTREAM, INTERPRETIVE AND CRITICAL RESEARCH

Burrell and Morgan (1979) classified accounting literature according to two main sets of assumptions; social science and society. Social science assumptions include assumptions about the ontology of the social world (realism v. nominalism), epistemology (positivism v. anti-positivism), human nature (determinism v. voluntarism) and methodology (nomothetic v. ideographic). The assumption about society characterizes it as either orderly or subject to fundamental conflict. Burrell and Morgan (1979) came out with the classification schema for understanding broad streams of social science approaches to empirical research. Burrell and Morgan (1979) created a two-way matrix based on two bipolar continuums. One continuum posits alternative approaches to social science, ranging from "subjective" (interpretive) to "objectivist" (positivist). The other contains different assumptions about the nature of society, ranging from the "sociology of regulation" to the "sociology of radical change".

Four paradigms were yielded from these two sets of assumptions; functionalism, interpretive, radical humanist, and radical structuralist. Accounting perspectives are differentiated with reference to underlying assumptions about knowledge, the empirical phenomena under study, and the relationship between theory and the practical world of human affairs.

Chua (1986) distinguished the main stream, interpretive and critical research in accounting as:

> Mainstream accounting research is grounded in a common set of philosophical assumptions about knowledge, the empirical world, and the relationship between theory and practice. This particular world-view, with its emphasis on hypothetico-deductivism and technical control, possesses certain strengths but has restricted the range of problems studied and the use of research methods. By changing this set of assumptions, fundamentally different and potentially rich research insights are obtained. Two alternative worldviews and their underlying assumptions may be elucidated- the interpretive and the critical (p. 601).

The next section discusses the three different types of research; starting with the mainstream accounting research or functionalist, followed by the interpretive and lastly the radicals.

5.2.2   MAINSTREAM ACCOUNTING THOUGHT OF FUNCTIONALIST

Mainstream accounting thought is grounded in a common set of philosophical assumptions about knowledge, the empirical world, and the relationship between theory and practice. It is dominated by a belief in physical realism that there is a world of objective reality that exists independently of human beings and that which has a determinate nature or essence that is knowable.

This functionalist views accounting phenomena as concrete real world relations, possessing regularities and causal relationships that are amenable to scientific explanation and prediction. The focus is on establishing the functions of accounting needed for an efficient operation of organizations. Theories are developed based on the current event rather than historically related. Accounting researchers believe in the empirical testability of scientific theory. Baker and Bettner (1997) classified a research paper as mainstream research when 'an established statistical method is used to test an hypothesised relationship between variables measured in quantitative terms' coupled with high level of theory in its choice of methods.

5.2.3   THE INTERPRETIVE

The interpretive focuses on the ability of information to construct reality, and also the role of accounting as a linguistic tool. Social science is considered as a special class of meaningful behavior. It is future oriented and directed towards the achievement of a deterministic goal. The interpretive researchers interpret their own actions and also others who interact with them. They believe in having some logical explanation. Their aims are to enhance society's understanding of the meanings of their actions, and increase the possibility of mutual communication and influence. Chua (1986) view that all actions have meaning and intention that they are retrospectively endowed and that are grounded in social and historical practices.

5.2.4   THE RADICALS

There are two groups of radical thinkers; the radical humanist and the radical structuralist. The radical humanist's view in accounting focuses on explaining the social

order from a nominalist, voluntarist and ideographic perspective. They put emphasis on forms of radical change, and regard highly research that reduces philosophical critique to some normative methodology. This group form a critical theory in two forms of analysis; a taxonomic analysis of ontological, epistemological, and methodological concerns underlying the organization structure, and a critique of dynamic interplay between organization research, theory and practice.

Their critiques include three areas of discussions; the discussion of the limitations of alternative modes of enquiry, and analysis of the relationship between the community of organization researchers and organization practitioners and members. Lastly, to criticise on the acknowledgement of the practical aim of any particular mode of researches. They assume that theories, bodies of knowledge and facts are only reflections of a realistic worldview.

The radical structuralist on the other hand, challenges the social order from a realist, positivist, deterministic and nomothetic standpoint. They seek radical change, emancipation, and potentionality using an analysis emphasizing structural conflict, modes of domination, contradiction, and deprivation. Accounting theories are generated based on metaphors such as the instrument of domination, schismatic systems and catastrophe. To this group, an organization is an instrument of social forces concerned to maintain the division of labour and the distribution of wealth and power in society. The radical humanist and radical structuralist are considered as critical accounting research. The critical perspectives emerged from the drawbacks of the interpretive perspectives such as the lack of an evaluative dimension, where former researchers are unable to evaluate critically the research that is being undertaken. The assumptions from these three different perspectives are summarised in Table 5.1 below.

Table 5.1

DOMINANT ASSUMPTIONS OF THE MAINSTREAM, INTERPRETIVE AND CRITICAL PERSPECTIVES

Mainstream Perspective	Interpretive Perspective	Critical Perspective
A. Beliefs About knowledge		
Theory is separate from observation that may be used to verify or falsify a theory. Hypothetico-deductive account of scientific explanation accepted.	Scientific explanation of human intention sought. Their adequacy is accessed via the criteria of logical consistency, subjective interpretation, and agreement with actors' common-sense interpretation.	Criteria for judging theories are temporal and context-bound. Historical, ethnographic research and case studies more commonly used.
Quantitative methods of data analysis and collection which allow generalization favored.	Ethnographic work, case studies, and participant observation encouraged. Actors studied in their everyday world.	
B. Beliefs About Physical and Social Reality		
Empirical reality is objective and external to the subject. Human beings are also characterized as passive objects; not seen as makers of social reality.	Social reality is emergent, subjectively created, and objectified through human interaction. All actions have meaning and intention that are retrospectively endowed and that are grounded in social and historical practices. Social order assumed. Conflict mediated through common schemes of social meanings.	Human beings have inner potentialities which are alienated (prevented from full emergence) through restrictive mechanisms. Objects can only be understood through a study of their historical development and change within the totality of relations.
Single goal of utility-maximisation assumed for individuals and firms. Means-end and rationally assumed.		
Societies and organizations are essentially stable "dysfunctional"		Empirical reality is characterized by objective, and agency is accepted, but this is critically analysed given a belief in false consciousness and ideology.
Conflict may be managed through the design of appropriate accounting control.		Fundamental conflict is endemic to society. Conflict arises because of injustice and ideology in the social, economic, and political domains which obscure the creative dimension in people.

C. Relationship Between Theory and Practice		
Accounting specifies means, not ends. Acceptance of extant institutional structure.	Theory seeks only to explain action to understand how social order is produced and reproduced.	Theory has a critical imperative: the identification and removal of domination and ideological practices.

Source: Chua (1986)

5.3   RESEARCH PARADIGM EMPLOYED IN THIS STUDY

Laughlin (1995) clustered the five assumptions on accounting literature advocated by Burrell and Morgan (1979) into three broad choices. These three broad choices are as summarised in Table 5.2 below.

Table 5.2

ASSUMPTIONS CLUSTERED

Burrell and Morgan's (1979) 5 classification schema	Laughlin's (1995) 3 broad choices	Laughlin's (1995) Scale of choices
1.Ontology 2.Epistemology	1.Theory	1.High 2.Medium 3.Low
3.Human nature 4.Methodology	2.Methodology	1.High 2.Medium 3.Low
5.Society	3.Change	1.High 2.Medium 3.Low

In this study, content analysis is used in its data collection. Hypotheses are developed based on the agency and institutional theories in explaining the phenomena on the behaviour of corporations in disclosing voluntary IC related information. Statistical

analysis employing SPSS 16 is used as the quantitative method of data analysis, thus allowing generalization of findings based on the sample of 162 annual reports of corporations listed in Bursa Malaysia.

Based on Laughlin's (1995) 3 broad choices and scale, this study falls under high level of theory characteristics whereby the agency and institutional theories were used to test the hypotheses developed. With regard to methodology, a structured and quantitative method using cross-sectional data was employed and inferential statistics were computed and analysed. With regard to change, there is low emphasis on changing the status quo despite the fact that the researcher 'value the need for change but have not either the conviction or possibility to engender the change that is required' (Laughlin, 1995, p. 68). In reference to Baker and Bettner (1997), when 'an established statistical method is used to test a hypothesized relationship between variables measured in quantitative terms' coupled with high level of theory in its choice of methods, such research falls under the positivist paradigm. Based on the discussion above, the content analysis method employed is consistent with the precepts of positivism.

5.4   DATA COLLECTION METHOD

Various approaches are being used by researchers in their quest for managing and reporting IC. On the context of reporting IC information, press conferences and analysts' reports were some of the medium used to disseminate, in particular, non-mandatory information. In this study, the annual report of companies is employed for content analysis as it is publicly available and is the most popularly used (Brennan, 2001, April *et al.,* 2003, Bontis, 2003, Bozzolan *et al*., 2003, Goh and Lim, 2004;

Abdolmohammadi, 2005; Abeysekera and Guthrie, 2005; Vergauwen *et al.,* 2007; Li *et al.,* 2008).

Annual reports are a highly useful source of data as managers commonly signal what is important through the reporting mechanism (Guthrie and Petty, 2000). They view the annual report as a communication tool that allows a corporation to connect to various external and internal stakeholders. Abeysekera and Guthrie (2005) advocated that annual reports are a good proxy in measuring the comparative position and trends of IC between firms, industries and countries.

Content analysis is the most popular method among researchers in understanding ICD (Guthrie *et al*., 2004), this is further supported by Kripendorff (2004, p.xviii) who states that it "is potentially one of the most important research techniques in the social sciences". Krippendorff defines content analysis as a research technique for making replicable and valid inferences from texts to the contexts of their use.

Gray *et al.,* (1995b) stressed that content analysis is empirically valid despite it being less popular in the more conventional areas of accounting research. On a more encouraging note, this methodology is one of the widely used research methods in examining IC reporting (Guthrie *et al.,* 2004). Besides, this methodology is also used in both social and environmental reporting as well as corporate social reporting (CSR) (Gray *et al*., 1995b; Guthrie *et al.,* 2004, Haniffa and Cooke, 2005; Lim, Talha, Mohamed and Sallehuddin, 2008).

Studies on IC reporting using content analysis have been conducted in various countries such as Australia (Guthrie and Petty, 2000; Guthrie *et al.,* 1999), Canada (Bontis, 2003),

Hong Kong (Petty and Cuganesan, 2005), Ireland (Brennan, 2001), Italy (Bozzolan *et al.*, 2003), South Africa (April *et al.,* 2003), Sri Lanka (Abeysekera and Guthrie, 2005), Malaysia (Foong *et al.,* 2009; Goh and Lim, 2004; Gan and Rajasegaran, 2004), New Zealand (Miller and Whitting, 2003) and Italy, Ireland and United Kingdom (Bozzolan *et al.,* 2004). Striukova *et al.,* (2008) noted in their analysis of 23 empirical studies that the majority used annual reports in analyzing ICD.

5.4.1   RELIABILITY IN CONTENT ANALYSIS

As advocated by Kripendorff (2004), there are three types of reliability in content analysis, namely; stability, reproducibility and accuracy. Stability refers to measuring or coding procedure which will yield the same results on repeated trials. He stressed that stability is the weakest form of reliability. Reproducibility on the other hand refers to two or more observers, working independent of each other following same recording procedures on the same data set. Accuracy, the strongest form of reliability, refers to the degree to which "a process conforms to its specifications and yields what it is designed to yield (Kripendorff (2004, p. 215)".

Guthrie *et al*., (2004) and Milne and Adler (1999) advocated that in order for replicable and valid inferences to be drawn from content analysis, researchers need to demonstrate the reliability of the instruments and/or the reliability of the data collected. Milne and Adler raised two concerns, firstly, in attesting the coded data or data set produced from the analysis is in fact reliable and secondly, the reliability of the coding instruments. They further suggested that the reliability of data coded can be achieved by using multiple coders or alternatively using a single coder who has undergone a sufficient period of training. In situation for a single coder, coding should be tested out on a pilot

sample until it has reached an acceptable level before embarking on coding the main data (Milne and Adler, 1999). With regard to the reliability of the coding instrument, they suggested multiple coders or by "using well-specified decision categories, with well-specified decision rules, so as to produce few discrepancies when used by relatively inexperienced coders (p.239)".

In this study, in ensuring reliability of coding instrument, the decision categories together with well-specified rules as suggested by Milne and Adler were adhered to with each item employed in the score being clearly explained and consulted with the researchers on IC as well as practitioners in arriving at the final checklist, consistent with Bozzolan *et al.,* (2003).

5.4.2 VALIDITY IN CONTENT ANALYSIS

Validity in content analysis refers how truthful the data is, in contrast to reliability which centres on the consistency of the result derived from the same phenomena. In other words, reliability provides assurance that the research can be duplicated, while validity provides assurance of the claims based on facts (Kripendorff, 2004). He further stressed that reliability is necessary but insufficient in meeting validity criteria. In response, inter-coder reliability provides the solution in overcoming the issue of validity, as emphasised by Lombard, Synder-Duch, Bracken, 2008).

> It is widely acknowledged that intercoder reliability is a critical component of content analysis, and that although it does not insure validity, when it is not established properly, the data and interpretations of the data cannot be considered valid (Lombard, *et al.,* 2008).

As emphasised by Beattie, McInnes and Fearnley (2004) and Beattie and Thomson (2007), out of the three measures of reliability, inter-coder reliability is the most frequently reported. A review of reliability check in prior studies showed at least 2 coders were involved in content analysis and some substantiate the reliability by statistical measure such as Scott's phi (Bozzolan *et al.,* 2006), while others used Kripendorff alpha as a measure of inter-coder reliability (Cerbioni and Parbonetti, 2007; Li *et al.,* 2008). Table 5.3 below summarised the reliability measure on ICD studies.

Table 5.3

SUMMARY OF RELIABILITY MEASURES

Study	Reliability measure	Statistical measure
Bozzolan *et al.,* (2006)	Three coders conducted the coding. Coding rules prepared and discussed. Sub-sample of annual reports was coded to check on the inter-coder reliability.	Scott's phi (76%)
Cerbioni and Parbonetti (2007)	Four coders conducted the research.	Kripendorff's alpha (mentioned a good level of acceptable)
Li *et al.,* (2008)	Three coders independently coded four annual reports follow by another four subsequently. The remainder 92 annual reports were coded by one researcher in ensuring consistency of scoring.	Kripendorff's alpha (> 80%).
Striukova *et al.,* (2008)	One researcher undertake all of the initial coding and a random sample was check by another researcher	None
Foong *et al.,*(2009)	At least two researchers do the coding, any discrepancies were reanalysed and resolved.	None

In this study, manual search was conducted by reading the whole annual report of each company. Two independent coder independently coded reports chosen from the first fourteen companies listed alphabetically in the year 2006. Kripendorff's (2004) advocates that as a test for reliability, Kripendorff alpha is able to account for chance agreement among multiple coders. Hayes (2007) further stressed that the more coders agree on the data they generate, the greater the reliability. Results obtained from the

computation of inter-coder reliability showed Kripendorff alpha of 77.1[22] percent was obtained. Similar to findings by Bozzolan *et al.,* (2006), the results were considered acceptable in content analysis. The remainder 148 annual reports were completed by a single coder, the researcher herself, in ensuring consistency in the scoring of the research instrument, similar to approach by Li *et al.,* (2008).

As stressed by Kripendorff (2004), content analysis is a scientific technique. As with all scientific research, it must also yield valid results. By this, Kripendorff (2004, p. 18) means..... 'the research effort is open for careful scrutiny and the resulting claims can be upheld in the face of independently available evidence'. Kripendorff (2004, p.313) is of the view that "validity is the quality of research results that leads us to accept them as true". In upholding validity, and in response to the view expressed by Kripendorff, this study carefully constructed the identification of IC items in the annual report (discussed in Section 5.4.3) to the operationalization of IC items (Section 5.3.5) and scoring of IC in the score sheet (Section 5.4.6). In this study, in ensuring clarity of IC items, extracts of disclosure for individual items of IC together with its location, is provided in Chapter 6 (Section 6.3.4).

5.4.3   IDENTIFICATION OF IC ITEMS IN THE DISCLOSURE CHECKLIST

The original IC framework was derived from several pronouncements such as the International Federation of Accountants (IFAC, 1998) and the Society of Management Accountants of Canada (SMAC, 1998). The original framework developed by Sveiby (1997) was adapted for this study. Sveiby (1997) claims that…"it is possible to classify

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[22] Kripendorff alpha was computed by uploading the coding sheets to http://dfreelon.org/utils/recalfront, a website designed by Deen Freelon, a PhD student in the University of Washington, Seattle, USA in computing inter-coder reliability.

intangible assets within these three families: external structure, internal structure, and competence of employees (p.12)". The final checklist used in the framework for this study is provided in Section 5.4.5 below.

5.4.4   DISCLOSURE VARIABLES USED BY OTHER RESEARCHERS

Various authors name and classify IC under various categories. Beattie and Thomson (2007) advocated that confusion arises from the variation in the terms used to describe the hierarchy of nested concepts. It is evident that some refer categories of IC as components, while the lower-level categories are categorized as IC items, attributes or variables. Beattie and Thomson (2007) classify IC under three categories, which is HC, SC and relational capital (RC) and the information below each categories as sub-categories. These various categories by different authors are given in Table 5.4 below.

