

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Introduction

In many jurisdictions, the economics of intangible assets are continuously influencing the economy and thus the companies. The role of intangible assets in a company has long been recognised as a major wealth-creator and fundamental incentive for corporate performance (Canibano, Garcia-Ayuso and Sanchez, 2000; Powell, 2003; Eckstein, 2004; and Garcia-Ayuso, 2008). A manager may want to collect, accumulate and present intangibles-related information internally to the board of directors for the purpose of constructing strategies and monitoring the effects of the strategies, assessing and analysing risk management, supporting innovations and improve the management of the company as a whole (Adriessen, 2004). The company then may want to disclose intangibles-related information externally to provide the users of accounts sufficient information for their decision making. Many studies suggest that intangible assets such as research and development (R&D) costs (Amir and Lev, 1996; Lev and Zarowin, 1999), computerisation of business processes and systems (Amir and Lev, 1996; Yang and Brynjolfsson, 2001), patent documentations (Deng and Lev, 1999), relationships between human and financial performance (Becker and Huselid, 1998) do have a significant influence over the company's future economic growth.

Several studies also suggest that the return on investment on intangible assets is much higher than the investment made on tangible assets (Webster, 2000; Daum, 2004). For example, pioneer companies in the business of providing software solutions and

producing pharmaceutical products do not generate high net present value or strong future cash flows from the use of their tangible non-current operational assets like plant and machineries; instead rely on their intangible assets in the form of intellectual capital, smart collaborations, large customer base and effective global networking. These companies were labelled as the pioneer of the knowledge business in the late 1990s (Daum, 2004). Since then, the knowledge culture has provided extensive job opportunities and generate wealth worldwide (Daum, 2004).

1.1 Background to the study

Information on investments in intangible assets, the expected benefits and how the investments influence a company's performance and create value are normally reported to the users of accounts in the annual reports, which are prepared in accordance to the accounting standards relevant to the jurisdictions. In many parts of the jurisdictions which adopt the IAS standards, the IAS 38 is used for reporting intangible assets. The IAS 38 applies to the accounting of intangible assets, covering from the recognition of assets, subsequent measurement, amortisation and impairment of assets, revaluations and disposals and also on the disclosures of the related information in the annual reports of the companies that adopt the standard.

Prior to the IAS 38, the creation of intangible assets were either classified under the research activity or the development activity by the IAS 9 *Research and Development Costs*. In accordance to the IAS 9, a research activity involves the early stage of investigation that is carried out to uncover new scientific or technical knowledge, whilst a development activity is the continuity of the research activity where the research

findings is applied to the production of new or improved product, systems, processes or services. IAS 9 regulated that the research costs be expensed as incurred but allowed the development costs be capitalised, provided the company is likely to receive the economic future benefit from employing such costs. IAS 38 covers what was originally found in the IAS 9 without changing any of the requirements stipulated in IAS 9 on the treatment of research and development costs. In addition to that, IAS 38 also expands to cover on the ruling of other types of internally generated intangible assets.

The reporting of intangible assets in accordance to IAS 38 is made mandatory to all public listed companies (PLCs) in the annual reports which are very much regulated as the primary medium to communicate management's plans and activities to the external users of accounts. The management also use the annual reports to enlighten the company's potential investors and bankers to obtain funds either in the form of debt or equity.

Unfortunately, to depend on the traditional financial reporting standards as a single point of reference results in limited information be made available to the users of accounts in their decision making processes. This is due to the reason that many types of intangible assets do not qualify for recognition in accordance to the criteria specified in IAS 38. The intangible assets which are the businesses' main wealth creator do not always have active markets like the tangible assets. On top of that, their values are very subjective. Therefore only those that were acquired through transactions with third parties are realised in the financial statements. As a result, many of the valuable intangible assets that are created within the company go unrecognised.

The inability of the existing financial reporting to disclose intangibles-related information often causes it to lag behind (Seetharaman, ZainiSooria and Saravanan, 2002). This is evidenced from the lack of intangibles-related disclosures in the financial statements because the financial statements incorporate very minimum amount of non-financial, intangibles-related information (Guthrie et al., 2007). This might result in a significant impact on the development of a knowledge-based company (Blair and Wallman, 2001). As a consequence, instead of creating value to the company, insufficient provision of information related to intangibles could diminish the company's value (Lev, 1999).

From a user perspective, the limited information provided in the annual reports arising from lack of recognition of intangible assets are still poorly understood, resulting in less appreciation on the existence. For example, failure to accommodate users of accounts with the relevant information could lead to a widening gap between market value and book value of equity (Brennan and Connell, 2000; Choi, Kwon and Lobo, 2000).

There were thus calls for a better approach to manage and report intangibles (Zambon, 2007). More companies are taking additional initiatives to disclose information on a voluntary basis to demonstrate the usefulness of intangible assets in the form of analysts meetings, video conferences, quarterly announcements, employee bulletins, prospectuses, road shows and campaigns, to name some. As for the developed countries such as Japan, Denmark and Germany, they are more serious in managing the dissemination of information on their intangibles that they produced their national guidelines on how best to report intangible assets beyond the mandatory requirements in the IFRS.

1.2 Problem Statement

There is a varying degree of complexity associated with the intangible assets and the reporting requirements that results in difficulties for the IAS 38 to capture everything within the standards. IAS 38 outlines specific criteria for capitalisation of intangible assets, therefore some intangible assets that do not fulfil the requirements are being expensed instead of being recognised in the financial statements. Also, for some types of intangible assets, recognition and measurement can be very subjective due to the unavailability of a market on its own hence applying the fair value measurement may result in overstatement or understatement of assets in the financial statements.

In one example, a representative from the Japan Accounting Standards Board presented a report at the Forum of International Accounting Standard Setters (IFASS) in March 2012 highlighting on the issue of treatment of R&D costs under the International Financial Reporting Standard (IFRS) that could lead to the potential lack of comparability of financial information. Companies from industries such as pharmaceuticals, telecommunications, electronic and electrical equipment were observed in a study and it was concluded that these companies were having difficulties in determining the point of recognition (thus capitalisation) of their development costs as the 'technical feasibility' and 'probable future economic benefits' criterion in IAS 38 became a subjective matter. As a result of the vast variation of intangible assets recognition, comparison is not easily done and albeit comprehensive disclosures have been made, such information is less useful in a decision making process.

Similar to the IAS 38, the Malaysian financial reporting standard (hereafter FRS) for intangible assets - FRS 138 prescribes the accounting treatment for intangible assets.

FRS 138 is identical to IAS 38, so theoretically complying with FRS 138 equals to complying with IAS 38. However, practically, FRS 138 also faces the same issues of recognition, measurement and disclosure as with IAS 38. As a result, PLCs in Malaysia convey the important information on intangibles to the stakeholders using alternatives other than the quantitative and numeric structure of the financial statements. The annual reports have thus become thicker and contain richer information useful to the various users of accounts for decision making. Such information are mostly delivered in the form of narrations and supporting illustrations and meaningful diagrams, something which could not be conveyed through the ordinary numerical presentations of the financial statements.

There is, however, another issue related to financial reporting that requires serious attention from the national regulators. Generally, a company's financial reporting activities are regulated by the accounting standards of the jurisdiction in which it operates its business. Thus, it is essential that the company comply with the said reporting standards to ensure consistency and transparency. Nevertheless, in several studies conducted on jurisdictions that adopt IAS/IFRS as accounting standards, researchers discover that whilst many companies generally claimed compliance with IAS/IFRS, they were actually non-compliers. This has been suggested in the studies of Street, Gray and Bryant (1999); Tower, Hancock and Taplin (1999); Street and Bryant (2000); and Glaum and Street, (2003), which alarmed most academics (Chatham, 2008). What is more, in the case of Malaysia, the country's biggest challenge in adopting and complying with the financial reporting standards is the lack of technical expertise (MICPA, 2012). Therefore, it is crucial to make certain that PLCs properly comply with the regulated accounting standard before the extensiveness of voluntary disclosure can be examined. This is due to the fact that there has been very little knowledge on the

level of compliance with FRS 138 that specifically regulates the accounting treatment for intangible asset.

It is important to note that in order to investigate on the extent of compliance with FRS 138, the study must have in hand the information on total intangible investments and the type of intangibles in which the sample PLCs are investing. Unfortunately, such information is not publicly available therefore the extent of compliance is not easy to be tested. Due to this reason, this study looks into the implementation practices of FRS 138 instead, which is more objective and testable. There is need for an assessment on the implementation practices of FRS 138 to be carried out, for no such study has been done before. Different corporate characteristics, business and industry backgrounds might render the identification of determinants that influence the differences in implementation amongst PLCs and perhaps to find some explanations why some PLCs disclose intangibles-related information beyond what is required, more than the others do.

1.3 Research questions

The issues of concern as discussed above raise several research questions in relation to this study. Observations and discussions suggest that FRS 138 provides limited disclosures only for the intangible assets that fulfil the standard's requirements, which means other types of intangibles are 'disqualified' from the face of the financial statements even though they are influential to the company. Therefore it is interesting to find out what kind of information related to the 'disqualified' intangible assets of a Malaysian PLC that is normally disclosed on voluntary basis, beyond the requirement in

FRS 138. Also, one of the motivations of this study is to find out on the frequency of disclosures made and from which industry do these companies belong to. In addition to that, identifying the determinants that may have influence on the level of implementation of FRS 138 would add knowledge and value to the study. The following research questions have been constructed for the purpose of this study.