Table 5.4

IC CATEGORIES USED BY OTHER RESEARCHERS

Human Capital	Author
Employee attitude	Beattie and Thomson (2007)
Employee capability	Beattie and Thomson (2007)
Employee commitment	Beattie and Thomson (2007)
Employee experience	Beattie and Thomson (2007)
Employee expertise	Huang (2007)
Employee motivation	Vergauwen *et al.,* (2007), Huang (2007)
Employee sensitivity	Beattie and Thomson (2007)
Employee skills	Beattie and Thomson (2007), Huang (2007), Vergauwen *et al.,* (2007)
Employees' competence	Huang (2007), Vergauwen *et al.,* (2007), Guthrie & Petty (2000), Brennan (2001)

Employees' loyalty	Huang (2007)
Employees' satisfaction	Huang (2007)
Entrepreneur spirit	Huang (2007)
Equality	Beattie and Thomson (2007), Abeysekera & Guthrie (2005)
Expert teams	Beattie and Thomson (2007)
Human assets	Beattie and Thomson (2007), Vergauwen *et al.,* (2007)
Productivity	Beattie and Thomson (2007)
Recruitment	Beattie and Thomson (2007), Huang (2007), Vergauwen *et al.,* (2007)
Staff profile	Beattie and Thomson (2007)
Staff turnover	Beattie and Thomson (2007)
Training	Beattie and Thomson (2007)
Work safety and health	Huang (2007)
Work-related competencies	Beattie and Thomson (2007), Vergauwen *et al.,* (2007)
Work-related knowledge	Beattie and Thomson (2007), Huang (2007), Vergauwen *et al.,* (2007), Guthrie and Petty (2000), Brennan (2001)
Employees Profitability	Huang (2007)
Succession plan	Huang (2007)
Customer Capital **(aka Relational Capital)**	**Author/s**
Customers	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004),
Customer loyalty	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004),
	Vergauwen *et al.,* (2007), Beattie and Thomson (2007), Huang (2007)
Company names	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Abeysekera and Guthrie (2005)
Distribution channels	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Huang (2007),

Business Collaborations	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Beattie and Thomson (2007)
Licensing agreements	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Huang (2007), Vergauwen *et al.*, (2007)
Franchising agreements	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Customers' satisfaction	Huang (2007), Vergauwen *et al.*,(2007), Abeysekera and Guthrie (2005)
Market share/demand	Huang (2007), Vergauwen *et al.*, (2007), Abeysekera and Guthrie (2005)
What customers want	Huang (2007)
Feedback from customers	Huang (2007)
Customer networks	Huang (2007)
Customer acquisition	Huang (2007)
Customer profitability	Huang (2007)
Customer complaints & response to complaints	Huang (2007)
Business alliance	Huang (2007)
Partnership	Huang (2007), Vergauwen *et al.*, (2007)
Business collaboration	Huang (2007), Abeyskera and Guthrie (2005)
Joint venture	Huang (2007), Vergauwen *et al.*, (2007)
Dependence on key Customers	Huang (2007)
Quality of product/service	Huang (2007)
Timeliness of product delivery	Huang (2007)
Structural capital **(aka Internal capital)**	**Author/s**
Management philosophy	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Huang (2007)
Corporate culture /organisational culture	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Bozzolan *et al.*, (2003,2004), Huang (2007)

Management processes	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Bozzolan *et al.,* (2003,2004), Huang (2007)
Information systems	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Abeysekera and Guthrie (2005), Huang (2007)
Networking systems	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Abeysekera and Guthrie (2005), Huang (2007)
Financial relations	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Abeysekera and Guthrie (2005)
Research projects	Bozzolan *et al.,* (2003) and Bozzolan *et al.,* (2004)
Infrastructure	Beattie and Thomson (2007)
Development of new ideas/products	Huang (2007)
Documentation of knowledge in manuals, database etc	Huang (2007)
Data systems providing access to information	Huang (2007)
Society's image of company	Huang (2007)
R&D	Huang (2007)
Corporate database/software	Huang (2007)
Product life cycle	Huang (2007)
IT systems	Huang (2007)
Company strategies	Huang (2007)
Company direction	Huang (2007)
Internal communication policy/activities	Huang (2007)
Internal sharing of knowledge & information	Huang (2007), Beattie and Thomson (2007)
Management control system	Huang (2007)

5.4.5　FINAL CHECKLIST AND OPERATIONALIZATION OF VARIABLES USED IN THIS STUDY

After an extensive review of available literature and comparisons, the final IC checklist is divided into three categories; Human Capital (HC), Structural Capital (SC) and Customer Capital (CC). These three categories are further divided into three IC items under each category. Total IC items are 33, HC having 17 items; SC has 7 items while CC has 9 items. HC has more items in comparison to earlier studies (Guthrie and Petty, 2000; Brennan, 2001; Goh and Lim, 2004). Abeysekera and Guthrie (2005) in their later studies compiled 25 items under HC, with various sub-categories. Many of the sub-categories are adapted from their study, in response to the significant roles played by HC and also in response to the commitment and initiatives stressed on HC development by the Malaysian Government. The final checklist and the operationalization of each individual sub-category used in this study are furnished in Table 5.5 and Table 5.6 below.

Table 5.5

FINAL IC CHECKLIST USED IN THIS STUDY

Customer Capital	Author/s
Brands	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Customers	Bozzolan *et al.,* (2003), Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004),
Company names	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Abeysekera and Guthrie (2005)
Distribution channels	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Huang (2007), Vergauwen *et al.,* (2007), Abeysekera and Guthrie (2005)
Business Collaborations	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Beattie and Thomson (2007)
Licensing agreements	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Huang (2007), Vergauwen *et al.,* (2007)
Favourable contracts	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
	Huang (2007), Vergauwen *et al.,* (2007), Abeysekera and Guthrie (2005)
Franchising agreements	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Market share /demand	Huang (2007), Vergauwen *et al.,* (2007), Abeysekera and Guthrie (2005)
Human Capital	
Employee education program	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Vocational qualification	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Industrial relations	This Study
Union activity	Abeysekera and Guthrie (2005)
Employee thanked	Abeysekera and Guthrie (2005)
Employee featured	Abeysekera and Guthrie (2005)
Employee involvement in the community	Abeysekera and Guthrie (2005)

Training programs	Vergauwen *et al.,* (2007)
Career planning and development program	Abeysekera and Guthrie (2005)
Succession planning	Huang (2007)
Innovation	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Race, gender, religion and disability issues	Abeysekera and Guthrie (2005)
Employee safety & health	Abeysekera and Guthrie (2005)
Know-how	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Professional experience	Abeysekera and Guthrie (2005)
Expert seniority	Abeysekera and Guthrie (2005)
Senior executive performance and results	Guthrie and Petty (2000)
Structural Capital	
Management Philosophy	Huang (2007)
Corporate culture	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Management processes	Bozzolan *et al.,* (2003), Huang (2007)
	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004), Huang (2007)
Quality/Achievements /Recognition	This Study
Information systems	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004),
Networking systems	Abeysekera and Guthrie (2005), Huang (2007), Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)
Financial relations	Abeysekera and Guthrie (2005), Huang (2007)
	Guthrie and Petty (2000), Brennan (2001), Goh and Lim (2004)

Beattie and Thomson (2007) strongly urged for explanation and the need of transparency of the categories and sub-categories used in each framework. In response

to that, this study clearly defined each category and sub-categories, also known as IC items used in the framework.

Table 5.6

OPERATIONAL DEFINITION OF DISCLOSURE CHECKLIST

A Human Capital	Operational definition
Education	
1.Employee Education Programs	Education programs initiated by the firm for the support of its executives/staff or community members, for example, school or university program/scholarship.
2.Vocational qualifications	Qualifications obtained other than academic achievement by its employees such as team building courses, communication skills etc.
Employee	
3.Industrial relations	Relations between employers and employees (Oxford Learners Dictionary, Advanced, 2000)
4.Union activity	Refers to details of union representing employees
5.Employee thanked	Public expression of gratitude to employee/employees as a token of appreciation on job well done.
6.Employee featured	Special display of prominence of employees of the firm
7.Employee involvement in the community	Employees involvement in community work such as charity, fund-raising activity
Training and development	
8.Training programs	Refers to the in-house or external training programs and for its executives and staff other than those mandatory training programs stipulated by Bursa's Listing requirements.
9.Career planning and development program	Career development opportunities of an employee's career with the firm. (other terms human capital development program)

10.Succession planning	Refers to the process of identifying and preparing suitable employees to replace key players for example the CEO as his term expires.
Entrepreneur skills	
11.Innovation	Refer to ability to build on previous knowledge and generate new knowledge (Roos *et al.,* 1997) (other terms, new products, new ideas, continued improvement of existing lines of products)
Equity issues	
12.Equity issues	Equal career opportunities for all irrespective of race, religion, gender and policy in place for employment of the disables
Employee safety & health	
13.Employee safety & health	Company' prevention and reduction of health and safety hazards at work
Work-related knowledge	
14.Know-how	Relates to the knowledge and skills possessed by employees (other terms; skills, competence)
15.Professional experience	Average number of years that executives worked in their profession (Sveiby, 1997, p.79)
16.Expert seniority	Years of employment of executives with the firm (Sveiby, 1997, p.81)
17.Senior executive performance and results	Results achieved by senior executives over a given period of time period (Guthrie & Petty, 2000)
Structural capital	
18.Management philosophy	Refers to the vision and mission statement. (Other terms cover philosophy & strategy)
19.Corporate culture	Refers to disclosure of the attitudes, experience, beliefs and values of the firm. Other terms included; code of ethics, code of conduct)
20.Management processes	Covers policies, procedures, re-engineering & other process & quality certifications associated with the firm (Guthrie *et al*., 2006).

	Other terms cover business process, performance report, management plan and performance indicators)
21.Quality/recognition/achievements	Disclosure of awards achieved by the firm as a measure of its high quality
22.Information systems	Covers systems designed to manage the major functions of the firm such as database, IT system, computer network, hardware, software etc.
23. Networking systems	Information technologies encompassing a broad array of communication media and devices which **network** with others, gaining access to customers, suppliers, databases. (Other term covers internet, video-conferencing, fax etc.
24.Financial relations	Relationship between the management and its finance providers such as investors, bankers, analysts
C. Customer capital	
25.Brands	Details of brands associated with the firm
26.Customers	Refers to customers' evaluation of its product or service. Reflected in customer loyalty, normally found out by survey, customer feedback. (other terms; customer confidence, high reputation for goods and services)
27. Company names	The esteem held or effect of the firms' name by its stakeholders
28. Favourable contracts	A contract obtained because of the unique market position held by the firm (Brooking 1996, pp.33-34)
29. Market share	Firm's share of the market
30. Distribution channels	Information/details on the infrastructure of how firm provides its products/services to its customers.
31. Business collaborations	Other business partnering in producing or creating the product or services

(Other search term; alliance, partnership, joint product) |
| 32. Licensing agreements | Refers to wide ranging agreements that give contracts to other organizations or entities to sell its products or services. |

33. Franchising agreements	A contractual agreement that grants the license by a person (franchiser) to another (franchisee) to carry out a franchise, franchiser to provide assistance to franchisee in payment of a fee (Brooking 1996, p.32).

This study has more items under HC, in support of the Government's efforts in boosting its HC Development being the backbone of the sustainability of the country's economy. Improvement to the framework is evidenced in the increased disclosure under HC by study conducted by [23]Abeysekera and Guthrie (2005). With that backdrop, this framework compiled 17 HC attributes with three additional attributes introduced. They are succession planning; race, gender and religion; and employee safety and health. Further to that, under the original framework there is only one attribute under work-related knowledge, likewise in this study it is sub-categorised into know-how, professional experience, expert seniority and senior executive performance results for a richer content analysis. Abeysekera and Guthrie (2005) also sub-categorised as such except that know-how was included under training.

A comparison of studies in Malaysia as depicted in Table 5.7 below, show that there is improvement in the sample size and more items were included under HC[24], 17 in total compared to only 6 under those investigated by Goh and Lim (2004) and Foong *et al.,* (2009).

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[23] They focused more on HC, 25 items in total, reason being that Sri Lanka, the country studied, has a high literacy rate of 91.8%. The comparative framework is given in Chapter 5, Table 5.7.

[24]More item are included under HC in order to capture the human capital development emphasized as the backbone for the country's Vision 2020.

Table 5.7

ICD STUDIES IN MALAYSIA

	Data in year	Sample Size	Items in HC	Items in SC	Items in CC	Ratings scale used
Goh and Lim (2004)	2001	20	6	9	9	0,1
Foong *et al.,* (2009)	2003	60	6	6	9	0,1,2,3
This Study	2006 to 2008	162	17	7	9	0,1,2,3

5.4.6 SCORING OF ICD

Guthrie *et al.,* (2003) stressed that certain technical requirements should be met for effective content analysis. Firstly, the categories of classification must be clearly and operationally defined; secondly, it must be clear for an item to either belong or not belong to a particular category. Thirdly, the disclosed information need to be able to be quantified and finally, consistency and a reliable coder are needed. In response to the first and second issue, this study adopts the rating criterion used by Guthrie and Petty (2000).

The literature shows that two of the most commonly used methods in the scoring of disclosure indices are a simple dichotomous scale and a pre-determined criterion that score each disclosure item based on the type and nature of information reported. Under the dichotomous scale, disclosure items are coded as one whilst those not reported are coded as zero. Both of these methods suffer from criticisms. The pre-determined rating

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criterion approach is being criticized due to the subjective judgment in the ratings. Gray *et al.,* (1995a) stressed that this resulted in 'unwanted noise' into the analysis. It was also noted that by using a dichotomous scaling, the setback is the failure to adequately capture the nuances and value of the item disclosed (Cornier and Magnum, 2000). Conversely, despite these criticisms, empirical results showed that the application of both methods generally produced the same findings (Marston and Strives, 1991).

In this study, the unit of analysis was the sentence and the contents of the analysis were classified into three categories: qualitative with narrative, quantitative with numerical and quantitative with monetary. The scoring system was adopted from Guthrie and Petty (2000) where a score of 3 is given if the disclosure is in monetary value; a score of 2 is given if the disclosure is a numerical term, a score of 1 is given if it is in narrative form and a score of 0 is given if there is no disclosure in the annual report. This scoring criterion is summarized in the following Table 5.8.

Table 5.8

SCORING CRITERION

Categories	Description	Score
Quantitative	IC item disclosed in monetary value	3
Quantitative	IC item disclosed in numerical term	2
Qualitative	IC item disclosed in narrative form	1
N/A	No disclosure	0

Source: Adopted from Guthrie and Petty (2000)

As IC is not mandated to be disclosed, only voluntary disclosures and those not required by accounting standards or legislation are analyzed from the annual report. The annual

reports analyzed in this study covers from cover page to the last page excluding financial statements which are mandatory.

5.4.7   PROCEDURES ON DOWNLOADING AND SCORING DECISIONS

The content analysis involved reading the annual reports and recording IC related information on a coding sheet. Annual reports were downloaded from Bursa Malaysia's website. The procedures in downloading and the scoring decision are as follows:

Step 1 -   Download annual report from the Bursa Malaysia website,

               http://www.klse.com.my/website/bm/listed_companies/

Step 2 -   Click listed company from the menu, then click annual report, thereon

               choose company by name

               http://www.klse.com.my/website/bm/listed/annual_reports/index.jsp

Step 3 -   Download the respective annual report by company

Step 4 -   Check for disclosure of IC.

Step 5 -   Determine the IC category that the disclosure belongs to:

               either HC, SC or CC.

Step 6 -   Assign a score to the respective disclosure using the criteria determined

               in the score sheet either 0, 1, 2, or 3.

Step 7 -   Repeat the same steps (1 to 6) for all the companies in the sample for

               each year 2006 to 2008.

5.4.8 INTERNAL COSISTENCY OF IC

In the voluntary disclosure checklist, IC is self-constructed with IC items based on past literature. As stressed by Botosan (1997), even though a self-constructed voluntary checklist index is useful in capturing cross-sectional variation in disclosure levels, subjective judgement is needed. Consistent with Botosan (1997) and Cheng and Courtenay (2006), the validity and robustness of the index are carried out. In this study, the overall IC comprises three components, HC, SC and CC. As suggested by Cheng and Courtenay (2006, p. 271), "disclosure strategies are expected to be similar along all avenues". Thus, firms disclosing IC will also be disclosing more HC, SC and CC.

Pearson's correlation matrix was conducted to find out the internal consistency of these disclosures. The high pair-wise correlation coefficients between ICD and HCScore (0.763), SCSCore (0.804) and CCScore (0.802), is reflected in Table 5.9. This implied that the disclosure index consistently captures voluntary disclosure of IC information, similar to results obtained by Cheng and Courtenay (2006).

Table 5.9

CORRELATION BETWEEN DEPENDENT VARIABLES

	ICDSCore
HCScore	0.763(**)
SCScore	0.804(**)
CCScore	0.802(**)

** Correlation is significant at the 0.01 level (2-tailed).

5.5   UNIT OF ANALYSIS AND UNIT OF MEASUREMENT

Various methods are available in recording the unit of analysis, such as words, portion of pages or sentences. Use of single word suffers from reliability, according to Milne and Adler (1999), they have no meaning in providing a sound basis for coding without a sentence or sentences context. As such, they advocate that:

> As a basis for coding, sentences are far more reliable than any other unit of analysis". Individual words have no meaning to provide a sound basis for coding social and environmental disclosures without a sentence or sentences for context. Likewise laying a plastic grid sheet over a body of test and trying to code the contents of each grid square would result in meaningless measures (Milne and Adler 1999, p.243).

As such, in order to avoid the unnecessary problems associated with other types of unit analysis, sentences are used. In this study, each sentence in the annual report would be analyzed so as to find out whether it is IC related or not. Scoring will be given based on the rating criterion of 0, 1, 2 or 3.

5.6   SAMPLE SELECTION

Bozzolan *et al*., (2003) and Vergauwen *et al.,* (2007) state that large companies have the resources to disclose more voluntary information, in support of the institutional theory (Petty and Cuganesan, 2005). Petty and Cuganesan (2005) state that large companies have better resources to be industry leaders than other organization. And in accordance with the institutional theory a population will become more homogeneous over time (Di Maggio and Powell, 1983). As such, only companies that remain in top 100 market capitalization for three consecutive years were chosen on the sample. The period for this study encompasses three consecutive years from the year 2006 to 2008. The total

number of companies for this study was 162, comprising companies from the top 100 market capitalization as at 31st December 2006, 2007 and 2008. The procedure on selecting the sample for this study is as follows:

1. Download companies based on market capitalization from DataStream for each year from 2006 to 2008.

2. Copy the downloaded companies to Excel and sort according to a descending order in terms of market capitalization for each year.

3. Further sort the information obtained in Step 2, by arranging the companies in the top 100 market capitalization in alphabetical order.

4. Finalize the listing of all companies that remain in the top 100 companies based on market capitalization.

5. Eliminate companies that have different reporting regulations.

6. Finalize the list.

In Malaysia, licensed institutions such as commercial banks, finance companies, merchant banks, discount houses and money brokers are regulated under the Banking and Financial Institutions Act (BAFIA), 1989. As such, these companies are excluded in the sample, consistent with prior studies (Hanniffa and Cooke, 2002; Gul and Leung, 2004; Ghazali and Weetman, 2006; Hashim, 2009). The sample selection process is given in Table 5.10 below.

Table 5.10

SAMPLE SELECTION PROCESS

Top 100 companies based on market capitalization listed on the Main Board as at 31st December 2006, 2007 and 2008	300
Less: Companies which failed to remain on the top 100 market capitalisation for three consecutive years	<u>123</u>
Companies that remained in the top 100 market capitalization for three consecutive years	177
Less: Banks, insurance and unit trusts companies	<u>15</u>
Final sample	<u>162</u>

The total sample in this study is 162, out of which 57 are FAMC, 39 GLCs, and 66 OWNDIFF. The total number of 162 is considered high due to the labour-intensive data collection process and time-consuming technique (Beattie *et al.,* 2004). A similar study of this nature was conducted with a sample of 87 (Ghazali and Weetman, 2006) and 104 by Li *et al.,* (2008). All the companies selected for the study are shown in Appendix E.

5.7   CONCLUSION

This chapter explains the three different types of research paradigm, with positivist being the dominant one in accounting research, of which this study is no exception. The method employed in the collection of data is elaborated focusing on together with its measurement of independent and dependent variables are explained. The following chapter discusses the results and findings in this study.