From the perspective of the Malaysian PLCs:

- 1) What is the level of implementation of FRS 138 in relation to:
 - a) recognition and measurement?
 - b) disclosure?
- 2) What are the types of information and the extent of information pertaining to intangible assets that are voluntarily disclosed in the annual reports?
- 3) What are the determinants explaining implementation practice of FRS 138?

1.4 Research Objectives

Research objectives are regarded as a summary of what is to be achieved in this study. They are closely related to the problem statement and act as main point of reference in determining a suitable methodology. Following on from the above research questions, the related research objectives are constructed below:

- 1) To investigate on the level of implementation of FRS 138 by the Malaysian PLCs in relation to:
 - a) the recognition and measurement requirements; and
 - b) disclosure requirements

- 2) To identify the type of information on intangible assets and the extent of voluntary disclosure made beyond the compliance requirements in the Malaysian PLCs annual reports; and
- 3) To identify the determinants influencing the implementation of FRS 138 amongst PLCs in Malaysia.

1.5 Methodology

This study adopts content analysis as a method to answer the research questions and to achieve the research objectives. The content analysis in this study comprises three quantitative research tools. The first one involves the construction of a compliance checklist in accordance to FRS 138 to investigate on the level of implementation of FRS 138 by the PLCs. The scores obtained from the checklist are then converted to disclosure indices. This activity represents mandatory disclosures and it serves to answer research questions 1(a) and 1(b).

The second tool involves the use of a thematic content analysis to examine a set of analytical constructs to highlight the presence of predetermined words or concepts in relation to voluntary disclosures. The content of the annual reports of the sample companies is analysed in accordance to Lev's (2001) intangible assets value chain scoreboard as coding categories. The result provides greater understanding on the extent of voluntary disclosure and may help in identifying areas of voluntary disclosures that may need further attention to improve transparency. This answers research question 2.

Finally, the last tool involves the use of statistical techniques to identify determinants that influence the implementation practices of FRS 138. The disclosure indices generated from the first activity above become the dependent variables. Eleven independent variables are recognised from previous studies on disclosures. The data (dependent and independent variables) are analysed using Statistical Package for Social Sciences (SPSS) version 17. The result of analysis serves to answer research question 3.

It may be argued here that compliance with the Malaysian FRS 138 is a mandatory requirement for all PLCs on Bursa Malaysia, therefore it should not raise any issue on which determinants influence the implementation practices of such standards (hence the question of “All companies must comply, so why must one differ from the other?”). However, given the evidence based on previous studies on non-compliance issues, it is necessary to call for an investigation to determine the implementation level of the reporting standard, even though it covers only one particular standard and also to identify the determinants that influence different level of implementation amongst PLCs.

1.6 Study Scope

This is the general outline of what this study will cover. It explains on the specific boundaries that will be referred to within this study. Population of the study is limited to the PLCs on the Bursa Malaysia, from the Main market and the alternative stock market referred to as the ACE market (formerly known as MESDAQ or Malaysian Exchange of Securities Dealing and Automated Quotation). Companies listed on the Main market are companies with a minimum RM500 million market capitalisation and

must have at least one full year's operating revenue. On the contrary, companies listed on the ACE market need not have any minimum profit requirements or operating track record, but must appoint a sponsor to address the listing requirement and remain a sponsor for at least three years after listing. The Main market is for established companies that are already in operation, whereas the ACE market acts as a growth platform for much smaller companies that have just started operation.

Selection of sample is based on the availability of intangible assets reported and disclosed in the annual reports, excluding companies from the financial sector, insurance and trust companies¹ due to the differences in compliance and regulatory requirements. Only PLCs that reported intangible assets in their 2008 financial statements are chosen, this is to reflect the mandatory disclosures of such assets in accordance to FRS 138. This means, PLCs that have other types of intangibles not recognised by FRS 138 are not selected as sample of this study. It is important to ensure that the intangible assets under investigation in this study are those that are recognised as per FRS 138 because this study intends to investigate on the implementation practices on the mandatory disclosures. The study sample represents companies from various industries such as trading/services, infrastructure, industrial products, consumer, construction, plantation, properties and technology.

The Malaysian PLCs are required to adopt and comply with FRS 138 in their financial statements effective from 1 January, 2006. This study looks into the extent of compliance of PLCs in Malaysia in financial year 2008, two years after the adoption of FRS 138, therefore allowing a two-year grace period for the accounts preparers to be familiar with the adopted standard. It is expected that in 2008 the financial statements

¹ The financial institutions are governed by the Banking and Financial Institutions Act (1989) or BAFIA, the insurance companies are regulated under the Insurance Act (1996).

will be better prepared in accordance with the requirement of the standard. This study is not a longitudinal study. The reason for limiting the year of study to only one year is because it is highly unlikely that a company changes its disclosure policy through time (Botosan, 1997).

1.7 Motivation of the study

Why study intangible assets? Intangible assets emerge with an important role in the global economy and such role is increasing in the future (Powell, 2003). The importance of an intangible asset towards generating economic growth could not be denied. The role it plays at firm level creates synergy in ensuring competitive advantage within and amongst industries. Intellectual capital has been the most sought after intangible within companies. R&D activities are also becoming an important element towards achieving new heights in product innovation. Also, the powerful influence of IT in contemporary organisations has managed to transform organisational structure to embrace the intangible asset as a significant value driver of businesses. To conclude, intangibles-related information is of value-relevance to a dynamic company. Therefore, it is vital that important information related to the intangible assets be sufficiently disclosed to the stakeholders and other users of accounts to enable them make accurate decisions.

Looking at Malaysia, the service sector accounted for the largest share of the country's gross domestic product (GDP) in 2011 at 58.6 per cent, which recorded a 75.5 percent increase in the approved total investments as compared to 2010 (MIDA, 2012). It is worth noting here that the approved FDIs in Malaysia increased 25.2 per cent in 2011 compared to 2010. The growth in this sector, represented by the real estate,

telecommunications, energy and transport, indicates that more multinational companies (MNCs) have chosen Malaysia as their global operations hub. This is in line with Malaysia's strategy to become a destination for FDI in the region.

In a study by Muniandy and Ali (2012, p. 115), they refer to Malaysia as having a "substantial growth in the economy and accounting regulatory change due to the globalisation". Malaysia locates one of the main financial centres in the Asia-Pacific region. It is a developing country which is growing rapidly, with a track record of growth at 40% on market capitalisation and US\$8,403 million of foreign direct investment (FDI) in 2007 (Liew, 2007). As part of its strategy towards nurturing dynamic economic development, Malaysia continuously pursues the FDI to also obtain foreign expertise in the form of knowledge transfer, community of practice and technology know-how, of which are all in the form of intangible asset.

In addition to the above, to provide further justification for this study is the background of the country itself. Malaysia represents a considerable division based on race, ethnicity and language (Jesudason, 1990; Susela, 1999; Haniffa and Cooke, 2002). Company ownership structure has its own appeal in this study. Most PLCs in Malaysia stem from family-owned business with high growth rate and rapid expansion. The structure is made unique with further classification of companies into government-link corporations and institutional shareholdings. Coming from such varying backgrounds, differences might arise in the level of awareness on the importance of innovation to strive for globalisation and the perception towards intangible assets as an economic growth generator, thus justifying the purpose of this study.

Finally, whilst there are several extant studies that examine the level of compliance with the accounting standards framework in various jurisdictions, very few has focused specifically on the compliance issue related to accounting standards that govern intangible assets. Many intangibles-related studies discuss the issues of recognition and measurement (Eckstein, 2004; Hunter, Webster and Wyatt, 2005; Siegel and Borgia, 2007), accounting framework and treatment (Wyatt, 2002; Wyatt and Abernethy, 2003) value-relevance intangibles-related information (Wyatt, 2008), capitalisation of intangibles and its influence on financial analysts (Maltocsy and Wyatt, 2006), economic determinants of intangibles recognition (Wyatt, 2005) and voluntary disclosures (Kang and Gray, 2011).

When a business moves towards globalisation, it must equip itself with competitive advantages which are driven by innovations which, in turn, are determined by the investment in intangible assets. Nevertheless, going global does not render companies operating in similar business environment amongst jurisdictions. There are differences in each jurisdiction background, such as industries regulations, ownership structures, corporate governance rulings, stock market conditions and even the varied size of companies. This could lead to difficulties to generalise the study results. According to OECD (2012, p. 11);

“Industry differences, ownership, and company size are often used in the literature as factors explaining the scope and sometimes even the channels of disclosure. It is difficult to draw generalisations from these since most studies focus on a single jurisdiction and hence, their conclusions drawn may not be applicable to other jurisdictions.”

It is important to acknowledge that this study is unique to Malaysia and may represent a different result when compared with other jurisdictions. This provides another justification for the study as it may assist to highlight and distinguish the differing

nature and substance of intangibles in an emerging economy like Malaysia. It could be argued that by selecting and investigating only one standard from the framework of international accounting standards provides weak support for generalisation over the overall accounting policies and regulations. However, a more detailed analysis on a specific reporting standard such as FRS 138 and the implementation issues faced by practitioners/accounts preparers can help users of financial statements be informed on the subjective nature of intangibles.