CHAPTER 6

RESULTS AND DISCUSSION

6.1.   INTRODUCTION

This chapter presents the results and discusses findings from the content analysis of annual reports of companies listed in Bursa Malaysia. Section 6.2 describes the characteristics of the sample in this study and discusses the descriptive statistics used and reports on the normality tests. Descriptive analysis on what type of IC related information is disclosed is provided in Section 6.3, the extent the disclosure of IC related information is given in Section 6.3.2, while Section 6.3.4 furnished extracts of ICD together with the location as well as the score assigned to each information disclosed. The correlations matrix analysis and the multiple regression results are discussed in Section 6.4 and 6.5 respectively. Results on the hypotheses tests are furnished in Section 6.6. Section 6.7 provides a summary of tests conducted in this study in comparison with other studies while Section 6.8 presents discussion on the hypotheses, Section 6.9 deliberates results on ownership structure while Section 6.10 summarised the hypotheses tests. Section 6.11 concludes the findings of this chapter.

6.2   DESCRIPTIVE ANALYSIS

Descriptive analysis covers explaining of the number of companies and the respective industry sector it falls into. It also provides the percentage representative of each sector in the total sample. Further descriptive analysis provides discussion on the continuous

and dichotomous variables employed in this study. Normality test is also elaborated at this Section.

6.2.1 SAMPLE CHARACTERISTICS

The sample and its sector representation are given in Table 6.1 below. The sample in the study was from companies listed on the main board as at 31st December 2006 to Dec 2008. There are in total 15 different sectors in the main board of Bursa Malaysia. These are consumer products, industrial products, construction, trading/services, infrastructure, finance, technology, hotels, properties, plantation, and mining, REITS, trust, closed-end fund and exchange traded funds. Consistent with Haniffa and Cooke (2002, 2005) and Hashim (2009), finance, hotels, mining, REITS, closed-end fund and exchange traded funds sectors are excluded from the sample due to different reporting regulations. The sample in this study covers eight different sectors[25] namely; consumer, infrastructure, industrial, construction, property, technology, trading and plantation sectors.

The majority (39%) sample of this study fall under trading sector, followed by industrial at 15% and consumer at 13%, while the smallest sample group is from technology, at 2% only. The industry (sector) differences is not part of the study, as such it is not taken into account in the analysis in later sections.

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[25] The sectors were derived from companies which remains in top market capitalization for the three years studied (2006 to 2008).

Table 6.1

SAMPLE[26] AND SECTOR REPRESENTATION

Sector	Number of companies	% of Sample
Consumer	21	13
Infrastructure	12	7
Industrial	24	15
Construction	9	6
Property	12	7
Technology	3	2
Trading	63	39
Plantation	18	11
Total	162	100

6.2.2 DESCRIPTIVE STATISTICS OF CONTINUOUS AND DICHOTOMOUS VARIABLES

Table 6.2 shows the descriptive statistics of continuous and dichotomous variables. The mean and median value of ICD Score for the pooled data are 0.860 and 0.863, while in years 2006 to 2008, there was an increasing trend in the mean value of 0.805, 0.855 and 0.920 respectively. This is an encouraging finding and reflects that corporations are voluntary disclosing more IC related information in their annual reports. The maximum score for ICDScore for pooled data and individual year is 1.48 (pooled) and 1.36, 1.48 and 1.32 for years 2006, 2007 and 2008 respectively.

Board size shows an almost consistent result for the pooled and yearly data. The mean number of directors on board is 9, with a maximum of 15. This is much bigger

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[26] Sample companies in this study is shown in Appendix B.

compared to Singaporean corporations investigated by Cheng and Courtenay (2006) which ranged from 4 to 13. However, the mean number is fairly close to European companies investigated by Cerbioni and Parbonetti (2007) which had an average of 8 directors on the board.

The mean value of CRSSL for the pooled data is 0.705, while each individual year 2006, 2007 and 2008 is 0.712, 0.701 and 0.702 respectively, showing a fairly consistent result across the three years. In contrast, there is a slight decrease in the mean number of audit committees from 2006 to 2008, from 3.94 to 3.76. This could be due to the requirement of the revised Code which stipulates that all audit committee members must be independent non-executive directors. Prior to that the Code only specified that the majority of audit committee members must be independent. The number of audit committee meetings shows that more frequent meetings were held over the years, from 4.96 (2006) to 5.06 (2008). With regard to the number of financial experts in audit committees, there is an increase in the mean value from 1.54 (2006) to 1.80 (2008). Again, this could be due to the response to the revision of the Code (2007) to enhance the effectiveness of the audit committee in a board so as to promote greater transparency.

With respect to board composition (INED), the mean ratio of independent directors on board increased from 40.7 per cent in 2006 to 43.4 per cent in 2008. All the companies met the requirement of the Code (2000), which requires that one third of board must be independent. However, Cerbioni and Parbonetti (2007) found that 56% of board members in the European companies were independent, much higher than Malaysian corporations.

The mean size for companies as represented by sales is RM4,891,260,000 while the average for ROE and LEV is 19.981 per cent and 0.217 respectively. The mean sales had increased over the years from RM4,309,462,000 to RM5,509,544,000 while profitability had decreased from 22.384 (2007) to 20.135 (2008). Leverage over the three year period was relatively stable at 0.21, implying that companies in the top market capitalization maintained their liquidity position.

Table 6.2

DESCRIPTIVE STATISTICS OF CONTINUOUS VARIABLES

All years (2006 to 2008) N=162	Mean	Median	Standard deviation	Minimum	Maximum
Intellectual Capital Score (ICDScore)	0.860	0.863	0.209	0.370	1.480
Board Size (BSIZE)	9.070	9.000	2.150	5.000	15.000
Cross Leadership (CRSSL)	0.705	0.720	0.197	0.130	1.000
Board Composition (INED)	0.417	0.380	0.102	0.250	0.770
Audit Committee Size (ACSize)	3.860	4.000	0.7440	3.000	6.000
Audit Committee Meeting (ACMEETING)	4.980	5.000	1.337	3.000	11.000
Financial Expert (FINEXPT)	1.670	1.000	0.905	1.000	4.000
Firm size (Sales RM000)	4,891,260	2,839,179	5,948,720	83,100	34,044,700
Returns on Equity (ROE)	19.981	14.625	25.562	-15.260	215.680
Leverage (LEV)	0.217	0.205	0.174	0.000	0.630
2006 (N=54)	Mean	Median	Standard deviation	Minimum	Maximum
Intellectual Capital Score (ICDScore)	0.805	0.797	0.202	0.370	1.360
Board Size (BSIZE)	9.000	9.000	2.101	5.000	15.000
Cross Leadership (CRSSL)	0.712	0.730	0.198	0.330	1.000
Board Composition (INED)	0.407	0.390	0.897	0.250	0.750
Audit Committee Size (ACSize)	3.940	4.000	0.763	3.000	6.000
Audit Committee Meeting (ACMEETING)	4.960	5.000	1.288	4.000	9.000

Financial Expert (FINEXPT)	1.540	1.000	0.862	1.000	4.000
Firm size (Sales RM000)	4,309,462	2,045,212	5,123,558	231,858	20,384,200
Returns on Equity (ROE)	19.980	14.625	25.562	-15.260	215.680
Leverage (LEV)	0.217	0.205	0.174	0.000	0.630
2007 (N=54)	Mean	Median	Standard deviation	Minimum	Maximum
Intellectual Capital Score (ICDScore)	0.855	0.838	0.210	0.390	1.480
Board Size (BSIZE)	9.060	9.000	2.184	5.000	15.000
Cross Leadership (CRSSL)	0.701	0.710	0.189	0.280	1.000
Board Composition (INED)	0.411	0.375	0.101	0.250	0.710
Audit Committee Size (ACSize)	3.890	4.000	0.816	3.000	6.000
Audit Committee Meeting (ACMEETING)	4.910	5.000	1.137	3.000	8.000
Financial Expert (FINEXPT)	1.670	1.000	0.911	1.000	4.000
Firm size (Sales RM000)	4,854,774	2,816,466	5,987,944	219,242	28,230,200
Returns on Equity (ROE)	22.389	15.950	24.559	-6.840	163.060
Leverage (LEV)	0.214	0.195	0.182	0.000	0.630
2008 (N=54)	Mean	Median	Standard deviation	Minimum	Maximum
Intellectual Capital Score (ICDScore)	0.920	0.929	0.203	0.410	1.320
Board Size (BSIZE)	9.150	9.000	2.200	5.000	15.000
Cross Leadership (CRSSL)	0.702	0.720	0.208	0.130	1.000
Board Composition (INED)	0.433	0.400	0.112	0.300	0.770
Audit Committee Size (ACSize)	3.760	4.000	0.642	3.000	5.000
Audit Committee Meeting (ACMEETING)	5.060	5.000	1.571	3.000	11.000
Financial Expert (FINEXPT)	1.800	2.000	0.939	1.000	4.000
Firm size (Sales RM000)	5,509,544	3,355,449	6,682,451	83,100	34,044,700
Returns on Equity (ROE)	20.136	14.410	32.055	-15.260	215.680
Leverage (LEV)	0.219	0.205	0.178	0.000	0.630

Table 6.3 below shows that the number of companies having duality role (RDUAL) is relatively small and decreased over the years. Over the entire three years only 13.6 percent of the sample surveyed holding the position of both chairman as well as chief executive director, implying that duality role is not widely practised in Malaysia.

Table 6.3

DESCRIPTIVE STATISTICS OF DICHOTOMOUS VARIABLES

	All		2006		2007		2008	
	N=162		N=54		N=54		N=54	
Dichotomous variables	1	0	1	0	1	0	1	0
RDUAL	22	140	9	45	7	47	6	48
	(13.6%)	(86.4%)	(16.7%)	(83.3%)	(13%)	(87%)	(11.1%)	(88.9%)
FAMC	57	105	19	35	19	35	19	35
	(35.2%)	(64.8%)	(35.2%)	(64.8%)	(35.2%)	(64.8%)	(35.2%)	(64.8%)
GLC	39	123	13	41	13	41	13	41
	(24.1%)	(75.9%)	(24.1%)	(75.9%)	(24.1%)	(75.9%)	(24.1%)	(75.9%)
OWNDIFF	66	96	22	32	22	32	22	32
	(40.7%)	(59.3%)	(40.7%)	(59.3%)	(40.7%)	(59.3%)	(40.7%)	(59.3%)
TOPAUD	114	48	38	16	38	16	38	16
	(70.4%)	(29.6%)	(60.4%)	(29.6%)	(60.4%)	(29.6%)	(60.4%)	(29.6%)

This is in compliance with the Code (2000) and this result is consistent with studies conducted recently by Hashim (2009). In contrast, Cerbioni and Parbonetti (2007) found that almost 66% of the board members held the position as both the CEO and chairperson, which is relatively high. The number of companies audited by a TOPAUD auditor is 114 representing 70.4% for all the three years. This is not surprising as the sample chosen in this study are companies in the top market capitalization.

6.2.3   NORMALITY TEST

The normal distribution assumption is a prerequisite for many inferential statistical techniques (Coakes, 2005). The statistical tool used to test normality is skewness and kurtosis for interval and ratio data. In this study, all the independent, dependent and control variables except those using dummy variables (duality, ownership structure and TOPAUD) were run for these tests. Skewness is a measure of the symmetry of a distribution while kurtosis is a measure of the peakness or flatness of a distribution in comparison with a normal distribution. For a normal distribution, the values for skewness and kurtosis are zero (Coakes, 2005). Skewness values falling outside the range -1 to +1 imply that the distribution is not normal (Hair *et al.,* 2006). Results of skewness and kurtosis show that INED, ACMeeting and ROE are not normally distributed. These variables were transformed before performing further tests.

6.3   DESCRIPTIVE ANALYSIS OF IC INFORMATION DISCLOSED

One of the objectives, RO1, in this study is to examine the nature and extent of IC related information that is disclosed in the annual reports of companies listed in Bursa Malaysia. Section 6.3.1 explains the disclosure of each individual item of IC, breaking in to each IC categories, namely HC, SC and CC. The extent of IC disclosure is elaborated under Section 6.3.2 follow by the summary of the overall ICD disclosed under Section 6.3.3.

6.3.1 INDIVIDUAL IC AND RATINGS INFORMATION DISCLOSED

This section elaborates the disclosure of each individual item of IC disclosed in this study. The individual item in each IC categories; HC, SC and CC is as shown in Table 6.4 below. Total IC related information disclosed in monetary value (Score of 3) is scarce, as reflected under HC with total score of 52, SC, total score of 3 and CC of 9. In respect of HC, this implies 21 companies disclosed money spent on education, 17 companies provided information on amount spent on community projects. With regard to SC, only 1 company disclosed information on information systems (SC1) and 2 companies disclosed their networking system (SC6) in monetary value. While under CC, information on monetary value was shown in favourable contracts (CC4) and business collaboration (CC8).

Table 6.4

DISCLOSURE OF INDIVIDUAL IC IN EACH RATINGS CRITERION (POOLED DATA)

		Ratings Criterion			
Human Capital (HC)		0	1	2	3
HC1	Education	12	101	28	21
HC2	Vocational qualification	79	68	13	2
HC3	Industrial relations	79	75	7	1
HC4	Union activity	129	31	1	1
HC5	Employee thanked	1	161	0	0
HC6	Employee featured	31	112	19	0
HC7	Employee involvement in the community	21	104	20	17
HC8	Training programs	30	102	27	3
HC9	Career planning and development program	48	94	16	4
HC10	Succession planning	57	94	10	1

HC11	Innovation	10	137	14	1
HC12	Race, gender, religion and disability issues	134	19	8	1
HC13	Employee safety and health	46	97	19	0
HC14	Know-how	0	158	4	0
HC15	Professional experience	0	4	158	0
HC16	Expert seniority	0	1	161	0
HC17	Senior executive performance and results	0	1	161	0
Subtotal of HC different disclosure ratings		**677**	**1359**	**666**	**52**

Structural Capital (SC)

SC1	Management Philosophy	21	137	4	0
SC2	Corporate culture	24	137	1	0
SC3	Management processes	6	128	28	0
SC4	Quality/Achievements/Recognition	14	85	63	0
SC5	Information systems	7	145	9	1
SC6	Networking systems	22	133	5	2
SC7	Financial relations	1	141	20	0
Subtotal of SC different disclosure ratings		**95**	**906**	**130**	**3**

Customer Capital (CC)

CC1	Brands	69	80	13	0
CC2	Customers	51	85	25	1
CC3	Company names	23	104	35	0
CC4	Favourable contracts	122	19	18	3

CC5	Market share	80	32	50	0
CC6	Distribution channels	90	53	18	1
CC7	Licensing agreements	135	16	11	0
CC8	Business Collaboration	38	95	26	3
CC9	Franchising agreements	149	12	0	1
Subtotal of CC different disclosure ratings		**757**	**496**	**196**	**9**

Note: A score of 3 means IC related information is in monetary value, while a score of 2 refers to numerical term, a score of 1 when ICD is in narrative form, while zero score means no IC related information is provided.

For IC information disclosed in numerical terms, the score of 2 has a more encouraging result. Under HC, almost all the companies disclosed professional experience (HC15), expert seniority (HC16) and senior executive performance results (HC17) in terms of years of experience and results achieved. This information is reflected in the profile of directors in the annual report. Under SC, 28 companies disclosed management processes (SC3) numerically while 63 companies disclosed their quality/achievements/recognition (SC4). With regards to CC, the only item scarcely disclosed is franchising agreement. Company names (CC3) tops the list of disclosure in the narrative form. This information overlaps with quality/achievements/recognition (SC4), however, it is not penalized, in deriving at the computation of score for the company.
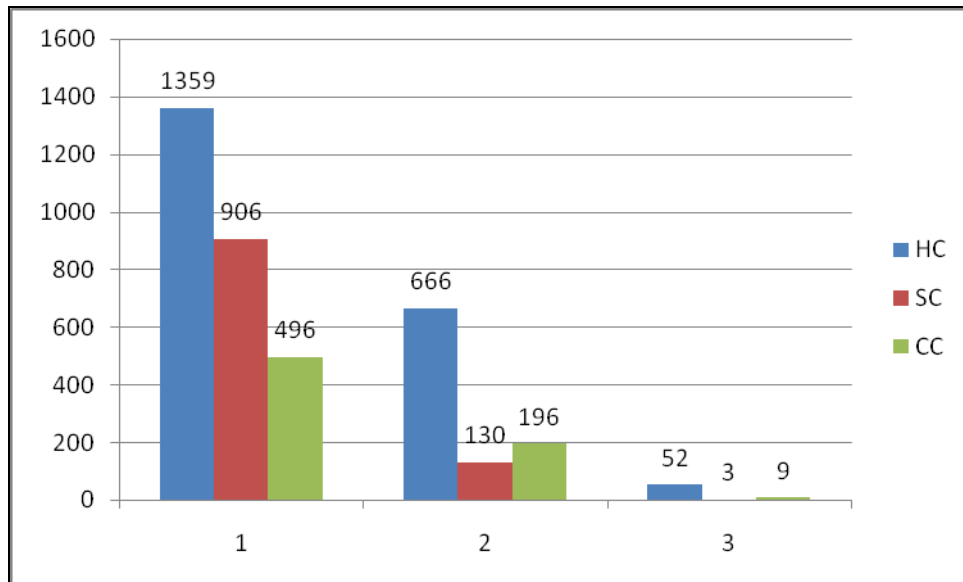
Figure 6.1

SUBTOTAL OF HC, SC AND CC DISCLOSURES

As shown in Figure 6.1, most disclosures of IC related information, HC, SC and CC were in narrative form, with score of 1. HC recorded the highest subtotal score of 1359, followed by SC of 906 and CC of 496. Out of the total 16 companies, only 52 companies disclosed HC information in monetary form.

6.3.2 EXTENT OF ICD

The examination of the incidence of reporting at an individual element item is further discussed. Table 6.5 presents the relative popularity of specific IC items disclosed. The most disclosed items under HC are; education (HC1), employees thanked (HC5), employees involvement in the community (HC7), training programs (HC8), and innovation (HC11). All companies in the sample disclosed these HC items; know-how (HC14), professional experience (HC15), expert seniority (HC16) and senior executive performance and results (HC17). This disclosure is not surprising, due to the fact that much emphasis has been placed on HC in particular the government sector.

The least disclosed item is union activity (HC4), followed by equity issues (HC 12), represented by race, gender, religion and disability issues. From the reporting of SC, practically all the companies provided information on this category, with 4% out of total disclosure of IC in every single item in SC, being management philosophy, corporate culture, management processes, quality/achievement/recognition, information systems, networking systems and financial relations.