1.8 Outline of this study

This study is prepared based on the following outline:

Chapter One: Explains on the background of this study, which relates to intangible assets and the related knowledge-based economy that could be developed from the operationalisation of the intangible assets within a company. Discussion is further made to cover on the inefficiency of existing financial reporting practices that often result in intangible assets go unrecognized and the efforts taken by the companies to find an alternative disclosures. Issues of concern are identified and the respective research questions and objectives are developed to address these issues. A suitable methodology to conduct this study is also discussed. Finally, justifications are also made as to why this study is important to be conducted.

Chapter Two: The beginning of the chapter reviews the definitions of intangible assets. It then discusses the various types of intangibles, the benefits of managing intangible assets and the issues concerning the recognition and measurement requirement of IAS 38/FRS 138. Next, this chapter covers on the role of disclosures in disseminating

important information to external users of accounts and annual reports as a means of communications. Finally, this chapter briefly covers on the development of financial reporting and corporate governance in Malaysia and the effort taken towards convergence with IAS/IFRS. The aim is to relate the discussion with the need to examine the implementation practices of the Malaysian FRS, specifically the FRS 138.

Chapter Three: Covers the theoretical framework, identification of variables and the development of hypotheses. The Agency theory is adopted to rationalise the requirement to comply with FRS 138 and the need to disclose information to the shareholders and also stakeholders. The Stakeholder Theory is also discussed and applied when investigating the voluntary disclosures amongst PLCs. Following on, the variables tested in this study are selected and discussed. Hypotheses are developed from these variables, guided by previous studies conducted on disclosures. The proposed theoretical framework is then presented and discussed.

Chapter Four: Explains the research methodology adopted in this study. To measure the level of implementation of FRS 138, a compliance checklist is self-constructed, covering the recognition and measurement section of the standard, as well as the disclosure section. The scores obtained from the checklists are then converted into disclosure indices and regressed with the selected variables to identify determinants of implementation of FRS 138. Thereafter, adopting the intangible asset's value chain scoreboard introduced by Lev (2001), a thematic content analysis is conducted to explore further the voluntary disclosures made in the annual reports as to find out what type of intangibles and how frequent are the disclosures made beyond FRS 138.

Chapter Five: Discusses the general observations, empirical results and findings. In general, the level of implementation of FRS 138 is high, although there are a few companies that exhibit low scores. From regression analysis carried out, variables that are significant in explaining differences in the implementation practices of FRS 138 are identified. The content analysis conducted highlights the type of intangibles-related information mostly disclosed on a voluntary basis by the companies and the extensiveness of disclosures made.

Chapter Six: Concludes the study by revisiting the research objectives and research questions to ensure they are all attended to. This chapter also justifies the contribution of this study to the body of knowledge (academic), theory and real life practice. It also identifies limitations of study and areas of improvement for future study.

CHAPTER TWO

FINANCIAL REPORTING FOR INTANGIBLE ASSETS AND ITS RELATED DISCLOSURES

2.0 Introduction

Process enhancement in business operations, improved regulations worldwide, globalisation and the dynamic changes that took place in business structures instigate intensified competition. The k-economy has introduced a new way of doing business and has replaced the existing era of traditional economies of scale with innovation (Lev, 2001). In order to survive in the stiff competition, companies need to innovate. It is the competition that gives rise to innovations and thus heavier usage of technology.

Companies, either by force or opportunity, are making significant changes in their organisational structures. Such an environment contributes towards the emergence of intangible assets by way of accumulation of invisible assets, which then increases the market value of these companies (Brynjolfsson, Hitt and Yang, 2002). It is therefore vital to understand the importance of intangible assets in creating future value of the business. Otherwise, significant ‘frequency and magnitude’ of intangible assets could go unrecognised, thus creating a gap between the book and market value in the financial statements (Wolfe, 2009). This gap is not portrayed in the financial statements due to its ineligibility to qualify as intangible assets as per IAS 38 requirements. As a result, users of accounts establish their own judgement on the value relevance of the intangibles to the company. Consequently, users such as customers, analysts and investors seem to be spending more of their time assessing and valuating companies that have large portions

of intangible assets because they have to search and rely on sources other than the traditional financial statements that provide the required information (Brynjolfsson et al., 2002).

Chapter Two discusses three important areas of this study. The first part of the discussion starts off with the discussion related to knowledge economy and its relationship with the intangible assets. It then moves on to review on the definition, measurement, benefits of intangible assets and also on the issues surrounding the implementation of IAS 38 in general. The second part of this chapter discusses on the role of disclosure in financial reporting and its influence on the value of intangible assets. Previous studies pertaining to mandatory and voluntary disclosures made on intangible assets are also reviewed. The final part in this chapter revisits on the early development of financial reporting and corporate governance in Malaysia which lead towards the efforts for a full convergence with IFRS in 2012.

2.1 Knowledge economy and intangible assets

The intangible assets are the main contributor to the process of value construction in a knowledge economy or k-economy (Ashton, 2005). K-economy is “the production and services based on knowledge-intensive activities that contribute to an accelerated pace of technological and scientific advance as well as equally rapid obsolescence (Powell and Snellman, 2004, p. 201). The k-economy has taken the place of production economy (or p-economy) since the nineteenth century. OECD (2012) in its report on an analysis of intangible assets as new sources of growth observes that there is an increase in the investment in intangible assets in the past 60 years from 1947 to 2007 as

compared to tangible assets. The increment is partly contributed by the growing number of businesses in the service sector, which operations rely heavily on the usage of intangible assets.

Knowledge and intellectual capital as in k-economy act as business growth inducers and have gradually replaced the physical assets such as machines and equipment, lands, labour and other factors in the p-economy. In k-economy, knowledge is transformed into information technology, brands, patterns, trademarks, rights, licenses, global network, e-commerce and many more, which are also intangible in nature for not having any physical forms.

To generate knowledge would be difficult and costly, but once they are made available, the application would be cheap (Mokyr, 2012). A manager in an intangibles-intensive company must heavily use the internet and the information technology (IT) to broaden the company's business networks and in turn, add value to the company for the sake of shareholders and stakeholders. IT infrastructure has become a necessity in every company to represent the basis of intangible assets that gradually led to the development of new economy. The business-to-suppliers and/or business-to-customers relationships could be established and developed further to widen the company's customer database and thus market share irrespective of geographical areas. This is made possible with the ability of the company to retain competent, skilled and qualified employees in the company to produce innovative ideas that could help improve system operations and processes, provide powerful analysis and plan tactical and marketing strategies. In turn, the intensive use of knowledge would create spill-over that could result in economies of scales and thus lead to competitive environment in the market.

Such transformation from p-economy to k-economy is not only experienced by high technology companies, but also non-high technology companies where they also have their own branding, corporate websites, e-commerce and other business applications. Consequently, nations all over the world are transforming themselves from practising the industrial-based p-economy to becoming a k-economy (Edvinsson and Malone, 1997; European Commission, 2006). According to Lai and Lin (2012), a good knowledge resources leads to the generation of a successful innovation in technology, thus create a competitive advantage for a business.

The continuous rapid advancement in economic and political forces as a result of intensified competition amongst businesses in moving towards globalisation had transpired the existence of intangible assets and brought it up further to a higher level. Globalisation is induced from the act of being innovative and becomes a necessity for companies to broaden their market shares and also to ensure survival. Innovation, therefore, is a mean of corporate survival (Lev, 2001). Companies need to continuously innovate to ensure they can cope with changes in business requirements and customer preferences (Lai and Lin, 2012). Probably the biggest contribution of innovation enjoyed by many businesses is in the form of cost reductions of goods or products. On top of that, innovation also very much inspire the development and introduction of a new product into the market. To conclude, innovation is vital in the growth of a business and to increase profitability.

According to Powell and Snellman (2004), the transformation from fundamental manufacturing to an era where technologies based on knowledge are disseminated witnesses the emergence of intangible capital in the form of human, organisational and intellectual and its related activities such as R&D and technology in communications.

As a consequence, there is an increasing trend amongst companies to assign more intangible resources into business activities to create potential growth (Lev and Daum, 2004). Large amount of investments are made in human capital, R&D and IT to gain competitive advantages and synergy, and reap lucrative rewards in the future. This is evidenced by the growing literature on the criticality of intangible assets, be it in the economic world, or in the discussions of the standards setters at both national and international levels (Teodori and Veneziani, 2007).

In Malaysia, the ideas of innovation and globalisation were first put forward by Tun Dr Mahathir Mohamed through the Vision 2020 at the inaugural meeting of the Malaysian Business Council towards the end of February, 1991. It envisages Malaysia becoming a fully developed and industrialised country by the year 2020 in all aspects: economically, politically, spiritually, psychologically and culturally. Tun Dr Mahathir Mohamed was very keen to promote innovation and growth of intellectual capital, which are the main elements of intangible assets and the establishment of knowledge-based companies in order to keep abreast of dynamic changes in globalisation trends.

Accordingly, the Malaysian government introduced the National Research and Development (NRD) grant in the late 1990s to provide the necessary funding and support to eligible companies to boost industrial-oriented technology. On top of that, liberal tax incentives were also introduced to promote the development of science and technology in the country. Table 2.1 illustrates the increase in approved application of patents and utility innovations for the period of twelve years from 2000 to 2011 as evidence of support on the development of innovation. These initiatives reflect the country's seriousness in achieving her objective of becoming a developed country by

2020. It also supports the claim that intangible assets are essential in boosting the economic growth of Malaysia.

*Table 2.1: Granted patents and utility innovations from 2000 to 2012.
(Number of approved applications from Malaysian local companies, excluding foreign companies).*

Year	Patents	Trademarks	Industrial designs
2000	24	449	73
2001	18	1,570	199
2002	32	4,056	274
2003	31	3,014	573
2004	24	3,243	602
2005	37	3,683	314
2006	187	5,651	700
2007	338	8,108	597
2008	198	9,049	580
2009	270	5,438	529
2010	204	5,642	748
2011	335	10,201	714

Source: <http://www.myipo.gov.my/web/guest/geo-statistik>

Another indication that Malaysia is moving towards knowledge economy is The Total Factor Productivity (TFP)² Report for 2010-2011 (retrieved from <http://www.mpc.gov.my>) which reveals that in the period of 2006 to 2010, capital contribution towards the TFP to economic growth was higher than the labour contribution, which was at 37.8 per cent as compared to 26.1 per cent respectively. To sustain its productivity growth, the use of information, communication and technology (ICT) and continuous breakthrough in innovation will be further enhanced.

²TFP is defined as the combination of labour, capital and technological progress that contribute to the production of goods and services in explaining the overall economic growth of a country (Jajri, 2007).

To summarise, intangible assets are gaining more attention in the business world due to the fact that the future benefits generated from these assets are more significant than the tangible. Realising the potential of intangible assets in boosting up the economy, corporations are paying more attention in nurturing their intangible assets. However, not all types of intangibles can be recognised in the balance sheet. Those that do not fulfil the criteria as stipulated in the IAS 38 may result in a gap between the company's book value and market value and distortion of production activity and income measurement.

2.2 Definition of intangible assets

Intangibles can be defined but not be accurately determined (Lev, 2001). A simple definition of intangible provided by The Oxford Advanced Learner's Dictionary (1991) is "do not exist" or "no physical existence" and assets can be defined as "something that is of useful quality that has value".

Other researchers also provide their definitions of intangible assets. For example, Edvinsson and Malone (1997, p. 22) similarly explain intangible assets as "those that have no physical existence but are still of value to the company". FASB N.N. (2001, p. 6) defines intangible assets as "non-current, nonfinancial claims to future benefits that lack a physical or financial form". Stewart (1997) adds that an intangible asset must be able to create wealth for the company. Lev's (2001, p. 5) definition of intangibles does not differ very much from Edvinsson and Malone (1997) and FASB N.N. (2001). He explains that "an intangible asset is a claim to future benefit that does not have a physical or financial (a stock or a bond) embodiment".

The International Accounting Standards Board, IASB (2004, p. 2) defines intangible assets in its IAS 38 as “non-monetary assets without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes”. According to IAS 38, an intangible asset must first fulfil three main conditions before it can be recognised in the books of account. An intangible asset must be identifiable, the company has control over the intangible asset to obtain economic benefit, and that it is probable that the future economic benefits of the intangible asset would flow to the company. In addition to that, IAS 38 also requires the cost of assets be reliably measurable. The initial recognition must be at cost, but in the consecutive years there is an option for measurement of the intangible assets to either continue using cost method or, if there is an active market for the intangible asset, to adopt the fair value method.

Having discussed the definition of intangible assets, it is worth noting here that occasionally, the term intangible asset may also refer to intellectual capital (Bukh, Larsen and Mouritsen, 2001; Daum, 2004; Beattie and Thomson, 2007). By definition, Bontis, Dragonetti, Jacobsen and Roos (1999, p. 397) refer to intellectual capital as “the collection of intangible resources and their flows... that contributes to the value generating processes of the company”. Heisig, Vorbek and Niebuhr (2001, p. 60) define intellectual capital as “valuable, yet invisible”. Petty and Guthrie (2000, p. 158) regard intellectual capital as “the economic value of two categories³ of intangible asset of a company”. Mouritsen, Larsen and Bukh (2001) refer to intellectual capital as an intangible asset which creates company value.

³The two categories mentioned here are organisation and human capital.

A clear-cut definition of intellectual capital should demarcate itself from the characterisation of intangible asset where two important elements are embedded in the criteria of an intellectual capital: people and knowledge. Whilst intellectual capital itself is an intangible asset, it is not governed by IAS 38 because it does not meet the criteria of an intangible asset stipulated in the standard. The element of intellectual capital such as company reputation could not be separately identified and reliably measured. A company faces the risk of losing skills and knowledge if the employee leaves the company, an event which the company has no control over. Also, how does a company estimate the future economic benefit arising from customer loyalty? Due to the rigidity of IAS 38 requirement, it is impossible for a company to capitalise intellectual capital in its financial statements.

2.3 Benefits of intangible assets

This section discusses the benefits and advantages gained by companies when owning and operating an intangible asset to strive for better performance and become successful. In general, the main advantage of intangible assets lies in the invisibility of the asset itself which enables borderless mobility, scalability and pooling of knowledge.

2.3.1 Scalability against scarcity

Intangible assets are becoming major value driver in businesses due to its nature of not being scarce (Lev, 2001). In other words, intangible asset can be used multiple times within the same period without affecting the usefulness of the asset (no opportunity forgone). In contrast, once a tangible asset either in the form of physical, financial or

human assets is assigned to carry out a task, it could not be used for other task simultaneously elsewhere.

For example, Air Asia Berhad, awarded “World’s Best Low Cost Airline” for three consecutive years since 2009, is a Malaysian company that operates using an online ticketing system that provides flight and booking information (<http://www.airasia.com/my/en/home.html>). On top of that, it also provides self-check-in service and other add-on services such as online shopping and entertainment, all via the internet. Whilst an online ticketing system could take up multiple enquiries and secure purchases of air tickets, in flight meals booking and premium seats upgrade concurrently on the internet, a customer service representative could only be assigned with a specific task one at a time and could not take up multiple assignment to take up flight reservations, check availability of seats or confirm date and time of departure for several customers at once.

A tangible asset, such as a printing machine could be used up to its full capacity to achieve economies of scale, but there will be other needs to compensate in return, such as an addition in tangible investment, increased operation and maintenance expense or increase in labour wages for extra hours worked, which may still result in a low return in the end. On the other hand, the use of an intangible asset, such as a customer order system, which in this case is termed as the scalability of the intangible asset (Lev, 2001) is exhaustive on its own, and is only limited by the company’s market share and competitors’ strategies.

2.3.2 A growing network

In order to construct the foundation of an intellectual asset-creation process, companies must fully utilise the advantages offered by the internet and IT so as to create flow of information that could reach its target audience (Daum, 2004). The use of electronic network nowadays has been proven to be more convenient and able to reduce costs dramatically. Businesses are shifting forward from the conventional value chain where the relationships with suppliers and customers are nurtured, to online connections which can be established much faster and easier.

For example, The Biggest Loser is a hit television show that started in the United States of America (USA) in 2004. It has two main online websites (<http://www.biggestloser.com>) that promote a variety of fitness products from training equipment, cookbooks to fitness resorts, and its club (<http://www.biggestloserclub.com>) that helps members lose weight by creating their personalised diet profile and fitness plan. With its tagline “You don’t have to be on the Biggest Loser TV show to lose weight”, the show has attracted millions of fans from all around the world to be a member and share the tips and tricks to lose fat and be slimmer.

The above is an example of creating a network that is physically intangible but powerful in boosting up businesses. Creating a network has its own advantage: it can grow bigger and wider to connect more people and/or companies with various backgrounds irrespective of geographical areas. The bigger the network the more benefits gained. Though a network could be in the form of a physical asset, for example a fan club membership or magazine subscription, the benefits reaped from interactive or online network such as the e-club or e-magazine is more obvious. Physical magazines can travel around the world too, but their movement may be limited to certain factors such

as cost of distribution and different target sales/demands in different country. Lev (2001) refers this as traditional economies of scale. On the other hand, e-magazines can reach the customers much faster and in a cost-efficient manner, almost anywhere in the world, resulting in the adoption of new technologies that increase the learning rate. The network could expand further to increase its market coverage, even via mobile phone applications. This could also create brand awareness amongst potential customers indirectly.

The interesting part relating to the creation of an intangible network is that:

- It could exist in tangible-intensive industries too, such as transportation, telecommunication and pharmaceutical products. The example on AirAsia.com above is one of the many tangible-intensive industries that enjoy the benefit of an intangible network. The importance of being innovative and creative is recognised here in order to develop new applications for the intangible network.
- The establishment of alliances and collaborations amongst companies also stimulates the creation of intangible networks. For example, Fitness First, the world's largest privately-owned health club went into collaboration with the Biggest Loser Asia season that took place in Malaysia in 2009. By sponsoring the required gym and training facilities for the contestants throughout the episodes, Fitness First also gained the advantage of promoting its existence to audiences worldwide.

2.3.3 Development of knowledge bank

A growing network results in the creation of a pool of information called knowledge, and such knowledge is everlasting in nature. The uniqueness in harnessing intangible

assets in the long term is the ability to create a value far exceeding the tangible assets in terms of knowledge development. The online community centre provided by BabyCentre.com, a company established in the USA, plays important roles in providing useful information and tips on issues related to pregnancy, labour, birth and also parenting (<http://www.babycentre.com>). It invites comments and feedback from members and readers to share their own experiences with the others. In such a situation, an intangible system exists that could store valuable information and educate members at any point of time without losing a single item of information due to fatigue. As more members and readers engage into the system, their learning rate also increases, creating a bigger knowledge bank. All in all, an extensive network could be created thus increasing market share. The company may then consider upgrading (better) information technologies to further enhance benefits.