Table 6.5

EXTENT OF ICD

IC Items		IC Score	Extent of ICD (%)
Education	HC1	150	4
Vocational qualification	HC2	83	2
Industrial relations	HC3	83	2
Union activity	HC4	33	1
Employee thanked	HC5	161	4
Employee featured	HC6	131	3
Employee involvement in the community	HC7	141	4
Training programs	HC8	132	3
Career planning and development program	HC9	114	3
Succession planning	HC10	105	3
Innovation	HC11	152	4
Race, gender, religion and disability issues	HC12	28	1
Employee safety & health	HC13	116	3
Know-how	HC14	162	4
Professional experience	HC15	162	4
Expert seniority	HC16	162	4
Senior executive performance and results	HC17	162	4

Total HC		**2077**	**55**
Management Philosophy	SC1	141	4
Corporate culture	SC2	138	4
Management processes	SC3	156	4
Quality/Achievements/Recognition	SC4	148	4
Information systems	SC5	155	4
Networking systems	SC6	140	4
Financial relations	SC7	161	4
Total SC		**1039**	**27**
Brands	CC1	93	2
Customers	CC2	111	3
Company names	CC3	139	4
Favourable contracts	CC4	40	1
Market share	CC5	82	2
Distribution channels	CC6	72	2
Licensing agreements	CC7	27	1
Business Collaboration	CC8	124	3
Franchising agreements	CC9	13	0
Total CC		**701**	**18**
Total ICD		**3817**	**100**

Among the three individual components of IC, CC is the least disclosed. However, company names, customers and business collaboration remain the most reported variable under CC3, CC2 and CC8 respectively. Business collaborations popularity in reporting is consistent with prior studies (Guthrie and Petty, 2000; Brennan, 2001; Goh and Lim, 2004 and April *et al.,* 2003). This is expected, and very much in line with the nature of businesses today, focusing much on expansion through joint ventures, mergers and acquisitions. April *et al.,* (2003) attributed this to the focus on global expansion through acquisitions and partnerships.

6.3.3 OVERALL ICD

This study found that HC was the most reported among the three components of IC at 55%. This is much higher than studies conducted in Malaysia by Foong *et al*., (2009) at 13%. This is not surprising, as much emphasis has been given to human capital development by the Malaysian government. In support of the institutional theory, these corporations, which are the top 100 companies in Malaysia, may have been pressured to adhere to the policies laid down in supporting the country's quest towards achieving Vision 2020, whereby human capital is one of the prime movers. Figure 6.2 depicts the overall IC disclosure in this study. The second most disclosed is SC (27%) and the least disclosed is CC (18%).
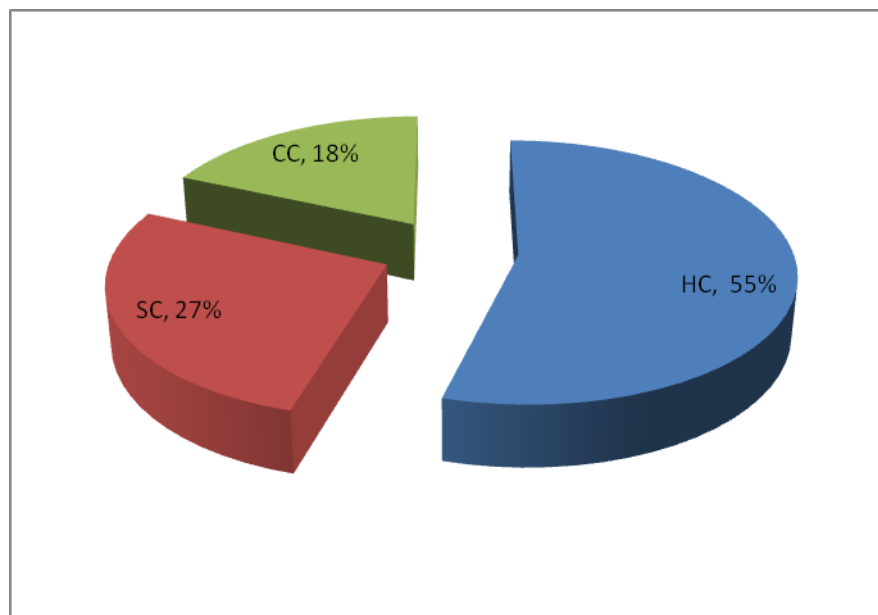
Figure 6.2

OVERALL ICD

These findings are compared to ICD studies among countries, like the UK, Australia, Sri Lanka, Italy as well as studies conducted in Malaysia too. The result is tabulated in Table 6.6 which shows different findings across countries. Much disclosure was devoted to CC in almost all of the studies conducted, with the exception of some European countries as conducted by Cerbioni and Parbonetti (2007) and in a later study conducted in Malaysia by Foong *et al.,* (2009). Likewise this study also found a similar finding as that of the latter. It is apparent that inconsistent results were found in these ICD studies. Guthrie *et al.,* (2004) advocated that IC content analysis cannot be meaningfully compared due to the inconsistent use of data collection instruments.

Table 6.6

COMPARISON OF ICD AMONG COUNTRIES

Author/s	Country	HC (%)	SC (%)	CC (%)
Guthrie and Petty (2000)	Australia	30.00	30.00	40.00
Abeysekera and Guthrie (2005)	Sri Lanka	36.00	20.00	44.00
Bozzolon *et al.,* (2003)	Italy	21.00	30.00	49.00
Goh and Lim (2004)	Malaysia	22.00	36.00	42.00
Guthrie *et al.,* (2006)	Australia	10.00	41.00	49.00
	Hong Kong	35.00	37.00	37.00
Cerbioni and Parbonetti (2007)	European countries	18.60	49.60	31.80
Striukova *et al.,* (2008)[27]	UK	21.93	16.99	61.08
Foong *et al*., (2009)	Malaysia	13.00	57.00	30.00
This Study	Malaysia	55.00	27.00	18.00

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[27] Corporate reports examined besides annual reports were analyst presentation, annual review, CSR report, interim report, preliminary report, web page and other reports.

Other than that, different methodologies adopted by each researcher further compounded the differences in the findings. Sample size used in these studies varies from a minimum of 20 to a maximum of 162 (this study), as shown under Table 6.6 above.

Table 6.7

METHODOLOGIES ADOPTED IN PRIOR STUDIES

Author/s	Data in year	Sample Features	Sample Size	Items in HC	Items in SC	Items in CC	Ratings scale used
Guthrie and Petty (2000)	1998	Top firm by MC	20	6	9	9	0,1,2,3
Abeysekera & Guthrie (2005)	1998 & 1999	Top firm by MC[28]	30	25	10	10	-1[29],0,1
Bozzolon et al., (2003)	2001	Non-financial	30	5	8	9	0,1,2
Goh and Lim (2004)	2001	Top firm	20	6	9	9	0,1
Guthrie et al., (2006)	2002	Top firm by MC	50	5	6	7	0,1,2,3
			100	8	9	10	0,1,2,3
Cerbioni and Parbonetti (2007)	2002 to 2004	Biotechnology European firms[30]	145	5	9	9	0,1,2,3
Foong et al., (2009)	2003	Top 30 and bottom 30 firm by MC	60	6	6	9	0,1,2,3
This Study	2006 to 2008	Top firm and GLC	162	17	7	9	0,1,2,3

On top of that, different numbers of items were used in each of the three categories of IC coupled with different rating scale. These differences in methodologies are

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[28] In the study conducted in Sri Lankan firms, the sample size chosen, despite being small, is more representative at 64.2% in 1998 and 59.93% in 1993.

[29] In their study a semantic content analysis was used. '-1' refers to intellectual liability, '0' not IC item and '1' for intellectual asset.

[30] The European countries investigated are UK (22), France (2), Switzerland (5), Sweden (6), Denmark (5), Ireland (1), Austria (1), The Netherland (2), Belgium (2), Germany (8).

summarized in Table 6.7   given above. It is apparent that there is no consistency in the number of items used in each study, thus it does not facilitate meaningful comparison.

6.3.4 EXTRACTS OF IC

Steps were taken to ensure validity and reliability in extracting IC related information. The location of the information from the company and the page number is noted for ease of reference and serve the purpose as double checking for the researcher. Extracts of each individual IC category is given in Table 6.8 below.

Table 6.8

EXTRACTS, LOCATION AND SCORE OF IC ASSIGNED

Human Capital	Example of extracts	Company	Location (Page)	Score
1.Education				
	Education is a key to a successful future for our employees and for our company. We encourage learning among children and young people by offering incentives for academic achievement as well as scholarships for higher education.	IOI Corporation	41	1
	A new key initiative was the RM2 million annual endowment for the *Astro* scholarship that would see deserving students, from among families of our subscribers, pursue their dreams of further education at leading institutions locally and abroad, in the creative arts and sciences courses.	Astro	3	3
	A key initiative created last year was the *Astro Scholarship Awards* – to support deserving students in pursuing undergraduate and graduate degrees in media and broadcasting related studies at prestigious local and foreign institutions such as the Imperial College in the UK, Stanford University in the US and the National Institute of Dramatic Art in	Astro	50	1

	Australia.		
	Building University Relationship The Group participates in career fairs organised by the local government colleges and universities where undergraduates are provided perspectives on various job opportunities available within the group. Practical trainings or internships in collaboration with these tertiary education providers are also provided by the Group to undergraduates based on their vocation as a future platform for recruitment.	KLK	43	1
	In encouraging young Malaysians to pursue their dreams and expand their higher learning knowledge, 23 students received scholarships from the Group in 2006. In addition, graduates were recruited to undergo the Institute of Chartered Accountants in England & Wales (ICAEW) Finance Trainee programme and the Chartered Institute of Management Accountants (CIMA) programme. The Group is one of the first non-audit firms awarded as the Authorised Training Organisation for ICAEW outside the UK.	Genting Bhd	41	2
2. Vocational qualifications			
	Greater focus will also be given to accelerate development of skills and talents of our people to take on new challenges and responsibilities. We believe that it is more fruitful to develop talents of committed employees than to recruit talented but uncommitted people.	IOI Corporation	5	1
	During the year under review, three key initiatives - a Certification Programme for manufacturing employees, an 'Employees Mentoring Programme' and 'Talent Management & Succession Planning' - were introduced.	Titan	8	1
3. Industrial relations			
	As a global food company with the largest R&D network in the world, Nestlé has a wealth of resources and expertise to share with local food companies. The concept of Shared Value Creation is well demonstrated by the Nestlé-SME Mentoring Programme for the food industry which is a joint initiative with the National SMI	Nestle	12	1

	Consultative Centre, established in 1999.			
	The Group has always been committed to maintaining a conducive and harmonious industrial relations climate. Throughout the year, six of the Group's 10 collective agreements came up for re-negotiation. The prevalence of good diplomatic skills and a mutual willingness to compromise for the betterment of the Group's future led to the satisfactory conclusion of several collective agreements. One such agreement was concluded in just one session. Wage adjustments agreed upon remained competitive and in tandem with the rise in living costs.	F&N	53	2
	Working closely with FOMEMA (Foreign Workers Medical Examination and Monitoring Agency) on the medical checkup of our foreign workers and the Immigration Department to expedite the renewal of the working permit of our workers, as well as, to provide feedback and suggestions to improve the efficiency of the renewal system.	Top Glove	20	1
	In response to the expectations of our stakeholders gathered from the five nationwide stakeholder dialogues conducted in 2005 with retail associations and relevant authorities, British American Tobacco Malaysia via the Confederation of Malaysian Tobacco Manufacturers (CMTM) joined hands with the Royal Malaysian Customs (RMC) and the Ministry of Domestic Trade and Consumer Affairs (MDTCA), as well as key retail associations to roll out several programmes in 2006 aimed at creating awareness on the issue of illicit tobacco trade in Malaysia.	BAT	52	1
4. Union activity				
	At IOI Group, we aim to do so in a positive way by due regard to labor practices, human rights, employee health and safety, and broader social issues affecting community relations.	IOI Corporation	40	1
	The Group also enjoys cordial relationship with its various national and in-house unions resulting in smooth business operations.	KLK	43	1

The Second Collective Agreement with the Non-Executive Union expired on 31 December 2006. Representatives from both the Non-Executive Union and the Management will now negotiate a Third Collective Agreement. These negotiations demonstrate the mutual understanding between the Union and the Company, and the Company's efforts to foster a harmonious relationship between employer and employees.	Puncak	55	1
5. Employee thanked			
Your Board has consistently recognised that our people are our strength and thus, it is only appropriate to officially express our appreciation and thanks to all our leaders and their supporting teams for their unfailing efforts to do better.	KLK	23	1
On behalf of the Board, I would like to extend our sincere appreciation to the management team and all members of the IOI Group for their unstinting commitment, dedication and loyalty without which our continuous growth and outstanding performance over the years will not be possible.	IOI Corporation	7	1
6. Employee featured			
Effort and Employee Loyalty Recognition

The Group continues to recognise and celebrate employees who have served diligently and loyally for 15 years, 25 years and more within the Group vide its Long Service Awards Programme. Our retail sector awarded its first 30 Years Long Service Award to Ms. Nancy Pritchard, US in January 2006. | KLK | 43 | 2 |
| The principal mentor for this programme is a former Nestlé manager with more than 25 years experience in Quality Assurance, which makes him an ideal mentor for the programme. | Nestle | 13 | 2 |
| StarMag's Tee Shiao Eek and Star Two's Lee Tse Ling won the Ministry of Health's media awards. For lifelong dedication to journalism, *The Star's* group editorial and education advisor and The Asian Center for Media Studies (ACMS) executive director, Dato' Ng Poh Tip, was honoured with the | Star | 58 | 1 |

Anugerah Citra Budi by the Women Journalists Association of Malaysia (Pertama).			
A total of about 2,000 employees were honoured with Long Service Awards ranging from 5, 10, 15, 20 and 25 years of service.	Genting Bhd	41	2
In line with regional best practice, we recognise and reward our employees who go the extra mile in delivering business goals. In the last quarter of 2006, we introduced the British American Tobacco Malaysia Employee Recognition Scheme – comprising various elements from thank you cards to plaques, and cash vouchers, each playing a different role in motivating and rewarding our employees.	BAT	79	1
7. Employee involvement in the community			
IOI training events that we hold for local smallholders encourage them to share experiences of good agricultural practices that can end up benefiting the entire community.	IOI Corporation	41	1
Yayasan contributed to the Tabung Thalassaemia Malaysia whereby its main objective is to help patients who are suffering from HBE Beta Thalassaemia to have access to the necessary equipment and treatment needed for the blood transfusion required. Kelab Keluarga IOI, a sports and recreation club formed by the employees of IOI Group made a social visit to Rumah Shalom and House of Joy located in Puchong. They also donated lots of household provisions and food products to both the Old Folks and Orphanage homes.	IOI Corporation	101	1
Schools built on Company's land as well as places of worship are given full support by the KLK community at the plantations in addition to support for local community services and charity work.	KLK	33	1
In keeping with *The Star's* tagline of "The People's Paper," the PJ Half Marathon, Subang Jaya 10km run, charity drives and other community projects were successfully organised, thanks to the tireless contribution of a dedicated brigade of employees who sacrifice their time willingly to ensure that the company's tradition of giving back to	Star	59	1

	the community endures.			
	Financial support was provided to many charitable homes and bodies throughout Malaysia, including the Society of the Orthopaedically Handicapped, Kiwanis Down Syndrome Foundation.	Genting Bhd	42	1
	Throughout 2006, we conducted various initiatives involving our 1400 grower-curers and 80 entrepreneurs. Activities like workshops, awareness programmes and road shows were held to educate farmers on safe handling of agrochemicals and good agricultural practices as well as the impact and implications of the ASEAN Free Trade Area - Common Effective Preferential Tariff (AFTA-CEPT) scheme.	BAT	51	2

Training and development

8. Training programs

	During the year, over 30 specially designed training programmes were conducted for executives of the Genting Group, emphasising on skills development in areas such as communications, customer service, information technology, quality management, management development, personal development, operations management for hotels and theme parks.	Genting Bhd	41	2
	At Titan Chemicals, our people are our most important asset and we believe in investing in their development. Training and development of our people are an integral part of our business planning and it is important to align these initiatives to our business strategy. These programmes are important for the creation and nurturing of intellectual capital, development of the Company's future leaders as well as employee retention.	Titan	7	1

9. Career planning and development program

	Work is currently ongoing to define and introduce a fit-for-purpose competency matrix that will define the Core and Leadership competencies needed to meet today's business challenges and growth objectives.	Astro	49	1
	Talent development is paramount to the Company. Great emphasis is placed on	BAT	10	1

	mentoring, coaching and mapping of career paths for our employees.			
	The Balanced Scorecard Performance Management was implemented across the Group during the year to ensure that employees who contributed positively to the Group's success are identified and rewarded.	Genting Bhd	41	1
10. Succession planning				
	The Board establishes the vision and strategic objectives of the Group, directing policies, strategic action plans and stewardship of the Group's resources towards realising "Vision IOI". It focuses mainly on strategies, financial performance, critical and material business issues and specific areas such as principal risks and their management, internal control system, succession planning for senior management, investor relations programme and shareholders' communication policy.	IOI Corporation	68	1
	We hope to inspire some of the returning scholars as well as groom many of our talented employees to eventually take up senior management positions to drive our growing operations in Malaysia, and across the region. Succession planning is, clearly, of great interest to the Board. In this respect, we are proud to have been able to name Rohana Rozhan as CEO for the Group's flagship direct-to-home broadcast.	Astro	3	1
	Succession planning ensures leadership continuity in key positions, skills and knowledge development and individual advancement and growth.	BAT	78	1
11. Entrepreneur skills				
	The Malaysian housing market operates under a challenging environment amidst higher energy prices and increasing interest rates, which cuts affordability and slows demand, whilst on the supply-side, there is oversupply. This has inevitably lead to slower take-up rates and higher stock overhang situation as evidenced from the Property Market Report 2005. However, we were able to adjust our product mix by focusing on the commercial sector, namely shop-houses, to counter the slack in housing	IOI Corporation	48	1

	demand.			
	In line with the positive outlook in the Malaysian Economy, the housing market should continue to remain positive, albeit challenging. Operating performance is expected to be stable in view of our ability to modify product mix to meet changing demands and changing market environment.	IOI Corporation	50	1
	Over the next 12 months, we expect to further advance these and other on-going initiatives that will substantially expand our participation in TV, Radio and content development in our key markets in Malaysia, Indonesia, India and China. These developments will transform our predominantly Malaysian-based business into a leading pan-Asian multimedia group with global distribution capabilities – one that is capable of delivering sustainable long-term revenue growth and profitability with strong free cash generation, for shareholders.	Astro	20	1
	KLK has developed innovative and environmentally friendly technique of clearing old oil palms for replanting, entailing pulverisation of the entire felled palms into small pieces and spreading the biomass widely over the whole field. No burning of the palm residues is necessary.	KLK	33	1
	A firm advocate of renewable energy, the Group commenced operations of two biomass steam generation plants in Lahad Datu and Sandakan to supply renewable energy in the form of steam, chilled water and electricity which significantly reduced its dependence on fossil fuel.	PPB	7	1
	We will work hard to maintain our customer base while articulating and courting new segments; to plan and launch revolutionary new products and improve and expand current services. We will work smart, focusing on cost control and operational excellence.	DiGI	38	1
	This year not only saw the Group adding more production lines but also the decommissioning of some of the oldest lines to make way for the installation of new and more advanced production lines. This is one of the many ways that the management had identified to keep the	Top Glove	17	1

	efficiency of its lines and factories optimal. In addition to this, the Group had installed biomass facilities at its two Thailand factories for cost saving measures. The biomass facilities are modelled after the Factory 5, located in Ipoh, Malaysia, which was the first in the Group to switch to a cheaper fuel alternative. With the biomass facilities in place, we are confident in further improving the operating margins of the Group in the coming years.			
	Newly established in 2006, this Petrochemicals Technology and Business Development department's focus is to identify research, analyze and bring to market new businesses and new products using the latest available cost competitive and reliable technology.	Titan	9	1
12. Equity issues				
	The Group does not discriminate against any race, gender, age or minorities. These policies serve as the guiding principles to inculcate a working culture that places high importance on professionalism, integrity and good governance.	IJM	80	1
	Employee by Ethnic Composition 　　　　　　2006　　　　2005 　　　　　　RM000　　　RM 000 - Bumiputra　　415　　　　388 - Chinese　　　678　　　　656 - Indian　　　　191　　　　194 - Foreigners　　539　　　　305	IJM	86	3
	It includes the publication of the Employees Handbook which highlights policies on health and safety, training and development, equality of opportunity, staff performance and serious misconduct.	KLCCP	26	1
13. Employee safety & health				
	At IOI Group, we aim to do so in a positive way by due regard to labor practices, human rights, employee health and safety, and broader social issues affecting community relations.	IOI Corporation	43	1
	The well-being of KLK plantation employees and staff continued to receive emphasis through various projects including free medical and child care centres for all workers, staff and their dependents, and	KLK	33	2

	training.			
	Health, safety and environment remain a key feature of our operations and we remain focused in maintaining our enviable safety record. For FY2006,we achieved approximately 1.06 million man hours without Lost Time Incidents ("LTI").	Dialog	6	