2.4 Accounting standard for intangible assets

The accounting standard that governs the reporting of intangible assets of a PLC was initially the International Accounting Standard (IAS) 9 *Accounting for Research and Development Activities* issued by the International Accounting Standards Committee (IASC) in 1978. IAS 9 was issued to deal with the recognition and measurement of R&D expenditure and other types of internally generated intangible assets of a company. Serious on-going discussions led to the issuance of several Exposure Drafts, which eventually led to the endorsement of the revised IAS 9 *Research and Development Costs* in 1993.

In 1995 and 1997, IASC produced two more Exposure Drafts on intangible assets, E50 and E60, to discuss further the issue of recognition. In 1998, the existing IAS 9 was superseded by a new standard namely IAS 38 *Intangible Assets*. The main structure of IAS 38 is characterised to two areas of concern: the treatment of purchased intangible assets and the treatment of internally generated intangible assets, focusing on the R&D activities within the company.

The revision of IAS 38 in 2004 was to delineate further the issues of recognition, measurement and disclosure of intangible assets. It was revised to incorporate, and be in harmony with several other related accounting standards, for example IFRS 5 *Non-Current Assets Held for Sale and Discontinued Operations*, IAS 23 *Borrowing Costs* and IFRS 3 *Business Combinations*.

In general, the key content of IAS 38 covers on recognition and measurement of intangible assets, their useful life and disclosure requirements. Presented in Table 2.2 below is the skeleton structure of IAS 38 and its regulation on intangible assets.

Table 2.2: A summary of items regulated under IAS 38

IAS 38 Intangible Assets		
Recognition of assets - Initial recognition at cost (38.24)	Separate acquisition (38.8)	<ul style="list-style-type: none"> - Identifiability: separable, differentiable, transferable, existence (38.12) - Control: legal rights to obtain benefit from asset. - Future economic benefits arising from the asset will flow to the company. Must also be reliably measurable at cost (38.21).
	As part of business combination (38.35)	<ul style="list-style-type: none"> - Separable from goodwill. - Asset can be measured reliably at fair value. - Subsequent in-process R&D expenditure at cost (38.34)

	Government grant	- Fair value or nominal amount (38.44)
	Exchanges of assets	- Fair value or carrying amount of asset (38.45)
	Internally generated intangibles	<ul style="list-style-type: none"> - Brands, mastheads, titles, lists not recognised (38.63) - Internal goodwill not recognised (38.48) - Preliminary cost, promotional & advertising cost, training cost & relocation cost to expense (38.69) - Research cost charged to expense (38.54). - Development cost capitalised only when affirmed asset has future economic value (38.57).
	Recognition on expenses	<ul style="list-style-type: none"> - Expenditures recognised as expense when incurred (38.68), otherwise capitalised if have future economic benefit (38.60). - Reinstatement prohibited. Previous expenditure excluded from capitalisation (38.71).
<p>Measurement after recognition</p> <ul style="list-style-type: none"> - Subsequent year: revaluation model allowed (38.72) 	Historical cost / cost model	- Cost minus accumulated amortisation/impairment (38.74)
	Fair value / revaluation model	<ul style="list-style-type: none"> - Fair value (determined by active market) minus accumulated amortisation/impairment (38.75) - For asset with finite life, the re-valued amount is amortised (38.85)
	Useful life of assets	<ul style="list-style-type: none"> - Finite or indefinite (38.88) - For finite live asset: - Amortised systematically (38.97) - Review amortisation period annually (38.104) - Assessed for impairment (38.111) - For indefinite live assets: - Should not be amortised (38.107) - Useful live reviewed annually (38.109) - Assessed for impairment (38.111)
<p>Disclosures of intangible assets (38.118 and 38.122)</p>	Recognition and measurement	- Type of asset, amortisation /impairment, cost model /revaluation model. revaluation surplus, amount expensed, etc.
	Additional disclosures	<ul style="list-style-type: none"> - Re-valued amount of asset (38.124) - R&D cost expensed (38.126)

In Malaysia initially, all activities related to R&D carried out by and for a PLC were transacted in accordance with the Malaysian Accounting Standards Board (MASB) 4 *Research and Development Costs*, which was brought into effect commencing 1 July, 1999. MASB 4, later renamed as Financial Reporting Standard (FRS) 109 in 2004, was consistent, in all material aspect with IAS 9, such that compliance with the former is equivalent to compliance with the latter (Ng, 2004). Later, consistent with the global adoption of IFRS standards, the MASB has adopted FRS 138 *Intangible Assets* in 2005 and has been effective since the period beginning on or after 1 January, 2006. FRS 138 is comparable word-for-word with the IAS 38.

2.4.1 Definition of terms used

‘Compliance’ is defined as the act of adhering to and demonstrating adherence to a standard or regulation. In other words, to comply simply means to adhere to all laws, rules or policies. To be in compliance with a certain rules or policies means to conform to a specification, policy or standard that has been clearly defined. According to the Oxford Advanced Learner’s Dictionary (2000), compliance is the practice of obeying rules or requests made by people in authority. The definition of compliance needs to be delineated from ‘convergence’ or ‘harmonisation’. Referring to the Oxford Advanced Learner’s Dictionary (2000) again, to converge means to move towards each other from different directions and meet at a point, whilst to harmonise means two or more things that go well together and produce an attractive result. Taken into consideration of the implementation of financial reporting standards, ‘comply’ expresses a more serious note compared to ‘converge’ or ‘harmonise’ with regards to the rules and regulations. ‘Comply’, ‘compliant’ and ‘compliance’ will be used at most of the time in the coming discussions to indicate seriousness in embracing the financial reporting standards.

Unfortunately, as has been explained earlier, it is impossible to test on the compliance with FRS 138 since there is insufficient information available on the types of intangible assets and the amount of investments involved. Therefore for the purpose of this study, the compliance checklist which is supposedly constructed to test on the extent of compliance with FRS 138 will be used to investigate the level of 'implementation' of FRS 138 instead. The definition of 'implement' as given by the Oxford Advanced Learner's Dictionary (2000) is to make something that has been officially decided start to happen or be used. Whilst the discussion on previous studies touches on the issue of compliance with the accounting standards, this study looks into the aspect of implementation of FRS 138 by the Malaysian PLCs.

2.4.2 Studies on the extent of compliance with IAS 38

Companies mostly indicate that they comply with the IAS/IFRS via a declaration made available in the notes on the accounting policies/principles, and/or in the audit opinion. Researchers would then assume such testaments as sufficient to accept that these companies comply with the standards, more so if the financial statements of these companies were audited by well-known international audit firms (Chatham, 2008). Nevertheless, there have recently been a handful of studies that looked into the level of compliance with the IAS/IFRS that produced shocking results. It is rather worrisome to discover that most companies that claim to be compliant with the IAS were actually non-compliant, as has been discovered by Street, Gray and Bryant (1999), Tower et al. (1999), Cairns (1999) and Street and Bryant (2000).

Street et al. (1999) examined the extent of compliance of 49 companies from 12 countries by looking at their 1996 annual reports. There were 221 companies originally before most of them were slashed off the list because they disclosed a statement of non-

compliant with IAS in the year of study. Even then, 29 of the finalised companies announced compliance with some 'limited exceptions'. Only 20 claimed full compliance with IAS. The authors designed and tested a survey instrument based on the IASC Comparability Project for reliability before it is used in the study to cover both measurement and disclosure issues. The result showed significant non-compliance with several IASs such as IAS 2 *Inventory*, IAS 8 *Net Profit or Loss for the Period*, IAS 9 *Research and Development Costs*, IAS 16 *Property, Plant and Equipment*, IAS 18 *Revenue*, IAS 19 *Retirement Benefit Costs*, IAS 21 *The Effects of Changes in Foreign Exchange Rates*, IAS 22 *Business Combination* and IAS 23 *Borrowing Costs*. Such findings raise doubts and criticism on the credibility of the auditors making assertions in the financial statements.

Another example of non-compliance with IASs is revealed by Tower et al. (1999) who look into the extent of compliance with IAS of six countries in the Asia-Pacific region, namely Malaysia, Singapore, Hong Kong, Philippines, Thailand and Australia. Each country is represented by ten listed companies and an extensive document study is carried out on their 1997 annual reports. The authors establish six levels of compliance, from full compliance to no compliance, taking into consideration the possibility of non-disclosure. Extent of compliance is calculated as number of compliances scored over total possible compliance, involving two ratios, referred as Ratio 1 and Ratio 2. Ratio 1 assumes non-disclosure in the financial statements indicates that a particular guideline within the standards is not applicable to the company, whilst Ratio 2 strictly posits that non-disclosure means non-compliance with the standards. Result from the study reveals Australia and Thailand score the highest extent of compliance measured using Ratio 1, whilst Hong Kong and Philippines, which are heavily influenced by the US accounting standards, score the lowest. When measurement using Ratio 2 is carried out, Australia

again emerges on top of the list, but this time coupled with Hong Kong. Still the same, Philippines scores the lowest level of compliance. Country of location and number of days to produce annual reports are the two highly significant variables in explaining the extent of compliance in all six countries.

In a more recent study conducted by Teodori and Veneziani (2007) that specifically investigated on the compliance with IAS 38 *Intangible Assets* from disclosure point of view, the effects of IAS 38 application on financial disclosure were studied and compared with the application of Italian accounting standards. The authors observe that IAS 38 gives more attention to the need of investors and the Italian accounting standard focuses more on creditors. Nevertheless, the authors find that Italian companies disclose only on average 58 per cent of the required information based on their specific individual type of intangibles within the annual reports. Teodori and Veneziani (2007) observe that individual result depends very much on what type of intangible assets are involved within the company. For example, companies from the technology industry, though small in capitalisation but highly innovative in nature, therefore communicate more with the external users compared to bigger companies. The authors are of the opinion that adopting IAS 38 should inflict a higher level of disclosure as compared to adopting the traditional Italian accounting standards.

2.4.3 IAS 38 implementation issues

When the IASB announced on the decision to impose mandatory adoption of IFRS on firms listed in the European Union effective 1 January, 2005, Schipper (2005) foresees several early implications may emerge, especially on the demand for implementation guidance as a result of sudden increase in the number of adopters and the possibility of

an establishment of a single European accounting enforcement body to overlook the implementation issues. Her concern was that the unavailability of sufficient implementation guidance may lead to confusions on the accounting treatments within the financial statements and therefore contribute towards the increase in the rate of non-compliance with IFRS/IAS. Since then more researchers started to discuss on the possible implications that may emerge upon the adoption of IFRS, including the IAS 38 *Intangible Assets*. The followings are the findings and discussions of several issues related to the implementation of IAS 38.

Rights to claim the assets

Trying to control something that does not have any physical existence is difficult. It is much easier to protect physical assets compared to intangible assets. Intellectual properties, if not properly secured (patented, trademarked or copyrighted) could easily be imitated by competitors overnight. Even when it is protected, there is still a possibility it will be imitated in one way or another. It thus poses a continuous threat to the company to prevent replication and to protect ownership. One good example that most people can still remember today are the few lawsuits brought up on the trademark issues by the famous fast-food restaurant chain McDonald's on several entities in different countries in order to protect the 'Mc' prefix (www.guardian.co.uk). Although McDonald's claim that the 'Mc' prefix is part of its trademark, the giant fast-food restaurant lost against trials with McCurry in Malaysia, McJob in Oxford English Dictionary translation and even to another McDonald's in Kingston, Jamaica which was obviously not a fast food seller.

An intangible asset can only be recognised if the company has control over the intangible asset. This is one of the issues discussed in the paper of El-Tawy and

Tollington (2012), that is, the right to control the intangible assets. A company only disclose intangible assets on its balance sheet if it has the right over the intangible assets, but the question arises as to how to ‘claim’ a right on the economic resource that has no physical existence (therefore not easy to control). Wyatt (2012) discusses similar issue on the “right to determine the use of the asset” where a right on an asset is only verifiable if the expected economic benefits can be derived from such asset and that such derivation is achievable.

Having said this, the intellectual capital, mostly in the form of human skills and expertise could not fit into the description of an intangible asset that appears on the face of the balance sheet due to the inexistence of rights to control such asset. Even after each employee signed the contract of employment (which is deemed as the right to claim an asset), the company could still not exercise any form of ‘control’ on the employee that could prevent the employee from leaving the company in future.

Uncertainty

Variability: The production process and output from an intangible asset is normally more variable and therefore portrays higher uncertainty as compared to the production process of a tangible asset. This is due to the fact that production from an intangible asset depends on the productivity level of the workforce (intellectual capital) whereas production related to a tangible asset normally involved the adoption of automated and mechanised processes (Hunter et al. 2012).

Heterogeneity: To differentiate itself from the competitors and make its own stand, a company may make an investment in intangible asset which is heterogeneous in nature. Whilst this strategy brings an advantage to the company in terms of being unique, it

poses another problem when uncertainty is involved. Being unique means there might not be a standardised way to perform an investment process on intangible assets and on top of that such investment process might not be repeatable (Hunter et al. 2012).

Finance constraint: For intangibles-intensive companies, raising debt finance is difficult because lending institutions have expressed their qualms about lending large funds in the absence of physical assets as collateral, which raises uncertainty (Banerjee, 2012).

Measurement of assets

Measurement of an intangible asset must be based on the reliability of the measure. To date, the most acceptable measure is the direct valuation or cost model, where intangible asset is measured based on its identified cost of components. Nevertheless, even though an intangible asset can be reliably measured from its cost of acquisition, it may still fail IAS 38's requirement on recognition of asset if uncertainty arises with regards to the ascertainment of its future economic benefits (Powell, 2003).

Other quantitative methods include using the market capitalisation where the difference between market capitalisation figure and the stockholders' equity of a company is calculated as the value of intangible asset. Also, using the return on assets method where calculation is made on earnings arising from the intangible asset. Nevertheless, the absence of a market price for the intangible asset or the non-exchangeability of the asset could result in difficulty in assessing and measuring its value under the fair value model.

Recognition of assets

According to IAS 38, an intangible asset can be recognised on the balance sheet if its cost or market value can be reliably determined. As a result, most of the intangible assets disclosed are recognised based from the transactions entered with third parties (OECD, 2012). The criteria looked into when determining capitalisation of intangibles is whether the said intangibles are ‘identifiable’, ‘separable’ or ‘distinguished’ from the cost of developing the business as a whole.

Unfortunately, the internally generated intangible assets, whilst are important economic resources to the company, lack the relevant features of being measurable and reliable, which render the determination of appropriate value of these assets laden with ambiguity. There is also a risk that the internally generated intangible assets do not have a readily available market value. As a result, internally generated intangible assets frequently go unrecognised under IAS 38. Matolcsy and Wyatt (2006) present findings that suggest that the restriction imposed on capitalisation of internally generated intangible assets as per IAS 38 will result in diminution in the usefulness of annual reporting to the investors. As a consequence, the economies experienced unfavourable economic and social outcomes due to inefficient valuation of intangibles (Garcia-Ayuso, 2008). From financial market’s point of view, failure to measure and report accurately on the intangible asset will weaken the credibility of reported earnings and this in return will also affect the stock market valuation (Gelb and Siegel, 2000).

Separability

The main issue in dealing with intangible assets is in determining the appropriate measurement and valuation of these assets. Some, if not all intangibles are attached

together with their counterparts, the tangible assets (Lev, 2001). Software programmes are embedded in the computers or equipment or machinery, skills and technical know-how are the capability of the employees, and brands are attached to the products. It is the interaction between the intangible and tangible assets that bring values and benefits to the company. For example, if the brand name Coca-Cola is taken away from the drinks, it will only be another ordinary cola drinks sold in the market. But the brand name itself created a market value so big that it represented 15.2 times the actual book value as at 31 December 1999 (Daum, 2004). Because both the tangible and intangible assets rely on each other to operate, measuring the intangible components in isolation definitely involves subjectivity, hence a challenging task. Whilst an intangible asset brings some kind of 'economic benefit' to the company, the asset in isolation from its tangible counterparts does not generate any direct income for the company.

In a more recent development, El-Tawy and Tollington (2012) raise an interesting issue concerning the separability of an intangible asset. In order to recognise an asset as intangible asset in the balance sheet it is necessary that the intangible asset is separable from its tangible counterpart(s). Nevertheless, the main question here is what if the intangible asset is not detachable? El-Tawy and Tollington (2012) found that whether an intangible asset should be aggregated or segregated depends on the 'circumstances' of the asset. For example, a goodwill arising from a business combination should be separable in nature from other types of assets. In this circumstance, the excess between the purchase consideration and the net asset value of the company becomes the measurement of the goodwill but could not be recognised separately.

However, when considering human capital, even though each employee can be recognised separately, the measurement for each individual is problematic, which result

in only recognition of the asset but not measurable. Since a unit-of-account requires an asset be both recognised and measured, such situation above renders both goodwill and human capital as not fulfilling the characteristic of an intangible asset. The unresolved issue of assets separability in relation to recognition and measurement of an intangible asset has resulted in the financial statements so far contained a mix of separable and inseparable assets.

R&D costs as internally generated intangible asset

Hunter et al. (2012) highlight on the issue of IAS 38 concentrating on the research and development costs as the only internally generated intangible assets that will be considered for capitalisation. They observe that the reporting standard fails to look at broader types of intangible assets that qualify as internally generated intangible assets, such as brands, mastheads and customer list.

Asymmetric accounting treatment

An intangible asset can also be recognised through a business combination. In a business combination, an intangible asset acquired using the purchase/acquisition method is recognised at its fair value in the acquiring company's financial statements. It is derived from the difference between the purchase consideration and the fair value of the identifiable assets of the acquired company and is normally recognised as goodwill. Intangible asset is recognised under IAS 38 in a business combination when it can be separated from the amount of goodwill. The issue of concern arising from the adoption of the purchase/acquisition method is on the asymmetry accounting treatment on the same internally generated intangible asset where the internally generated intangible asset of the acquired company that originally failed the criteria of recognition as

intangible asset is now recognised in the acquiring company's account as identifiable asset separate from the goodwill amount (Hunter et al., 2012). Moreover, to determine that the internally developed intangible asset qualifies the recognition criteria of IAS 38 as being sufficiently identifiable and separable from goodwill is practically difficult (Powell, 2003).