Work-related knowledge				
14. Know-how				
	Dato' Sri Dr. Lim brings a wealth of experience in the marketing of consumers products whilst he was the Sales Manager of a subsidiary company of OYL Industries Bhd., a company listed on Bursa Malaysia Securities Bhd. In 1991, he set up Top Glove Sdn Bhd, his own glove manufacturing and trading business with only 3 second hand production lines and has expanded this business to be the World Largest's Rubber Glove Manufacturer with 250 production lines in twelve (12) glove factories as at August 2006.	Top Glove	8	2
15. Professional experience				
	He has more than 20 years of experience in the rubber and latex manufacturing business	Top Glove	8	2
16. Expert seniority				
	Aged 48, a Malaysian citizen, was appointed as Chairman and Managing Director on 4 September 2000. He is also the founder of Top Glove Group of Companies.	Top Glove	8	2
17. Senior executive performance and results				
	He served as the President (1997 to 1999) of the Malaysian Rubber Glove Manufacturers' Association (MARGMA), prior to this, he was also the Vice-President, Treasurer, Honorary Secretary for the past seven (7) years in this association. In 1998 and 1999, he was the Director of the Association of Malaysia Medical Industries (AMMI). In 1998 and 1999, he was the Board member of the Malaysia Rubber Board.	Top Glove	8	2

Structural capital	Example of extracts	Company	Location (Page)	Score
18. Management philosophy				
	Our philosophy is to encourage our people to be committed to the work they do rather just be involved in it. Passion and determination are what transform the ordinary, into the extraordinary.	IOI Corporation	12	1
	At British American Tobacco Malaysia, we will continue to be guided by our strategic focus on generating Growth, enhancing Productivity, running our business Responsibly and building a Winning Organisation.	BAT	11	1
	"But in today's environment of compressed business cycles, globalisation and unexpected natural disasters, our centennial heritage alone does not automatically qualify us to be around the next century. We cannot stand still but yet need a degree of conservatism. In this era of meritocracy, we have to passionately improve our productivity and economic competitiveness. We need to reinforce on KLK's culture, making it more explicit and encouraging even more the positive values within our people. We need to focus on our human capital. To my colleagues, the future of KLK is entrusted to you all".	KLK	21	1
	Our vision to be "an internationally competitive Malaysian builder of world class infrastructure and buildings". Our mission is delivery with excellence and passion. With strategies well defined and a workforce fully committed, we hope to continue to produce better returns for our shareholders as well as stakeholders	IJM Corporation	57	1
	VISION We strive to be the world's leading manufacturer with excellent quality glove products and services that enrich and protect human lives MISSION To be a world class glove manufacturer providing top quality products with excellent services through continuous improvement and innovation	Top Glove	2	1

	Our business philosophies for the Company are: i) We work for our Customers; ii) We take care of the interests of our Shareholders; iii) We ensure that our Employees continue to contribute positively to the Company & we take good care of the well-being of our Employees; and iv) We work closely with our Bankers, Suppliers, Business Associates and Friends." The Group adopts a corporate philosophy that values its employees and emphasises the development of human resources.	Genting Bhd	41	1

19. Corporate culture

	A good team unites a multitude of skills behind a common vision. But a great team is inspired by a passion to excel and fervour to get the job done and the goals achieved.	IOI Corporation	19	1
	DiGi's way of working - dynamic, simple and creative.	DiGi	34	
	Wellness at Work and living up to the Nestlé Corporate Values of Trust, Respect, Involvement and Pride continue to guide the Group, helping ensure that Nestlé is a "great place to work" and a "great company to perform for".	Nestle	25	1
	CORPORATE VALUES • Global customer satisfaction • Do it right first time and every time • Integrity and total commitment • Excellence in quality and competitiveness • Environmental friendly and social responsibilities	Top Glove	2	1
	As we have always said – our people are our greatest asset. Our organisation is defined by the quality, commitment and passion of our people.	BAT	10	1

20. Management processes				
	IOI is in fact one of the ten founding members of the Roundtable on Sustainable Palm Oil ("RSPO"), a global multi-stakeholder initiative established to promote the sustainable production of palm oil. Via the RSPO, IOI has helped to define the criteria for sustainable palm oil production. The membership has given the Group a chance to enhance the practice of sustainability in the fields of agriculture, environment and social issues. Since after the adoption of RSPO's 8 principles and 39 criteria in November 2005, IOI Group had committed to test it in 2 estates, 1 in Peninsular and 1 in Sabah.	IOI Corporation	37	1
	We continue the re-engineering process of our primary infrastructure at the All Asia Broadcast Centre (ABC). This includes the new Media Management System (MMS) which is now at its final implementation phase at Cyberjaya, to further automate the broadcast transmission management process at the ABC.	Astro	34	1
	We introduced Balanced Scorecards to provide employees with greater line-of-sight to company targets and goals.	Astro	49	
21. Quality/recognition /achievements				
	Through IOI Oleo's subsidiaries, namely Acidchem, Derichem and Stabilchem, the Group has achieved highly renowned certifications on various areas. Among others, are ISO 9001 certification on quality of products, ISO14001 certification on environmental management system, OHSAS 18001 certification on occupational health and safety management system, as well as Hazard Analysis Critical Control Point/Good Manufacturing Practices (HACCP/GMP) certification on food safety. These certifications reinforce the Group's commitment to quality, environmental protection, occupational health and safety in line with best practices	IOI Corporation	43	1
	In January 2006, Dialog Plant Services Sdn Bhd ("DPSSB") was awarded with ISO9001:2000 by SIRIM QAS International Sdn Bhd, which is endorsed by the United Kingdom Accreditation Services ("UKAS"). The certification	Dialog	6	1

	covers Plant Turnaround/Shutdown and Maintenance Services to the petroleum, petrochemical, industrial gases and power generation industries			
	Best Managed Company, Best Corporate Governance, Best Commitment To Strong Dividend Payment, Third Place For Best Investor Relations 2006 – Finance Asia Recognition for being one of Malaysia's best managed companies.	BAT	1	2
	Genting Berhad - Best Investor Relations in the Singapore Market by a Malaysian Company by Investor Relations Magazine South East Asia Awards 2006.	Genting Bhd	43	1
22. Information systems				
	The Group has also established several websites with the main one being www.ioigroup.com.	IOI Corporation	75	1
	The Group's IT Department is pleased to report the successful implementation of the new Electronic Checkroll System, the e-CR Bar Code System in all estates in Peninsular Malaysia.	KLK	45	1
	In 2006, new information technology systems for better planning and execution accuracy were successfully rolled out to both the DSD set-up in Klang Valley. These systems will be deployed to the remaining distributors nationwide by end of 2007.	BAT	39	1
23. Networking systems				
	The IOI Group has a robust and fully integrated global supply chain.	IOI Corporation	41	1
	The CoE is the first of its kind for British American Tobacco Asia Pacific. It establishes best practices in trade marketing and distribution as well as houses state of the art training facilities, which include a retail simulation centre	BAT	38	1
24.Financial relations				
	The Group also participates in investor forums held locally and abroad and also organises briefings and meetings with analysts and fund managers to give them a	Genting Bhd	46	1

better understanding of the businesses of the Group.			
On a regular basis, DiGi's management hold one on-one meeting with analysts, fund managers and shareholders to provide updates on quarterly financial performance, regulatory issues as well as changes in operating environment which may impact the Group's operations.	DiGi	46	1
The Company uses the following key investor relation activities to update investors, to explain its business and financial objectives and to solicit feedback from investors: • Meeting with financial analysts and institutional fund managers; • Participating in roadshows and investors conferences, both domestically and internationally; and • Participating in teleconferences with investors and research analysts	IOI Corporation	74	
During the financial year, the Group had participated in approximately 5 roadshows and investor conferences and had approximately 80 meetings with financial analysts and investors. (This disclosure score 4 due to its further quantification).	IOI Corporation	75	2
For the financial year ended 30 September 2006, the Company also participated in "Invest Malaysia", "Minggu Saham Amanah Malaysia" and "Program Bersama PNB" where potential investors and members of the public can obtain information on the Group's businesses and performance. Management has held and/or attended 21 meetings and 8 roadshows with both local and foreign investors and analysts. The Company's website, *www.klk.com.my* is also used as a forum to communicate with the shareholders and investors and to provide information on the Group's business activities. As there may be instances where investors and shareholders may prefer to express their concerns to an independent director, the Board has appointed R. M. Alias as the Senior Independent Non-Executive Director to whom contact may be made. At all times, investors and shareholders may contact the	KLK	52	2

	Company Secretaries for information on the Company.			

Customer capital

25. Brands

	Marketed under the brand name "Clarinol", Omega-3 fatty acids marketed under the name "Marinol" and gamma linoleic acid which is marketed under the name "Gammonal".	IOI Corporation	44	1
	Key drive brands - Dunhill, Pall Mall and Kent.	BAT	8	1

26. Customers

	The Group has also established several websites with the main one being www.ioigroup.com, for shareholders and the public to access corporate information, financial statements, news and events related to the Group on a timely basis.	IOI Corporation	75	1

27. Company names

	IOI is in fact one of the ten founding members of the Roundtable on Sustainable Palm Oil ("RSPO"), a global multi-stakeholder initiative established to promote the sustainable production of palm oil.	IOI Corporation	40	1
	We are pleased to report that IOI was polled the Best Managed Company Award in Malaysia and ranked second in the Best Managed Company Award in Asia at the recent Euromoney 2005 Best Managed Company Awards, and was also polled the Best Managed Company Award in Malaysia at the Asiamoney's Best Managed Companies Awards 2005	IOI Corporation	68	1
	Our series of talent quests continue to rate highly with our viewers. The most anticipated programming highlight of the year was, again, our reality talent quest *Akademi Fantasia (AF)*.	Astro	29	1

28. Favorable contracts

	A significant portion of IOI Oleo's production is sold to customers under long term supply contracts.	IOI Corporation	43	1
	In the United States of America, ILTS's	BJToto	12	2

	revenue is expected to increase with the new contract signed with PGMC for the supply of a new on-line lottery system and 2,000 new sales terminals as well as the contracts for an election management system to be supplied to Jackson County in Missouri and LA County in California			
	Our relationship with Shell has been further strengthened with the signing of a long term procurement contract to provide catalyst handling services to its operating units. We are also pleased to report that our term contract with Chevron Thailand Exploration and Production ("CTEP") has been renewed for another 3 years.	Dialog	21	2
	The year also saw the Group being awarded the third generation (3G) IMT-2000 UMTS spectrum by the Malaysian Communications and Multimedia Commission (MCMC) for the period from 2006 until 2018 and this provides TIME dotCom the opportunity to capitalise on the growth potential in the broadband and Internet segments of the communications industry.	TIME	11	2
29. Market share				
	At the end of the financial year, there were 1.941 million subscribers in total, of which residential subscriptions accounted for 1.784 million, representing 34% of Malaysian TV homes.	Astro	20	2
	Concerted efforts by key product categories yielded strong results, with some of the categories, such as MILO, KIT KAT and NESCAFÉ making significant strides and increasing their market share.	Nestle	20	1
	Today, Top Glove supplies approximately 20% of the global market demand. Based on the Group's target to grow by about 40% in 2007 and about 30% for the later year, it is optimistic of achieving the 25% global market share by 31 December 2007 and 35% by December 2010.	Top Glove	20	2
	Within the first nine months of our acquisition, PT. TITAN was able to expand its market share from 8% to 22%!	Titan	2	2
	During the year under review, our overall market share improved to 41% from 40%,	Petronas	20	2

	thus widening the gap against our closest competitor.	Dagangan,		
	Dunhill continued to be the brand leader with 40% market share, and approximately 58% share of the premium segment, up 2% from the year before.	BAT	8	2
	At the end of the financial year, there were 1.941 million subscribers in total, of which residential subscriptions accounted for 1.784 million, representing 34% of Malaysian TV homes.	Astro	20	2
	Concerted efforts by key product categories yielded strong results, with some of the categories, such as MILO, KIT KAT and NESCAFÉ making significant strides and increasing their market share.	Nestle	20	2
	Today, Top Glove supplies approximately 20% of the global market demand. Based on the Group's target to grow by about 40% in 2007 and about 30% for the later year, it is optimistic of achieving the 25% global market share by 31 December 2007 and 35% by December 2010.	Top Glove	20	2
30. Distribution channels				
	To better serve its wide geographical distribution of customers, IOI Oleo has a network of distributors and agents in various countries, including countries in Europe, Asia and Australia as well as storage facilities in Europe, and the United States.	IOI Corporation	43	1
	Awana Vacation Resorts Development Bhd ("AVRD"). AVRD has direct exchange with resorts in Europe, Australia, China, India and Thailand, in addition to Group's resort properties. All room reservations are subject to availability.	Genting Bhd	34	1
	Our comprehensive distribution network spans the length and breadth of the country, ensuring that our brands are available everywhere in Malaysia. A second Direct Sales Delivery (DSD) set-up was created in 2006, in the Klang Valley to raise the standard of distribution. The DSD, which is wholly-owned by British American Tobacco Malaysia, aims to enhance the efficiency of the field force and	BAT	22,39	1

	management team in distribution and trade marketing activities.			
31. Business collaborations				
	IOI Oleo is also a 30% joint-venture partner with Kao Corporation of Japan for the production of fatty alcohol.	IOI Corporation	43	2
	Proactive marketing and promotional efforts including tie-ups with airlines and other merchants have enabled the resort to achieve a higher occupancy rate of 68% in 2006 (2005: 51%).	Genting Bhd	34	1
	In another partnership, announced on 10 November, DiGi and Maybank enabled customers to register DiGi prepaid lines via the bank's online portal – www.maybank2u.com.	DiGI	4	1
32. Licensing agreements				
	The Astro pay-TV service has commenced service in Indonesia under a trademark licensing arrangement.	Astro	2	1

6.4 CORRELATIONS MATRIX ANALYSIS

The Pearson product moment correlation was computed in order to examine the correlation between the independent variables. According to Ramanathan (2002), the rule of thumb is, if the pair-wise between two independent variables is in excess of 0.8, then serious multicollinearity exist. Table 6.9 below shows that the maximum value is 0.611, thus the sample chosen is in this study is free from the multicollinearity problem.

Board size (BSIZE) is significantly negatively correlated with independent directors (INED) and positively correlated with audit committee size (ACSize). This implies that a bigger board will have lesser independent directors. On the contrary, the number of audit committees will be bigger. INED is also significantly related to cross leadership

(CRSSL), suggesting that a higher proportion of independent directors is related to greater skills and knowledge through their experience. Conversely, there is negative significant correlation between CRSSL and family-owned companies (FAMC). This is not surprising as family run companies tend to nominate family members to sit on the board so as to protect their interests (Ghazali and Weetman, 2006).

With regard to having a duality role (RDUAL), GLCs as well as OWNDIFFs show a significant negative correlation, as opposed to FAMC. This is not surprising, as family run companies will tend to have the same person holding both roles, whereas, GLC and OWNDIFF will have separate people holding these roles.