Point of recognition

Another issue related to the implementation of IAS 38 is in deciding the appropriate point of recognition, and thus capitalisation of an intangible asset. IAS 38 stipulates that the point of recognition of an intangible asset is when future economic benefits arising from the intangible asset can be ascertained and secured. This means costs incurred at the early (exploratory) stage could not be capitalised, as in the case of research cost. Unfortunately, it is this research cost that eventually leads to the introduction of a new drug in the market, or innovative discovery of a software programme, or the development of an online management system and many other intangible assets. Following from this, many argue that the research activities are “series of events that led to a commercially successful product” (OECD, 2012), therefore the research cost should be considered as part of the investment in intangible assets and should be capitalised. Nevertheless, because there is lack of clarity in the future of the research activities as to what is the outcome or end result, such costs could not be recognised. As a result, only companies with sufficient funding (thus willing to take the risk) and support, either in the form of resources or government/authority could embark on an exploratory research project and make a new discovery and claim themselves as the first mover in the industry.

As for the development expenditures, IAS 38 states that such expenditures are to be capitalised only when the developed product reached technical feasibility. Another problem emerges here in identifying the point of technical feasibility, which is very subjective depending on individual case and thus require judgement, which varies amongst companies (Wolfe, 2009). Being profitable, big companies which are heavily related to R&D activities such as computer software and pharmaceutical companies may decide not to capitalise their development costs in order to avoid any attractions from external parties, such as the government, regulator or even their rivals (Mynatt and Schroeder, 2012). These companies prefer to expense their entire R&D projects even though some of them are proven successful ones (Mynatt and Schroeder, 2012). To them, the amount of expenses incurred will not affect their profitability.

On the contrary, smaller companies with less profit may decide to defer their R&D expenditure for as long as they can to ensure profits are not affected (Cazavan-Jeny, Joos and Jeanjean, 2007). The different treatment of R&D expenditures amongst companies renders difficulties in producing a standardised reporting of intangible asset. Since the information on the costs being capitalised or expensed were unclear, it was difficult to decide that the financial statements of related companies are comparable with each other (SEC, 2011).

Also, the decision whether to expense or to capitalise the expenditure as an intangible asset has significant influence on the pattern of future cash flows of the company. In the study of Woolfe (2009), the findings conclude that the decision to capitalise the expenditure result in a stronger influence to the company's future cash flows as compared to the decision to expense the expenditure. Managers have more information on the capitalised intangible asset, for example, information on the schedule of asset

amortisation, therefore face less uncertainty with regard to the future cash flows generate by the intangible assets. In the study conducted, Woolfe (2009) finds a positive and significant relationship between capitalised software development expenditure and future cash flows.

Comparability

Not all types of market are suitable to have/operate intangible assets. Some low-growth businesses are not in need of becoming intangibles-intensive, such as property development, home appliances and textiles. In other words, if a company ventures into this kind of low-growth business, there is not much the company could expect from owning an intangible asset due to its limited use.

On top of that, patenting an intangible asset means investing a huge amount of money to protect the uniqueness of a product so that rival companies could not replicate the same innovation. However, they can produce their own version of different features with similar function that may attract potential buyers/users. Such issue is also discussed by Hunter et al. (2012) when they refer to the above situation as ‘close investing around’ activities by rival companies.

Different countries or economies may value similar types of intangible asset differently, depending on the importance of the asset to the country. For example, concession rights are more common in a developing country where government consent is needed to obtain exclusive rights to operate the business. Operation rights such as timber, mining and railway constructions (Malaysia), TV & media airtime (China), highway tolls (Thailand) and regional maritime boundaries (Indonesia) are the few examples of such intangibles. Compared to developed countries such as the United Kingdom and

Australia, such rights are rarely offered. Hence, comparison of financial statements of various companies worldwide with similar intangible assets is still difficult to be carried out.

To conclude the discussion above, there are implications arising on the adoption or implementation of IAS 38 by the accounts preparers worldwide. In the absence of a proper guidance as to how to implement IAS 38 especially for first-time adopters, companies are facing a significant dilemma in relation to the recognition and measurement issue. Only intangibles that meet the criteria stipulated by IAS 38 can be reported in the financial statements, resulting in a number of investments in intangible assets could not be reported as they did not fulfil the recognition requirements. For example, the internally generated intangible assets such as brands, customer lists and mastheads are assets that embedded in the processes of the company and could not be easily separated and lack marketability. Apparently, these are the intangible assets that have significant influence to the growth of the company. Perhaps the accounting standards regulators could initiate a study on how internally generated intangible assets could be incorporate into the financial statements of the PLCs. This study strongly believes that the users of accounts would benefit more with the supply of information related to the internally generated intangible assets.

The existence of an intangible asset blended with its tangible counterpart creates a unique complementarity that could not be easily replicated by others. Unfortunately, they are restricted from recognition due to the issue of separability and also marketability in determining its fair value. Several studies suggest that such restriction could lead to several other implications, such as inaccuracy in analysts' forecasts, higher

cost of capital, stock price volatility and gap creation between the book value and the market value of the company.

Even when the investments in intangibles can be reported, there is still another issue arising from the subjectivity in determining the point of recognition involving the development expenditures. This results in the tendency to manipulate the earnings figures by reporting lower amount of investments to obtain higher earnings amount that could improve investors' trusts and expectations towards the company. It is opined that earnings manipulation can be contained with a proper monitoring on the activities of the managers. In this case, the agency cost in the form of monitoring costs can be offset with the benefits of recognition of intangible assets.

All in all, the IAS38 still has rooms for improvement to ensure intangible assets are properly treated and recognised within the financial statements of companies in order to acknowledge that they are crucial components of long term business sustainability.

2.5 Significance of intangible asset

Most of the contemporary businesses operating in the twenty-first century have expanded globally and reach out to customers from different geographical backgrounds because they embrace the k-economy culture and captivate its value within the organisation structure. In k-economy, the business demands and supplies are dominated by the intangible assets in the form of intellectual capital, IT, R&D activities, e-commerce, software development, rights and other forms of innovations and product breakthroughs (Seetharam et al., 2002). The wave of k-economy is experienced not only

by high-tech companies, but also by the ordinary, non high-tech companies. At present, even a small company can have a large customer database from operating using business applications in the website to promote its branding and marketing activities.

Physical assets such as equipment and machineries are being replaced by intangible assets on a rapid pace because intangibles induce higher economic growth not only at company level, but also at the jurisdiction level. Unfortunately, this rapid growth induced by the intangible assets is difficult to capture on the face of the financial statements of the companies. Despite the significant changes in how businesses operate, the financial reporting framework remains stagnant and this has caused several issues to arise pertaining to the measurement and reporting of intangible assets.

Lev (2001) observes that companies with intangible assets find it complicated to convey information pertaining to their intangibles to the external users of financial information. The failure to recognise the importance of intangible assets is identified as one of the main reason (Wallman, 1995; Lev and Zarowin, 1999) for the insufficient supply of information in the annual reports (Vergoosen, 1993; Chang and Most, 1985). The content of intangibles-related information in annual reports used by investors in valuing business entities do act as an indicator to the stock price movement (Chalmers, Clinch and Godfrey, 2008). The availability of information about a firm will result in changes in the firm's stock price (Roll, 1988, as mentioned in Morck, Yeung and Yu, 2000). The stock price, on the other hand, reflects quality of disclosure of the corporation. Hence, due to restriction in the recognition of intangibles, coupled with poor disclosure, the financial statements, especially the balance sheet, were argued as inadequate in providing the necessary information needed by accounting users (Basu and Waymire, 2008).

The significance of intangible assets to a company's growth is also reflected from the analysts following the company. Analysts act as very important agents who disseminate information in capital markets and influence the efficiency of the market (Francis and Soffer, 1997). Financial analysts are increasingly becoming interested in the intangibles-related information (OECD, 2012; Ousama, Fatima and Majdi, 2011; Lev and Amir, 2003). However, analysts can only appreciate the information on intangibles when it is understood and can be readily incorporated into their reports and financial modelling (OECD, 2012). Because financial analysts play important role in disseminating influential information to the investors and potential investors, any wrong information provided could affect and result in a less accurate decision made. Hope's (2003) study suggests that analysts' earnings forecast errors could be reduced if companies complied with the accounting standards. When intangible assets are omitted from the balance sheet, analysts tend to be biased in their forecast and earnings-based valuation models (Sougiannis and Yaekura, 2001). Also, expensing off an intangible investment instead of capitalising it may result in understated current earnings and book values (Lev, 2001). Eventually, the difficulty in estimating future payoffs and associated risks attached to intangible-intensive companies result in higher costs of capital (Sengupta, 1998) and raise stock price volatility (Garcia-Ayuso, 2008).

Due to the issues discussed above, practitioners, consultants and regulators conclude that accounting reports need a face-lift (Lev, 2001; Blair and Wallman, 2001). As such, some managers go to the extent of voluntarily disclosing information on the firm's intangible assets because they now foresee the effect it could bring about on the firm's economic conditions (Wyatt, 2005). Unfortunately, intangibles-related information disclosed on voluntary basis is not prepared based on a proper standard format or

framework of reporting as in the case of mandatory disclosure. This could result in difficulty (if not impossible) in analysing and making comparisons between companies by the financial analysts.

It is construed that an improvement or enhancement on the existing reporting framework is needed so that more information on the intangible assets can be included within the financial statements so as to enable transparency, comparability and accurate analysis be made by the users of accounts, especially the shareholders, analysts and investors. In finding a solution to the problem of difficulty in communicating information on voluntary basis, it is suggested that managers convey their messages using a language that all types of users of accounts will be able to understand. This includes offering explanations and guidelines on the value-creation process within the company and connecting clearly by way of disclosure between intangible investments and the future value creation. This way, transparency will be greater, thus limiting the asymmetry in the efficiency of capital markets and provide useful, accurate information for decision makers.