From the perspective of audit committees, a bigger audit committee (ACSize), will encourage more frequent audit meetings (ACMEETING) as well as have more financial expertise (FINEXPT) sitting on the board. GLC is also significantly positively correlated to all the audit committee attributes (ACSize, ACMEETING and FINEXPT).
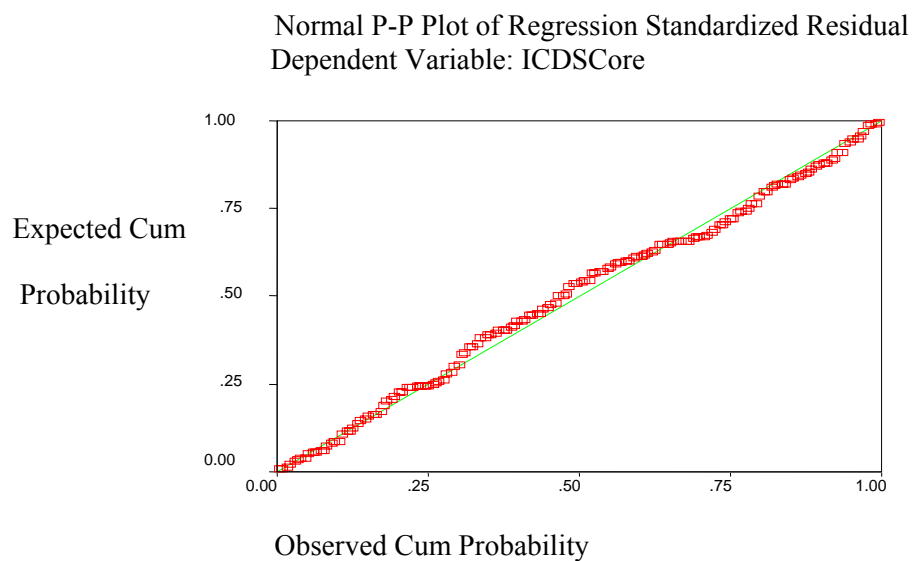
Table 6.9

Correlation Matrix

	BSIZE	INED	CRSSL	RDUAL	ACSize	ACMeeting	FINEXPT	FAMC	GLC	OWNDIFF	ROE	LEV	INSALES	TOPAUD
BSIZE	1													
INED	-.324**	1												
CRSSL	-.047	.273**	1											
RDUAL	-.047	-.045	-.044	1										
ACSize	.348**	.028	-.079	-.028	1									
ACMeeting	-.002	.193*	.127	.104	.290**	1								
FINEXPT	.082	.082	.147	.000	.043	.286**	1							
FAMC	.037	-.102	-.193*	.370**	-.161*	.101	-.143	1						
GLC	.056	.112	.069	-.217**	.317**	.260**	.272**	-.415**	1					
OWNDIFF	-.085	.002	.127	-.170*	-.119	-.324**	-.097	-.611**	-.467**	1				
ROE	-.193*	.000	-.258*	-.035	-.050	-.185*	-.077	.019	-.114	.081	1			
LEV	.203**	-.125	.183*	-.027	.003	-.012	.111	.058	-.022	-.037	.135	1		
INSALES	-.068	-.038	.059	.013	.104	.273**	.269**	-.116	.310**	-.157*	.039	.140	1	
TOPAUD	-.236**	.209**	.085	-.179*	.128	.103	.163*	-.408**	.217**	.208**	.021	-.011	.071	1

** Correlation is significant at the 0.01 level (1-tailed), Correlation is significant at the 0.05 level (1-tailed).
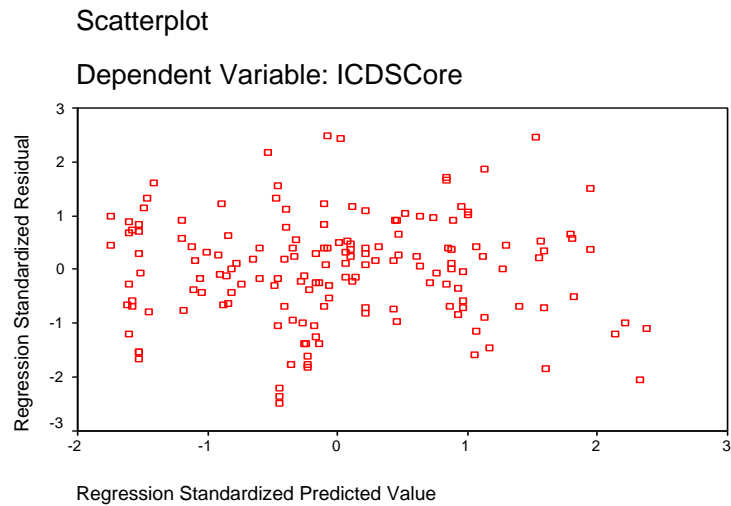
6.5   MULTIPLE REGRESSION RESULTS

The assumptions underlying multiple regression in this study have not been violated as seen from the various tests conducted on outliers, multicollinearity as well as normality, linearity, homoscedasticity and independence of residuals. The scatterplot of residuals against predicted values shows that there is no clear relationship between the residuals and the predicted values and as such the linearity assumption is not violated. The normal P-Plot and scatterplot is shown in Figure 6.3 and 6.4. This infers that there is no problem of heteroscedasticity and linearity, consistent with the diagnosis carried out by Haniffa and Cooke (2005).

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: ICDSCore

Figure 6.3

P-P Plot

Scatterplot

Dependent Variable: ICDSCore

Figure 6.4

Scatterplot

Ownership structure variables; FAMC, GLC, and OWNDIFF are all categorical variables. As such, in order to avoid the dummy variable trap, the number of dummy variables is two[31], thus eliminating perfect collinearity among the dummy variables. The control group, for this study, is the FAMC variable. As such, in interpreting the results from the output, the coefficient in the constant refers to the control group, which is FAMC.

Multiple regression using the standard enter method was chosen for this study, as the author wanted to find out the relationship of the whole set of predictors and the dependent variable. Regression was run for the aggregated results for the three years (2006 to 2008) as well as individually. The aggregate ICD, Model 1, is summarized in Table 6.10 below.

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[31] As suggested by Ramanathan (2002, p. 299), in order to avoid dummy variable trap, the number of dummy variables is always one less than the number of categories.

The *F-value* for the pooled data and year 2006 is statistically significant at the 5 percent level, while for the years 2007 and 2008, it is significant at the 1 per cent level. The pooled data shows adjusted R square of 44.1 percent. This implies that this model, Model 1, is able to explain 44.1 percent of the variance in ICD. As there is no such comparable studies conducted on these variables in Malaysia, the nearest comparable finding is that carried out by Li *et al.,* (2008), which reported an adjusted R square of 61.8 percent. Under the ownership structure variables, GLCs and OWNDIFFs showed significant positive p values, while the coefficient in the constant (representing FAMC) shows a significant negative p value, accepting all H8, H9 and H10, supporting the agency and the institutional theory. This implies that GLCs and OWNDIFFs disclose more voluntary IC related information and FAMC will not disclose more than the required information. This is consistent with Haniffa and Cooke's (2002) findings on the family ownership on Malaysian corporations' voluntary disclosure. In this study, OWNDIFF showed a significant p value, in contrast to findings from Hossain *et al.*, (1994). Eng and Mak (2003) found a positive relationship between Government ownership and disclosure, consistent with the results in this study. None of the board features investigated is able to provide explanation on the behaviour of ICD, while bigger audit committees (ACSize) and having more FINEXPT have a significant positive coefficient. ACSize and FINEXPT will be able to explain the voluntary disclosure of IC, accepting H5 and H7, supporting the institutional theory under normative isomorphism whereby professional associations, referring to the audit committees, creates pressure to provide more voluntary information.

Table 6.10

Multiple regression results, Model 1

Model 1

ICDScore$i$ = β$_0$ + β$_1$BSIZE + β$_2$RDUAL + β$_3$CRSSL + β$_4$INED + β$_5$ACSIZE + β$_6$ACMEETING + β$_7$FINEXPT + β$_8$FAMC$_i$ + β$_9$GLC$_i$ + β$_{10}$OWNDIFF$_i$ + β$_{11}$INSALES + β$_{12}$ROE + β$_{13}$LEV + β$_{14}$ TOPAUD + αi

	All		2006		2007		2008	
	Coefficients	t-statistic	Coefficients	t-statistic	Coefficients	t-statistic	Coefficients	t-statistics
Constant	-0.350	**-1.746****	-.543	-1.484	-.530	-1.453	-.106	-.299
BSIZE	-0.023	-0.302	.013	.095	-.073	-.532	-.126	-.799
RDUAL	0.023	0.352	.065	.544	.062	.514	-.070	-.510
CRSSL	0.021	0.312	.067	.502	.068	.550	-.002	-.014
INED	0.029	0.423	.009	.076	-.050	-.381	.022	.157
ACSize	0.155	**2.148****	.117	.796	.196	1.531	.251	**1.714***
ACMeeting	-0.013	-0.184	.113	.781	.052	.398	-.173	-1.214
FINEXPT	0.160	**2.421****	.099	.833	.137	1.168	.223	1.631
GLC	0.405	**4.811*****	.428	**2.688*****	.419	**2.861*****	.383	**2.249****
OWNDIFF	0.346	**4.334*****	.376	**2.623****	.320	**2.317****	.331	**1.959***
INSALES	0.385	**5.763*****	.363	**2.771*****	.429	**3.429*****	0.338	**2.640****
ROE	0.152	**2.295****	.247	**1.735***	.130	1.114	0.114	.911
LEV	-0.203	**-3.095*****	-.241	**-1.952***	-.220	**-1.864***	-0.182	-1.396
TOPAUD	-0.125	**-1.807***	-.088	-.684	-.168	-1.345	-.116	-.871
Adjusted R-square	0.441		0.374		0.431		0.323	
F-value	**10.781****		**3.431****		**4.082*****		**2.943*****	
N	162		54		54		54	

Notes:
***Significant at 0.01 level; **Significant at 0.05 level; *Significant at 0.1 level
ICDScore= aggregate score of HCScore, SCSCore and CCScore, BSIZE=Board size, RDUAL=Board leadership, CRSSL=Cross leadership, INED=Board composition, ACSize=Audit committee size, ACMEETING= Number of audit committee meetings, FINEXPT= Finanicla expertise in Audit Committee Board, INSALES=Sales, ROE=Returns on equity, LEV=Leverage, TOPAUD=Top 4 auditor.

This could also be in response to the Government's concern on the role played by this committee. Thus, the significant role played by this committee may form the backbone to push for further ICD. As for the control variables, in the pooled data, ROE and

INSALES show a positive significant p value, consistent with Cerbioni and Parbonetti (2007), likewise LEV and TOPAUD have negative significant p value. High leverage company is not disclosing any IC related information, this could be that leverage is not an efficient mechanism tool in Malaysia as advocated by Gomez and Jomo (1997). Further TOPAUD is not encouraging disclosure of voluntary information.

Results on regression run yearly do not show significant difference in the adjusted R-square of; 37.4, 43, and 32.3 per cent for 2006, 2007 and 2008 respectively. Only GLCs and OWNDIFFs are able to predict ICD for each year, and similar to the pooled data, none of the board features will have any impact on ICD. In 2008, ACSize showed a significant positive p value, implying the increasing importance of its role. This could be in response to the Government's call for the enhancement to the role and importance of audit committees.

6.5.1   REGRESSION ON INDIVIDUAL COMPONENTS OF IC

Besides the aggregate model 1 on ICD, each component of IC being HC, SC and CC is regressed against the independent variables in this study.   The following sections provide the findings in respect of multiple regression on HC, SC and CC respectively.

6.5.1.1 MULTIPLE REGRESSION ON HC

Human capital was regressed against the independent variables, in order to find out whether HC has a relationship with corporate governance and ownership structure variables in this study. The regressions results, Model 2, for both the pooled data and individual data is given in Table 6.11. Only the pooled data and the year 2008 show a

significant F-value of 3.851 and 1.710 at the 1 per cent level and 10 percent respectively. The adjusted R square for this Model is 18.7 percent, rather low in comparison to the aggregate Model 1, which has an adjusted R square of 44.1 percent. In the pooled data, the only significant variable is OWNDIFF. For each individual year, the adjusted R square improves from 1.4 percent in 2006 to 14.8 percent in year 2008. In year 2008, ACSize is significant in predicting disclosure of HC. This indicates that the component of HC is a poor model, in comparison to the aggregate model, Model 1.

Table 6.11

Multiple regression results, Model 2

Model 2: HCScore$i$ = β_0 + β_1BSIZE + β_2RDUAL + β_3CRSSL + β_4INED + β_5ACSIZE +β_6ACMEETING + β_7FINEXPT + β_8FAMC$_i$ + β_9GLC$_i$ + β_{10}OWNDIFF$_i$ + β_{11}INSALES + β_{12}ROE + β_{13}LEV + β_{14} TOPAUD + αi

	All		2006		2007		2008	
	Coefficients	t-stat	Coefficients	t-stat	Coefficients	t-stat	Coefficients	t-stat
Constant	-.056	-.602	-.021	-.129	-.169	-.967	.076	460
BSIZE	.065	.713	.099	.567	.047	.276	-.114	-.644
RDUAL	-.036	-.457	.084	.564	-.061	-.406	-.190	-1.238
CRSSL	-.051	-.608	.027	.162	-.053	-.349	-.110	-.721
INED	.108	1.311	.093	.600	.085	.519	.108	.684
ACSize	.106	1.219	.106	.577	.033	.208	.329	**2.003***
ACMeeting	-.051	-.587	.064	.352	.051	.319	-.250	-1.564
FINEXPT	.117	1.468	.031	.209	.056	.389	.235	1.530
GLC	.147	1.447	.253	1.269	.247	1.371	-.056	-.293
OWNDIFF	.216	**2.237****	.185	1.032	.244	1.436	.161	.848
INSALES	.321	**3.983*****	.222	1.351	.457	**2.967*****	.245	**1.703***
ROE	.008	.100	.084	.473	-.033	-.229	-.051	-.366
LEV	-.240	**-3.035*****	-.250	-1.612	-.190	-1.311	-.306	**-2.092*****
TOPAUD	-.011	-.131	-0.038	-0.239	-.052	-.340	-0.027	-0.179
Adjusted R-square	0.187		0.014		0.135		0.148	
F-value	**3.851***		1.059		1.636		**1.710***	
N	162		54		54		54	

Notes:

***Significant at 0.01 level; **Significant at 0.05 level; *Significant at 0.1 level
HSCore= aggregate score of HC, BSIZE=Board size, RDUAL= Board leadership, CRSSL= Cross leadership, INED= Board composition, ACSize= Audit committee size, ACMEETING= Number of audit committee meetings, FINEXPT= Financial expertise in Audit Committee Board, INSALES=Sales, ROE=Returns on equity, LEV=Leverage, TOPAUD=Top 4 auditor

6.5.1.2 MULTIPLE REGRESSION ON SC

Table 6.12 below shows that the F-value of the adjusted square for the pooled data is significant at the 1 per cent level, while for the years 2006 and 2007 is at the 5 percent level and lastly for the year 2008 is at 10 per cent level. The adjusted R square for the pooled data is 31.8 percent with GLCs and OWNDIFFs having a significant positive relationship in both the pooled data as well as for 2006 and 2008. CRSSL has a negative significant relationship in the pooled data at the 10 per cent level. This implies that multiple directorships do not encourage voluntary disclosure of SC. Both GLCs and OWNDIFFs disclosed voluntary information of SC for pooled data and in years 2006 and 2008.

Table 6.12

MULTIPLE REGRESSION RESULTS, MODEL 3

Model 3:

$SCScore_i = \beta_0 + \beta_1 BSIZE + \beta_2 RDUAL + \beta_3 CRSSL + \beta_4 INED + \beta_5 ACSIZE + \beta_6 ACMEETING + \beta_7 FINEXPT + \beta_8 FAMC_i + \beta_9 GLC_i + \beta_{10} OWNDIFF_i + \beta_{11} INSALES + \beta_{12} ROE + \beta_{13} LEV + \beta_{14} TOPAUD + \alpha_i$

	All		2006		2007		2008	
	Coefficients	t-stat	Coefficients	t-stat	Coefficients	t-stat	Coefficients	t-stat
Constant	.047	.578	.006	.043	.012	.079	.150	1.033
BSIZE	-.049	-.591	-.038	-.251	-.110	-.692	-.049	-.281
RDUAL	.092	1.283	.096	.750	.101	.713	.097	.641
CRSSL	-.130	**-1.706***	-.114	-.793	-.075	-.526	-.161	-1.068
INED	.004	.058	.057	.424	-.114	-.742	.033	.211
ACSize	.075	.935	.079	.503	.144	.965	.074	.460
ACMeeting	.052	.661	.176	1.136	-.039	-.257	.060	.381
FINEXPT	.111	1.515	.199	1.552	.016	.117	.083	.548
GLC	.445	**4.785*****	.510	**2.977*****	.372	**2.182****	.496	**2.635*****
OWNDIFF	.345	**3.911*****	.442	**2.862*****	.239	1.489	.390	**2.087*****
INSALES	.271	**3.674*****	.194	1.372	.395	**2.718*****	.169	1.192
ROE	.131	**1.790***	.159	1.037	.083	.609	.132	.953
LEV	-.079	-1.086	-.117	-.878	-.145	-1.058	.017	.120
TOPAUD	-.011	-.139	-.163	-1.182	-.042	-.287	-.169	-1.192
Adjusted R-square	0.318		0.274		0.230		0,171	
F-value	**6.787*****		**2.542****		**2.218****		**1.840***	
N	162		54		54		54	

Notes:
***Significant at 0.01 level; **Significant at 0.05 level; *Significant at 0.1 level
SCScore= aggregate score of SC, BSIZE=Board size, RDUAL= Board leadership, CRSSL= Cross leadership, INED= Board composition, ACSize= Audit committee size, ACMEETING= Number of audit committee meetings, FINEXPT= Financial expertise in Audit Committee Board, INSALES=Sales, ROE=Returns on equity, LEV=Leverage, TOPAUD=Top 4 auditor.

6.5.1.3　MULTIPLE REGRESSION ON CC

Under this final model, Model 4, the adjusted R square for the pooled data, at 34.6 percent, reflects the best result compared to Models 2 and 3. Table 6.13 depicts the results obtained from regression analysis. The F-value is significant at the 1 percent level for the pooled data as well as for all the individual years except 2006 at the 5 per cent level.

FAMC has a negative significant relationship in the pooled data as well as in the individual years, implying that FAMC is not inclined to disclose voluntary information on CC. Other ownership variables, GLCs and OWNDIFFs have a positive significant relationship, thus are disclosing voluntary information on CC. With regards to corporate governance attributes, CRSSL, ACSize and FINEXPT are significant and have a positive coefficient. Thus, directors with multiple directorships, bigger ACSize and audit committee with more FINEXPT are more motivated to disclose voluntary information on CC.

Table 6.13

MULTIPLE REGRESSION RESULTS, MODEL 4

Model 4;

CCScore$i$ = β_0 + β_1BSIZE + β_2RDUAL + β_3CRSSL + β_4INED + β_5ACSIZE + β_6ACMEETING + β_7FINEXPT + β_8FAMC$_i$ + β_9GLC$_i$ + β_{10}OWNDIFF$_i$ + β_{11}INSALES + β_{12}ROE + β_{13}LEV + β_{14} TOPAUD + αi

	All		2006		2007		2008	
	Coefficients	t-stat	Coefficients	t-stat	Coefficients	t-stat	Coefficients	t-stat
Constant	-.416	**-3.854***	-.528	**-2.521****	-.373	**-1.763***	-.333	**-1.789***
BSIZE	-.060	-.731	-.017	-.109	-.096	-.628	-.120	-.737
RDUAL	.006	.090	-.002	-.017	.093	.688	-.054	-.380
CRSSL	.176	**2.354****	.192	1.299	.224	1.632	.203	1.448
INED	-.030	-.402	-.088	-.638	-.079	-.532	-.068	-.472
ACSize	.170	**2.178****	.095	.584	.250	**1.745***	.171	1.140
ACMeeting	-.025	-.316	.048	.298	.089	.615	-.181	-1.232
FINEXPT	.146	**2.033****	.028	.212	.209	1.604	.187	1.333
GLC	.364	**3.999***	.286	1.624	.354	**2.163***	.436	**2.495***
OWNDIFF	.267	**3.092***	.282	**1.778***	.261	**1.691***	.236	1.358
INSALES	.315	**4.365***	.409	**2.818***	.198	1.419	.343	**2.604***
ROE	.199	**2.782***	.305	**1.937***	.216	1.655	.169	1.320
LEV	-.158	**-2.225****	-.209	-1.524	-.176	-1.335	-.122	-.908
TOPAUD	-.231	**-3.083***	-.080	-.564	-.314	**-2.252***	-.264	**-1.922***
Adjusted R-square	0.346		0.231		0.290		0.285	
F-value	**7.555***		**2.223****		**2.666***		**2.626***	
N	162		54		54		54	

Notes:
***Significant at 0.01 level; **Significant at 0.05 level; *Significant at 0.1 level
CCScore= aggregate score of CC, BSIZE=Board size, RDUAL=Board leadership, CRSSL= Cross leadership, INED= Board composition, ACSize= Audit committee size, ACMEETING= Number of audit committee meetings, FINEXPT= Financial expertise in Audit Committee Board, INSALES=Sales, ROE=Returns on equity, LEV=Leverage, TOPAUD=Top 4 auditor

6.6 EXAMINATION OF HYPOTHESES

Tables 6.14 to 6.17 summarise the relationship between independent variables and IC (Table 6.14), and its individual components, namely, HC (Table 6.15), SC (Table 6.16), and CC (Table 6.17) for the pooled data. In reference to Table 6.14, for the aggregate model 1, FAMC, GLC and OWNDIFF ownership structures have a significant p value, supporting H8, H9 and H10.

Table 6.14
SUMMARY OF MULTIPLE REGRESSION RESULTS
(POOLED DATA-MODEL 1)

Model 1: ICDScore$i$ = β_0 + β_1BSIZE + β_2RDUAL + β_3CRSSL + β_4INED + β_5ACSIZE +β_6ACMEETING + β_7FINEXPT + β_8FAMC$_i$ + β_9GLC$_i$ + β_{10}OWNDIFF$_i$ + β_{11}INSALES + β_{12}ROE + β_{13}LEV + β_{14} TOPAUD + αi

Hypothesis	Predicted sign	Actual Sign	Hypothesis support#			
			Strong	Moderate	Weak	None
H1Board Size	-	-				√
H2RDUAL	+	+				√
H3CRSSL	+	+				√
H4INED	+	+				√
H5ACSize	+	+		√		
H6ACMeeting	+	-				√
H7FINEXPT	+	+		√		
H8FAMC	-	-		√		
H9GLC	+	+	√			
H10 OWNDIFF	+	+	√			

#Strong support at 1 per cent level significant level, Moderate support at 5 per cent significant level and Weak support at 10 percent level.

Out of the seven corporate governance variables examined, ACSize and FINEXPT show significant results, thus supporting H5 and H7. On the other hand, BSIZE, RDUAL, CRSSL, INED and ACMeeting did not have any influence on voluntary disclosure of IC, rejecting H1, H2, H3, H4 and H6. The findings support the agency theory whereby family owned companies do not disclose voluntary ICD. This is consistent with Li *et al.,* (2008), whereby family owned companies are less responsive to investors' information costs, as they have privileged inside information, thus does not require such information to be disclosed in the annual report. In contrast, GLCs and OWNDIFFs appear to be disclosing more voluntary information on IC, supporting the institutional theory. GLC and OWNDIFF were more inclined to disclose voluntary information on IC due to pressure created by the institutions.

Table 6.15 summarizes multiple regression results on HC. None of the corporate governance attributes have any influence on voluntary disclosure of HC except OWNDIFF at the 5 per cent level. This implies that OWNDIFF is seen to be disclosing more voluntary information on HC in support of the institutional theory.

Table 6.15

Summary of multiple regression results (Pooled data – Model 2)

Model 2: HCScore$i$ = β_0 + β_1BSIZE + β_2RDUAL + β_3CRSSL + β_4INED + β_5ACSIZE +β_6ACMEETING + β_7FINEXPT + β_8FAMC$_i$ + β_9GLC$_i$ + β_{10}OWNDIFF$_i$ + β_{11}INSALES + β_{12}ROE + β_{13}LEV + β_{14} TOPAUD + αi

Hypothesis	Predicted sign	Actual Sign	Hypothesis support#			
			Strong	Moderate	Weak	None
H1aBoard Size	-	+				√
H2aRDUAL	+	-				√
H3aCRSSL	+	-				√
H4aINED	+	+				√
H5aACSize	+	+				√
H6aACMeeting	+	-				√
H7aFINEXPT	+	+				√
H8aFAMC	-	-				√
H9aGLC	+	+				√
H10a OWNDIFF	+	+		√		

#Strong support at 1 per cent level significant level, Moderate support at 5 per cent significant level and Weak support at 10 percent level.

When the regression was run on SC, it was found that GLC and OWNDIFF both have significant results, supporting H9b and H10b (Table 6.16). This possibly could be due to the need to disclose SC information in support of peer pressure and to be legitimate, as argued by the institutional theory. All the corporate governance attributes are insignificant and are in the same direction except for CRSSL. With regard to CC, as shown in Table 6.17 below, CRSSL, ACSize, FINEXPT, and all the three ownership structures are significant, accepting H3c, H5c, H7c, H8c, H9c and H10c. This implies that FAMC is also not disclosing voluntary information on CC, while, GLCs and OWNDIFFs are more transparent in providing information on CC in the annual report.

Board diversity (CRSSL), ACSize and FINEXPT also have influence in disclosing information on CC.

Table 6.16

Summary of multiple regression results (Pooled data – Model 3)

Model 3: SCScore$i$ = β_0 + β_1BSIZE + β_2RDUAL + β_3CRSSL + β_4INED + β_5ACSIZE +β_6ACMEETING + β_7FINEXPT + β_8FAMC$_i$ + β_9GLC$_i$ + β_{10}OWNDIFF$_i$ + β_{11}INSALES + β_{12}ROE + β_{13}LEV + β_{14} TOPAUD + αi

Hypothesis	Predicted sign	Actual Sign	Hypothesis support#			
			Strong	Moderate	Weak	None
H1bBoard Size	-	-				√
H2bRDUAL	+	+				√
H3bCRSSL	+	-			√	
H4bINED	+	+				√
H5bACSize	+	+				√
H6bACMeeting	+	+				√
H7bFINEXPT	+	+				√
H8bFAMC	-	+				√
H9bGLC	+	+	√			
H10b OWNDIFF	+	+	√			

#Strong support at 1 per cent level significant level, Moderate support at 5 per cent significant level and Weak support at 10 percent level.

Table 6.17

Summary of multiple regression results (Pooled data – Model 4)

Model 4: CCScore$i$ = β_0 + β1BSIZE + β2INED + β3RDUAL + β4CRSSL + β5ACSIZE +β6ACMEETING + β7FINEXPT+ β8FAMC$_i$ + β9 GLC$_i$ + β10 OWNDIFF$_i$ + β11INSALES + β12ROE + β13LEV + β14 TOPAUD + αi

Hypothesis	Predicted sign	Actual Sign	Hypothesis support#			
			Strong	Moderate	Weak	None
H1cBoard Size	-	-				√
H2cRDUAL	+	+				√
H3cCRSSL	+	+		√		
H4cINED	+	-				√
H5cACSize	+	+		√		
H6cACMeeting	+	-				√
H7cFINEXPT	+	+		√		
H8cFAMC	-	-	√			
H9cGLC	+	+	√			
H10cOWNDIFF	+	+	√			

#Strong support at 1 per cent level significant level, Moderate support at 5 per cent significant level and Weak support at 10 percent level.

6.7 SUMMARY OF COMPARISON STUDIES

Few studies have examined on the impact of corporate governance on ICD. The literature review in Chapter 3 (Section 3.2) provides empirical studies conducted in this area by Li *et al.,* (2008), Cerbioni and Parbonetti (2007) and Firer and Williams (2003). The findings are summarized and compared to this study in Table 6.18 below.

Table 6.18

Summary of Comparative studies on ICD and corporate governance

Author	Board composition (INED)	Board size (BSIZE)	CEO Duality	CRSSL	Audit committee			Ownership structure		
					Size	Frequency of meeting	Financial expertise	Family-owned *(SCON)	OWN DIFF	GLC
Li *et al.*, (2008)	+	+	No effect	N/A	+	+	NA	*-	NA	NA
Cerbioni and Parbonetti (2007): Quantity of ICD	+	-	-	-	NA	NA	NA		NA	NA
Quality of ICD	+	No effect	-	+	NA	NA	NA		NA	NA
Firer and Williams (2003)	NA	NA	NA	NA	NA	NA	NA	*-	+	+
This study (pooled model)	No effect	No effect	No effect	No effect	+	No effect	+	-	+	+

Note: *SCON refers to share concentration; CEO Duality is aka as leadership while, board composition refers to proportion of independent directors

6.8   DISCUSSION ON HYPOTHESES ON CORPORATE GOVERNANCE VARIABLES

The following sections discuss each hypothesis of corporate governance variables and its significance or otherwise in explaining the behavioural practice of provision of voluntary information on IC in its annual reports.

6.8.1   BOARD SIZE (BSIZE)

The regression results, Model 1 show that board size is insignificant in influencing ICD, as such H1 is rejected. This implies that the number of directors on a board in corporations will have no impact in determining the disclosure of IC related information. Individually, Model 2, 3 and 4, also garner the same result as Model 1, thus rejecting H1a, H1b, and H1c.

> H1: There is a **negative** association between board size (BSIZE) and voluntary disclosure of Intellectual Capital Information namely: (H1a) Human Capital Information, (H1b) Structural Capital Information, and (H1c) Customer Capital Information.

6.8.2   BOARD LEADERSHIP (RDUAL)

The practice of separation of the roles of chairman and CEO will result in corporations voluntarily disclosing more IC related information. Results from the regression, Model 1, 2, 3 and 4, show that such separation has no impact on ICD, thus H2, H2a, H2b and H2c are also rejected.

H2: There is a **positive** association for corporations with a Chairman who do not hold the position of CEO (RDUAL) and voluntary ICD information namely: (H2a) Human Capital information, (H2b) Structural Capital information, and (H2c) Customer Capital.

These findings are consistent with Ho and Wong (2001), where no significant relationship was found between board leadership and the extent of voluntary disclosure by Hong Kong corporations. Barako *et al.,* (2006) also have similar findings on Kenyan corporations. As such, the results imply that board leadership has no influence on voluntary disclosure of IC related information for corporations in Malaysia.

6.8.3   BOARD DIVERSITY (CRSSL)

It was proposed that cross-directorships may enhance transparency and as such may encourage voluntary disclosure. Results prove that board diversity with directors having cross leadership roles have no influence in providing voluntary disclosure of IC related information, thus rejecting H3. Individually, CRSSL is able to predict disclosure of SC and CC, thus accepting H3b and H3c.

H3: There is a **positive** association between cross leadership and voluntary disclosure of Intellectual Capital information namely: (H3a) Human Capital information, (H3b), Structural Capital information, and (H3c) Customer Capital information.

6.8.4   BOARD COMPOSITION (INED)

Having more non-executive independent directors will motivate more voluntary disclosure of IC, but the results do not show such for both the aggregate model as well as individual component of IC. This results in the rejection of H4, H4a, H4b as well as H4c.

> H4: There is a **positive** association between board composition, (INED) and voluntary disclosure of Intellectual Capital information namely: (H4a) Human Capital information, (H4b) Structural Capital information, and (H4c) Customer Capital information.

6.8.5   AUDIT COMMITTEE SIZE (ACSIZE)

It was hypothesized that bigger audit committee and more frequent audit committee meetings will encourage more voluntary disclosure of IC related information. Based on the multiple regression results, audit committee size has an impact on providing aggregate ICD information and CC, thus accepting H5 and H5c. H5a and H5b are both rejected. This may be due to the importance of human capital as well as in response to the Government's call for Human Capital Development. This is in support of the institutional theory under normative isomorphism whereby professional associations, here the audit committee, are able to create pressure in providing more voluntary information.

> H5: There is a **positive** association between size of audit committee (ACSize) and voluntary disclosure of Intellectual Capital information namely: (H5a)

Human Capital information, (H5b) Structural Capital information, and (H5c) Customer Capital information.

6.8.6 AUDIT COMMITTEE MEETING (ACMEETING)

By having more frequent audit committee meetings, corporations will be encouraged to voluntarily disclose IC related information. The regression results show otherwise, thus H6, H6a, H6b and H6c are rejected due to the insignificant results.

H6: There is a **positive** association between frequency of audit committee meeting (Meeting) and voluntary disclosure of Intellectual Capital information namely: (H6a) Human Capital information, (H6b) Structural Capital information, and (H6c) Customer Capital information.

This finding is in contrast with Li *et al.,* (2008) which found significant positive relationship between ICD and regular audit committee meetings.

6.8.7 FINANCIAL EXPERTS (FINEXPT)

Having more financial experts in the audit committee will encourage more disclosure of IC and CC, supporting H7 and H7c only. In this study, CC refers to customer capital information such as brands, customers, company names, favourable contracts, market share, distribution channels, business collaborations, licensing agreements and franchising agreements. The most popular CC items disclosed were company names, customers and business collaborations at 4% and 3% of total ICD, as shown in Table 6.5.

6.9 DISCUSSION OF HYPOTHESES ON OWNERSHIP STRUCTURE

Each type of ownership structure is explained in turn to find out whether FAMC, GLC and OWNDIFF has any significance in the provision of voluntary information of IC it is annual report. The following sections discuss the results for each ownership structure.

6.9.1 FAMILY OWNED COMPANIES (FAMC)

Family owned companies with concentrated ownership, are unlikely to disclose more voluntary information. Results show a significant negative coefficient for family controlled companies in Model 1 and Model 4, thus accepting H8 and H8c.

> H8: There is a **negative** association between family owned company (FAMC) and the extent of voluntary disclosure of Intellectual Capital information namely: (H8a) Human Capital information, (H8b) Structural Capital information, and (H8c) Customer Capital information.

This finding is consistent with findings by Haniffa and Cooke (2002) on Malaysian corporations' voluntary disclosure. Similar findings were reported by Chau and Gray (2002) on Hong Kong and Singaporean companies. In agreement with Chau and Gray (2002), family owned companies have little motivation to disclose voluntary information due to less demand in comparison to widely held corporations.

6.9.2 GOVERNMENT-LINKED COMPANIES (GLC)

GLCs are perceived to disclose more voluntary information in support of the Government's policies and initiatives from the perspective of the Institutional Theory. Regression results from Model 1, 3 and 4 all have a significant positive p value, thus accepting H9, H9b and H9c. GLC, however do not provide greater disclosure of information on HC, as shown in model 2. Possible explanation could be that GLCs follow closely government guidelines, thus presenting significant results.

> H9: There is a **positive** association between GLC and the extent of voluntary disclosure of IC information namely: (H9a) Human Capital information, (H9b) Structural Capital information, and (H9c) Customer Capital information.

6.9.3 DIFFUSED-OWNERSHIP (OWNDIFF)

Widely held companies may provide additional information so as to be seen to be providing voluntary information and to be seen as acting in the best interests of the principals. Both the aggregate IC and individual IC reflect significant positive p values, thus accepting hypotheses H10, H10a, H10b and H10c. This could well be due to pressure in providing more voluntary information, in support of the Institutional Theory.

> H10: There is a **positive** association between diffused ownership (OWNDIFF) and the extent of voluntary disclosure of Intellectual Capital information namely: (H10a) Human Capital information, (H10b) Structural Capital information, and (H10c) Customer Capital information.

This finding is consistent with Chau and Gray (2002) on Hong Kong and Singaporean corporations. As advocated by Chau and Gray (2002, p.258), the "growing pressures for internationalization and global transparency" motivated the voluntary disclosure of information in widely held corporations.

6.10   SUMMARY OF HYPOTHESES TESTS

In this study, the extent of ICD among three different ownership structures was investigated. Multiple regression was run on both the aggregate disclosure of IC as well as the individual components of IC, being HC, SC and CC. The hypotheses testing are summarized in Table 6.19.

Table 6.19

SUMMARY OF RESULTS

Research Objectives (RO)	Research Questions (RQ)	Hypothesis	Predicted result	Actual Result	Significance
RO2	RQ2	H1	-	-	Not significant
		H1a	-	+	Not significant
		H1b	-	-	Not significant
		H1c	-	-	Not significant
		H2	+	+	Not significant
		H2a	+	-	Not significant
		H2b	+	-	Not significant
		H2c	+	+	Not significant
		H3	+	+	Not significant
		H3a	+	-	Not significant
		H3b	+	-	**Significant**

		H3c	+	+	**Significant**
		H4	+	+	Not significant
		H4a	+	+	Not significant
		H4b	+	+	Not significant
		H4c	+	-	Not significant
		H5	+	+	**Significant**
		H5a	+	+	**Significant**
		H5b	+	+	Not significant
		H5c	+	+	Not significant
		H6	+	-	Not significant
		H6a	+	+	Not significant
		H6b	+	+	Not significant
		H6c	+	-	Not significant
		H7	+	+	**Significant**
		H7a	+	+	Not significant
		H7b	+	+	Not significant
		H7c	+	+	**Significant**
RO3.	RQ3	H8	-	-	**Significant**
		H8a	-	-	Not Significant
		H8b	-	+	Not significant
		H8c	-	-	**Significant**
		H9	+	+	**Significant**
		H9a	+	+	Not Significant
		H9b	+	+	**Significant**
		H9c	+	+	**Significant**
		H10	+	+	**Significant**

		H10a	+	+	**Significant**
		H10b	+	+	**Significant**
		H10c	+	+	**Significant**

The regression analyses show that ownership structure is able to explain the disclosure behavior for IC related information supporting H8, H8b, H8c, H9, H9b H9c and H10, H10a, H10b and H10c respectively. However with regard to the components of HC, H8a is not supported, implying family owned companies are not influenced by Human Capital information disclosure. Consistent with the agency theory and prior studies on Malaysia corporations by Haniffa and Cooke (2002), family owned companies restrict themselves from disclosing more than the mandated requirement possibly due to better access to information for internal information demand.

Among the corporate governance attributes investigated in this study, Models 3 and 4 are better predictors for disclosure of SC and CC. RDUAL, whereby an independent chairman is hypothesized to disclose more voluntary information on IC. Result shows that they disclose more SC and CC information, whereas HC information has no impact on duality role, thus accepting H3b and H3c.

The other corporate governance attributes which have a significant impact on ICD is ACSize. Having bigger audit committees encourage more disclosure of IC and HC, accepting H5 and H5a. This could be due to institutional pressure imposed onto the audit committee to be more transparent. Lastly, having financial experts sitting on audit committees also appear to show a significant impact on disclosure of IC and CC as evident in the acceptance of H7 and H7c. This again could be due to the significant role

played by audit committees in achieving greater transparency as well as in response to the Government's call to its revised Code.

In sum, out of the seven corporate governance attributes, only audit committee size and having financial experts in the audit committee board has impact on voluntary disclosure of IC and its components. This is not surprising as the study carried out by Haniffa and Cooke (2002) found that out of the thirty-one variables in the regression model, only that of non-executive director and domination of family members on the board have significant effects on the extent of voluntary disclosure[32]. Ownership structure is able to provide explanation on the behavioural practice on the disclosure of voluntary information of IC and its components.

In the pooled data, all the four control variables have a significant impact on ICD. While, yearly, only sales has an impact on ICD. The more recently concluded study by Li *et al.,* (2008) look at these corporate governance variables in their study; board composition, role duality, ownership structure and audit committee size as well as the frequency of meetings and regress them with ICD. They found significant results on all the variables except for role duality on voluntary disclosure of intellectual capital. Although not comparable because of different socio-economic environments, methodology and the fact that that study was based on corporations in a developed country, UK, these findings may serve as a call on regulators, and all parties concerned to re-visit the need to disclose more voluntary information with regard to IC, which is fast becoming the essential ingredient of the twenty-first century corporate reporting.

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[32] In this study ownership structure is grouped separately in contrast with Haniffa and Cooke which includes family on board as one of the variables under corporate governance variables.

6.11   CONCLUSIONS

This chapter discussed the findings from data collected from sample companies listed in Bursa Malaysia. It is evident that from the overall disclosure of IC, Human Capital (HC) has the highest disclosure of 55 per cent, followed by Structural Capital (CC), at 27 per cent, while the least disclosed is Customer Capital (CC), at 18 per cent. HC scoring the highest disclosure is not surprising as human capital development is the key towards achieving competitive advantage. In sum, IC related information was disclosed in narrative form, consistent with prior study such as Foong *et al*., (2009). Corporate governance factors which are able to explain the ICD are audit committee and financial experts in the audit committee. With regard to ownership structure all the three variable, FAMC, GLCs and OWNDIFFs provide support to the hypotheses proposed in this study. This chapter has provided the findings to the answering of the research questions as well as the descriptive and inferential statistics collated in the study. The next chapter will look into the summary and conclusions and discussion on the significance of the findings.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1   INTRODUCTION

This chapter summarizes the overall findings drawn from the preceding chapter and discusses contributions and limitations as well as recommendations for future research. This chapter is organized as follows: Section 7.2 provides the summary of the findings and conclusions drawn. Section 7.3 discusses the implications and contributions, while Section 7.4 addresses the limitations of the study. Recommendations for future studies are elaborated in Section 7.5. Concluding remarks are given in Section 7.6.

7.2   SUMMARY OF FINDINGS AND CONCLUSIONS

The objectives of this study are to find out what type and the extent of intellectual capital (IC) related information disclosed in companies listed in Bursa Malaysia as well as investigating the relationship between corporate governance attributes, ownership structure and intellectual capital disclosure (ICD).

The corporate governance attributes examined were board size, leadership, cross-directorship, composition, audit committee size and the frequency of audit committee meetings and financial experts in the audit committee. Board size (BSIZE) is measured by the total number of directors on the board, while leadership (RDUAL) refers to whether the Chairman is also holding the position of CEO. Diversity of board, coined as cross leadership (CRSSL), is measured as the ratio of directors who are also directors in

other companies to the total number of directors. Board composition (INED) is calculated from the proportion of outside directors (independent) to the total number of directors. Other corporate governance variable is the audit committee, covering audit committee size (ACSize) measured by the total number of audit committee members, while ACMEETING refers to the total number of audit committee meetings held over the year. FINEXPT refers to the number of audit committee member who is financial literate. Each research question postulated in this study is discussed below.

7.2.1 RQ1 What type of and the extent of IC related information is disclosed in the annual reports of companies listed in Bursa Malaysia?

It is evident that from the overall disclosure of IC, Human Capital (HC) has the highest disclosure of 55 per cent, followed by Structural Capital (SC), at 27 per cent. While the least disclosed is Customer Capital (CC), at 18 per cent. Looking from the perspective of each component of IC individually, the most popular items disclosed under HC are:, education (HC1); employees thanked (HC5); employees involvement in the community (HC7); and training programmes (HC11). All companies disclosed know-how (HC14), professional experience (HC15), expert seniority (HC16) and senior executive performance and results (HC17).

From the structural capital (SC) perspective, all the companies disclosed information which fell into this category, which are management philosophy, corporate culture, management processes, quality/achievements/recognitions, information systems, networking systems and financial relations. While, under customer capital (CC), the most disclosed item is company names (CC3), followed by customers (CC2) and business collaborations (CC8). It is also evident in this study that the mean value of IC

related information disclosed reflects increasing trend from 0.805 (2006) to 0.902 (2008) and majority of the disclosure is in narrative form. Findings from this study is different from study conducted by Foong *et al.,* (2009), whereby the most disclosed IC was SC, at 57 percent, followed by CC at 30 percent, while the least disclosed was HC at 13 percent.

7.2.1.1 CONCLUSIONS ON FINDINGS IN RELATION TO RQ 1

HC scoring the highest disclosure is not surprising as human capital development is the key towards achieving competitive advantage. Thus, it may be concluded that Malaysian corporations are taking their investment in human capital very seriously. As such, much of the information provided voluntarily in the annual reports is testament to their commitment towards human capital development. This could be due to greater emphasis on human capital development by the Malaysian government. In support of the institutional theory, these corporations which comprise top 100 companies based on market capitalization in Malaysia, may be under pressure to adhere to the policies laid down in supporting the country's quest towards achieving Vision 2020, whereby human capital is one of the prime movers. As stressed by Roslender and Stevenson, (2009, p.13) 'the existence of renewed interest in accounting for people through a focus on IC ultimately provides critical accounting with grounds for a degree of optimism'. With that in mind, perhaps the relevant authorities in Malaysia may start providing Guidelines or framework with regard to HC, being an important value creation agent of the twenty-first century.

Under CC, business collaboration remains the most reported variable under CC8, consistent with earlier studies (Guthrie and Petty, 2000; Brennan, 2001; Goh and Lim,

2004 and April *et al.,* 2003). This could be due to global expansion through acquisitions and partnerships (April *et al.,* 2003). Inconsistent results were found and contrasted with that of Foong *et al.,* (2009), in particular HC, this study reported the highest disclosure of this category. Possible explanation for the prominent disclosure of such information could be due to the fact that, companies investigated in this study, which are top companies, are more proactive in responding to the call in the revised Code. This partly could be due to the pressure impressed upon them for the need to be legitimate, as advocated by the Institutional theory.

Institutional theory attempts to explain why a population becomes homogenous over time. With regard to the extent of disclosure of IC related information among different ownership structure, GLC and OWNDIFF are inclined to disclose more voluntary IC related information. Likewise, FAMC is not disclosing more than mandated information, consistent with prior studies. GLC as well as OWNDIFF provides IC related information, in anticipating to what they view as inevitable direction of mandatory reporting and thus responding ahead of others. They behave in such a manner with due regard in ensuring continued access to capital market as well as to garner support from the financial markets.

The increasing trend of the IC disclosure in Malaysian corporations implies awareness of the importance of IC in particular HC. Since much HC is disclosed voluntary, the respective institutions in Malaysia may perhaps initiate the reporting on HC as mandatory since such information will not incur additional cost. Such reporting is plausible with specific guidelines provided and may well be in response to calls by Garcia-Ayuso and Sanchez (2000) and Cannibano *et al.,* (2000) in improving the deficiency of the current reporting systems.

7.2.2 RQ2 Do corporate governance attributes have an influence on voluntary disclosure of information on IC?

Corporate governance factors examined in this study are board size, board leadership, board diversity, board composition, audit committee size, frequency of audit committee meetings and financial experts in the audit committee. Multiple regression analysis were regressed on aggregate IC as well as individual components, as developed in Model 1, 2, 3 and 4 under both pooled and individual year. Under Model 1, an adjusted R square of 44.1 per cent is reported. With regard to corporate governance attributes, only audit committee board with bigger ACSize and having FINEXPT will enhance provision of more information on IC. When the regression is run on each component of IC separately, only in year 2008 shows a significant result in ACSize, under Model 2 on HC, implying the importance of audit committees in the practice of good governance as well as in response to the government's call. Out of the three individual components of IC, Model 4, CC, has the best result, with adjusted R square at pooled level of 34.6 percent and a significant F value of 7.555 at the 0.01 level.

7.2.3 RQ3 Does ownership structure influence the voluntary disclosure of information on IC?

All the three different ownership structures, FAMC, GLCs and OWNDIFFs show a significant p value, accepting all the hypotheses proposed, implying that GLC and OWNDIFF voluntarily disclose more information on IC as opposed to FAMC. As for the second component of IC, SC in the pooled data, there is significant negative p value at the 0.1 level and both GLC and OWNDIFF showing a significant p value at the 0.01 and 0.05 levels respectively. Likewise in 2006, and 2008, both GLCs and OWNDIFFs

showed positive p values at the 0.01 level and the 0.05 level respectively. However, in 2007, only GLCs have a significant p value at the 0.05 level. This indicates that both GLCs and OWNDIFFs are more inclined to disclose voluntary information on SC. OWNDIFF seems to be more receptive to the Government's call for transparency judging from the enhanced disclosure of IC related information. In the pooled data, consistent with proposed hypotheses, GLC and OWNDIFF are disclosing more information on CC. This could be due to the significance of customer relationship and in meeting the request of customers, thus more information on CC is disseminated via annual reports.

7.2.3.1 Conclusions with regard to findings to RQ2 and RQ3

Prior literature has emphasised the importance of corporate governance and voluntary disclosure as a mechanism to protect investors as well as reduce agency conflicts (Cerbioni and Parbonetti, 2007). In this study, however, out of the seven attributes investigated in this study, only audit committee size and financial experts in the audit committee board have an impact on voluntary disclosure of IC and its components. This could also be a response to the Government's concern on the roles played by this committee. Thus, the significant role played by this committee may form the backbone towards pushing for further disclosure of IC. Other corporate governance variables; board size, leadership, cross-directorship and composition do not have any impact on the provision of voluntary disclosure of IC in this study. This could possibly be due to the reason that these control mechanisms lack time and resources in fulfilling their roles on this aspect. In order for such control mechanisms to take effect, detailed guidance on their responsibilities in enhancing their roles in improving voluntary disclosure of IC could be the first step in this direction.

This study also attempts to find out whether ownership structure has any influence on the practice of voluntary disclosure of IC related information. The hypotheses developed in Chapter 4, are reproduced here in explaining this perspective.

H8: There is a **negative** association between family owned company (FAMC) and the extent of voluntary disclosure of Intellectual Capital information namely: (H8a) Human Capital information, (H8b) Structural Capital information, and (H8c) Customer Capital information.

H9: There is a **positive** association between GLC ownership structure and the extent of voluntary disclosure of IC information namely: (H9a) Human Capital information, (H9b) Structural Capital information, and (H9c) Customer Capital information.

H10: There is a **positive** association between diffused ownership (OWNDIFF) and the extent of voluntary disclosure of Intellectual Capital information namely: (H10a) Human Capital information, (H10b) Structural Capital information, and (H10c) Customer Capital information.

Regression analyses show that ownership structure is able to explain the disclosure behavior of ICD, supporting H8, H8b, H8c, H9, H9a, H9b H9c and H10, H10a, H10b and H10c respectively. However with regard to the HC component, H8a, is not supported, implying that FAMCs are not influenced by HC information disclosure. Consistent with the agency theory and prior studies in Malaysian corporations by Haniffa and Cooke (2002), family owned companies are restricting themselves from

disclosing more than the mandated possibly due to better access to information for internal information demand.

Ownership structure is able to explain the behavioural practice on the disclosure of voluntary information of IC and its components. Results show that family owned companies are still strictly adhering to their secrecy nature of not disclosing more than those stipulated by law. GLC and OWNDIFF on the other hand, are disclosing more voluntary information in support of the Government's policies and initiatives from the perspective of institutional theory as well as role setting a role model to other PLCs.

This finding is consistent with Chau and Gray (2002) on Hong Kong and Singaporean corporations and Eng and Mak (2003) that government ownership increases disclosure as a way to mitigate agency problems. Chau and Gray (2002, p.258), stressed that the "growing pressures for internationalization and global transparency" motivates the voluntary disclosure of information in widely held corporations. Similarly, GLCs are also disclosing more CSR information (Lim *et al.,* 2008) by Malaysian corporations. This is very much in line with the Government's call for greater transparency and accountability among PLCs in Malaysia.

7.3   IMPLICATIONS AND CONTRIBUTIONS

Overall, the findings from this study have several implications and contributions for stakeholders, such as users, owners, regulators and investors. This study has empirical, theoretical as well as practical contributions.

Empirically, this study provides evidence of what and the extent of information disclosed voluntarily on IC on corporations in an emerging market, Malaysia. It helps in bridging the research gap on the influence of corporate governance and ownership structure in providing voluntary disclosure of IC. The results indicate the significance and growing awareness of IC information reported in the annual report and presents useful insights into IC reporting of the three different ownership structures. These disclosures tap into the richness of IC as well as provide insights on the type of IC in the respective companies listed in Bursa Malaysia. This adds to and extends the literature on ICD. Further to that, improvement is made to the original framework by Guthrie and Petty (2000) by introducing three additional attributes under HC categories. These attributes are succession planning; race, gender and religion; and employee safety and health. Further to that, under the original framework there is only one attribute under work-related knowledge, likewise in this study it is sub-categorised into know-how, professional experience, expert seniority and senior executive performance results for a richer content analysis.

Prior studies employed the agency theory as one of the theories in explaining IC such as Li *et al.,* (2008), Cerbioni and Parbonetti (2007). This study contributes towards the agency as well as the institutional theories in explaining the relationship between corporate governance, ownership structures and ICD. In particular, the three ownership structures, FAMC is still strictly adhering to the agency theory of not disclosing information more than that stipulated by law. This is in agreement to the argument in the agency theory whereby, closely owned companies have no necessity to disseminate information. OWNDIFF and GLCs will be motivated to disclose more voluntary information as it aids owners in monitoring the behavior of managers as predicted by the agency theory (Hossain *et al.,* 1994; Raffournier, 1995) in reducing agency costs

and information asymmetry between both principals and agents. The institutional theory as advocated by DiMaggio and Powell (1983) that homogeneity of organizational forms and practices results in three forms of isomorphism. Firstly, coercive isomorphism, whereby entity conforms to rules and regulations resulting from forces, such as rules and regulations. Secondly, normative isomorphism, referring to the need for recognition in professional networks and thirdly, mimetic isomorphism, whereby in the absence of formal guidelines, an organization will resemble itself closely to industry leaders and successful organizations. In this study, OWNDIFF's motivation to provide voluntary information on IC could well be explained by their being in the category of top companies and as for the GLCs due to their close association with the Government. Thus, normative and mimetic isomorphism is used in explaining the motivation for GLCs and OWNDIFFs in providing voluntary information of IC in annual reports. Out of the seven corporate attributes investigated, only the audit committee has influence in providing voluntary disclosure of IC. The audit features examined were; audit committee size, frequency of audit committee meetings and the number of financial experts on the board. The frequency of the audit committee meetings has no influence in ICD. However, both audit committee size and the number of financial experts have a significant influence in motivating voluntary disclosure of IC in the annual reports. This may be explained by normative isomorphism whereby audit committee enhances its role by encouraging provision of more voluntary information in the annual report in recognition of the professional networks.

Practically, this study may have implications and be of interest to regulators as well as standard-setters in meeting the growing demand for intangibles information to be incorporated in annual reports. Foong *et al.,* (2009, p. 31) stressed that a…'low level of awareness of IC information as well as the lack of proper guidelines for its disclosure'

contributed to the lack of disclosure of voluntary information in the annual reports in Malaysian corporations. In agreement with the call by Foong *et al.,* (2009), the regulators; Bursa Malaysia, as well as the Securities Commission coupled with the preparers of accounts should work towards formulating guidelines in providing a consistent framework for IC. As a start, the regulators and corporations should revisit their ICD practices. Guidelines on ICD disclosure might perhaps be initiated to complement corporate governance. This practice of disclosing ICD is fast becoming a global trend in corporations of the twenty-first century, in particular the developed countries such as the Scandinavians and their European counterparts. Findings show that HC is the most reported IC in this study, implying the importance placed on human capital.

7.4   LIMITATIONS

As with all studies, this research is not without flaws. The findings in this study are subject to the following limitations such as the sample size, annual report as the only source of data and score sheet used. These limitations are further elaborated below.

This study is subject to limitations and as such may not be generalized to the whole population on the disclosure practices of Malaysian corporations listed in Bursa Malaysia. First and foremost, the study examined only large corporations in top market capitalizations, ignoring smaller sized companies, as such, findings may not be generalized to the whole practice of corporations listed in Bursa Malaysia.

Secondly, this study only uses annual reports to investigate the disclosure of voluntary information on IC. As such the findings may not reveal all IC embedded in the

company. The reason for using annual reports for data analysis is due to the fact that this type of document is the most reliable form based on empirical evidence. This is further supported by Huang (2007) in her study on fund managers and financial analysts in the Malaysian context. She concluded that the annual report remains a basic source of information for such actors and thus remains the best source for disclosing the much needed information on IC.

Lastly, the disclosure scoring sheet is self-developed with the IC disclosure checklist developed from prior literature. This score sheet may thus hinder comparison with other researchers due to subjectivity involved in the construction of the sheet used. In order to minimize inconsistency derived from the requirement to exercise subjective judgment, the scoring method proposed in the study helped to alleviate this problem to a certain extent.

7.5   RECOMMENDATIONS FOR FUTURE STUDIES

In response to the first limitation, future studies may employ more extensive coverage of corporations in Bursa Malaysia, covering companies in both main boards and the ACE sector. Due to the criterion used in this study, the uneven sector representation (Section 6.1.1) in the sample hinders analyses on ICD against sectors, as such instead of confining to top companies, future study may look into comparing between sectors. This is also in furtherance to a comparative study between Italy and UK by Bozzolan *et al.,* (2006) where industrial sector was found to be one of the predictors of ICD. As such, future studies may explore both the main markets and the ACE markets in Bursa Malaysia concentrating on sectors with high IC industries as opposed to sectors with lower IC.

With regard to improving content analysis studies, other methods such as interviews or case studies may be able to help complement the findings. Examination of other documents such as press releases, analysts' reports and other reports produced by management such as quarterly reports may further enrich the findings. As suggested by Striukova *et al.,* (2008, p. 311),…. 'other types of corporate reports are gaining more importance', in particular web sites. In aiding comparison with other studies, a standardized measurement instrument and score sheet may help to eliminate subjectivity used in future studies of this nature. Besides, a standardized instrument will also help in expanding cross countries studies.

Other than studying country specific disclosures, ICD could well go a step further by the examination of a cross-country study. As mentioned earlier in Section 2.2 (pp. 23), in order to facilitate comparability worldwide as well as to increase transparency, the Financial Reporting Foundation (FRF) and MASB have committed to converge fully to International Financial Reporting Standards (IFRS) by 1 Jan 2012. With the convergence of financial reporting standards, comparability between corporations may thus be more plausible in tapping the voluntary disclosure of IC.

This study examined seven attributes of corporate governance; board size, board composition, board diversity, board leadership, audit committee size, frequency of audit committee meetings and number of financial experts in the audit committee board. The attributes of culture represented by race has been examined in voluntary disclosure studies in Malaysian corporations by Haniffa and Cooke (2002 and 2005) as well as Hashim (2009) on earnings management. As such, the next step forward is to examine culture in ICD studies. Haniffa and Cooke (2002, 2005) found that culture has an influence on voluntary disclosure and corporate social reporting. Hashim (2009) also

found a positive association between earnings management and culture in her recently concluded study. It will be interesting to find out whether culture will have any impact on voluntary disclosure of IC as Malaysia is made up of multiple ethnicities.

7.6   CONCLUSIONS

This chapter wraps up the findings, contributions, limitations and recommendations for future research. The main contribution of this thesis is in bridging the research gap by investigating corporate governance attributes and ownership structures in voluntary disclosure of IC. Furthermore, this study employed the Institutional Theory in providing explanations on the voluntary disclosure of IC, on top of the predominant Agency Theory. This thesis also contributes to the literature on IC with regard to an emerging market, Malaysia, which ranked 24th position out of 133 countries, which therefore puts Malaysia at the top quartile of the overall rankings (MITI, 2009).