The significance of intangible assets has either been discussed in general in collective manner or from the point of view of specific types of intangibles owned by a company. The discussion of either category still leads towards the same conclusion: the existence of intangible asset(s) within a company helps boost economic growth of the company in one way or another. The followings are the discussions of several selected studies pertaining to specific type of intangible assets and how it influences the company performance.

2.5.1 Research and development (R&D)

R&D is one form of intangible asset that is mostly discussed in extant accounting literature. A R&D activity carried out by a company normally involves a huge amount of initial capital. Such activity may lead to the creation of innovation, which, when patented or copyrighted, becomes an intangible asset (Lev, 2001). Innovation can be translated into various products, services and processes, such as the introduction of new pharmaceutical products, robotic inventions and online distribution channels. Since the whole R&D activity influences the future economic growth of the company, it is opined that related expenses should be capitalised to represent the company's assets better in totality (Amir and Lev, 1996). Lev and Sougiannis (1996) support the notion by providing evidence that R&D capitalisation does generate reliable and economically relevant information.

Unfortunately at the early stage of the R&D activity, the outcome of a heavy investment in R&D activities often represents uncertainty as to whether or not the investment will yield positive net present value and benefit the company in the future. Because of such uncertainty involved in the difficulty of anticipating economic future benefit of the asset, IAS 38 delineates that such investment needs to be expensed off immediately in the income statement. As a result, research expenses that are not capitalised will distort productivity and income measurement (Yang and Brynjolfsson, 2001).

Lev and Zarowin (1999) confirm that expensing the intangible investment at a research stage resulted in limited information available to the users of accounts, thus a decline in the annual report's usefulness. In their study Lev and Zarowin suggest that R&D activities, which normally represent innovations, are also the main change driver in a company and have become an important determinant in the deterioration of financial

information usefulness. They argue that as the increase in intensity of R&D investment in a company also increases the business change rate, it reduces earnings informativeness. They also prove that the existing financial reporting systems fail to reflect the value and performance of a company, especially when referring to the measurement of huge initial outlays on R&D activities, where the revenue earned from such investment is always mismatched with the related expenditures.

The issue of capitalisation of development expenditures and their impact continue to be discussed in more recent studies. For example, Oswald and Zarowin (2007) investigate the impact of R&D capitalisation on stock price informativeness to observe the effect when the R&D accounting method practised in the UK allows a company to choose either to capitalise or to expense its R&D activities. They argue that more information is made available on the success of a capitalised R&D activity, including amount of investment, its probable future benefits and the amortisation table, as compared to expensed R&D activity. Oswald and Zarowin (2007) conclude that the advantage of higher stock price resides with R&D capitalisation. The result of their study also reveals that there are more expensers relative to capitalisers, and that expensers are much older and more profitable than the capitalisers. This indicates that the expensers are matured and established companies. On top of that, capitalisers also exhibit a weaker earnings-return relationship as compared to expensers. Nevertheless, regardless of the shortcomings of the capitalisers, empirical result shows that capitalisation of assets has more influence on the informativeness of stock prices than expensing the assets.

Further, Anagnostopoulou (2010) extends the investigation of Oswald and Zarowin (2007) on the impact of capitalising or expensing development expenditures on the earnings forecast. Using UK non-financial companies listed on the London Stock

Exchange as samples, she found that whether the development expenditures are capitalised or expensed, both did not have any significant effect on the forecast revisions, but the decision to expense them has a positive impact on the signed analyst forecast error.

In another development, Jones (2007) examines the types of voluntary disclosures made on a company's R&D activities that would be informative at different stages of the life cycle of R&D activities. This involves investigating three stages in the life cycle: the early stage, where spending is made on R&D activities, the middle stage where R&D activities are in progress, and finally the stage where R&D activities reach development status. The findings of the study reveals that most listed companies in the UK do make voluntary disclosures on their R&D activities in the form of descriptive information, especially on the in-progress activities, but when the cycle reaches development stage, more numerical information is disclosed. This type of information helps reduce analyst forecast error when translating such information into short-term sales.

Jones (2007) also found that companies with lower book-to-market ratio make more disclosures compared to companies with higher book-to-market ratio. Also, a lower level of disclosure on R&D activities indicates a much higher proprietary cost. There are mixed results on the relationship between different stages of R&D activities and analysts' earnings forecasts. Whilst the general disclosures on R&D activities exhibit a positive relationship with analysts' one-year-ahead earnings forecast error, the relation is negative between development stage R&D and analysts' one-year-ahead sales forecast error and dispersion.

2.5.2 Computers and high technology intangibles

Another type of intangible asset that could bring significant impact to a company is the IT and software development. Companies that spend significant amounts to invest in computer assets and the related IT should have a higher market value compared to companies that did not (Brynjolfsson et al., 2002). This is witnessed by the increase in production capacity of companies that invested heavily in IT in the era of the 1980s and 1990s (Bresnahan, Brynjolfsson and Hitt, 2002).

The financial markets have long recognised the importance of IT in a business and rewarded successful IT investment models that manage to fit into the business environment. With the application of IT amongst businesses, a faster and smoother flow of information can be expected to enhance the market performance. For example, Aboody and Lev's (1998) study on the capitalisation of computer software development costs on 163 companies in the United States during the period 1987 to 1995 find that the software development costs, when capitalised, influence the financial performance reporting of companies in at least two ways. First, capitalised costs have a positive relationship with return on stocks of these companies and affect the stock prices. Second, the costs, when capitalised, are also positively associated with companies' reported earnings. Obviously this information is important and highly sought-after by the users of accounts, especially the investors and also potential investors.

The analysts however, object to the capitalisation of such costs, on the grounds that their forecasting tasks would become more difficult to achieve accuracy, as compared to when the costs are being expensed. In this case, Aboody and Lev (1998) find evidence that the capitalisation of software development costs are positively associated with analysts' earnings forecast errors. The researchers also make another discovery: the

capitalised amount of software development costs in a company does not reduce earnings quality; instead, its credibility increases over time. The move to capitalise this cost is however detracted by the impact of annual amortisation associated to the asset, thus making it less attractive gradually.

Brynjolfsson et al., (2002) examine the organisational changes made by companies due to the presence of intangible asset. They emphasise that the existence of an asset that has no physical appearance can be detected in three ways: 1) it brought observable effects in the organisational change, 2) the effects are measurable and 3) there is real return to the company at the end of the day. Specifically, they concentrate on the usefulness of IT when complemented with trained and experienced manpower in a decentralised structure, new business process and reporting systems (organisational investment). Based on their observation, nurturing heavy investment in IT involving a complex combination with organisational investment mostly ends up labeled as a failed project due to misleading impression of expected return. Such a project falls short of expectation. On the contrary, successful complementarity between these investments in the business environment would result in high recognition and rewards by the financial markets. The authors named Wal-Mart, Dell and Johnson & Johnson as companies with successful stories. Due to the complexity of combination between IT and organisational investment, coupled with high risks and being costly, a successful project is not easy for other companies to replicate.

In Brynjolfsson et al. (2002), the value of intangibles in existence is measured from the gap between the balance sheet figures and the market value of the company. Using an econometric model, the authors tested the relationship between IT and market value of sample companies. They found that each dollar of computer capital is associated with

about 12 dollars of market value, which suggest the presence of an intangible asset. One of the main reasons that contribute to a higher market value is due to investors' perception that such assets are of significant value. They also found that a company that invests heavily in IT is statistically different from other companies due to the fact that their organisational design consists of more skilled teams with greater authority and broader job scope and responsibilities.

Another example related to the financial market is on the influence of software development costs (SDC) capitalisation by Givoli and Shi (2008). The study was conducted on 390 local software companies in the USA that went through the initial public offering (IPO) exercises, and examines whether capitalising SDC provides more information to the market compared to expensing it. The context of study revolves around new companies that recently issued IPO because such companies usually do not have a strong established background and may not be followed by any analysts. These IPO companies reflect the least effects of information asymmetry (between the insiders managers and potential investors) and competing sources, thus become suitable samples to be observed on the function of disclosures.

Givoli and Shi (2008) find that 189 sample companies which capitalised their SDC normally experience less IPO under-pricing as compared to 201 sample companies that did not do so. This is because management that capitalise their SDC believe they can convince investors on the future economic benefits of the capitalisation exercise through the distribution of future cash flows, thus more valuable information is disclosed to the investors on the recoverability of the SDC. Capitalisation of SDC also reduces the cost of capital of the company. As a result of capitalisation, Givoli and Shi (2008) also found

that on average, the exercise increases company's net income and book value of equity and total assets.

2.5.3 Patents, licenses and royalties

Apart from innovation, patent is another alternative indicator for R&D output and companies' technology. The market from patent licensing, such as software, pharmaceuticals, electrical and electronics, biotechnology and engineering is growing fast in volume and expanding across industrial sectors (Gu and Lev, 2001). It is therefore common to find a Mitsubishi television with a Toshiba cathode tube inside, or a Compaq laptop with Dell components attached to it. These are the R&D outputs.

Lev (2001) lists three patent-related measures that could be used to forecast stock returns and market-to-book value of a company: 1) number of patents granted to the company 2) the intensity of citations to a company's patent and 3) number of citations in a company's patents. He explains that these three measures have the capabilities to provide a lot of useful information to investors in assisting them to make decisions. Nevertheless, he claims that most investors do not make use of the opportunities because they are not aware of such potential. Similarly, most companies are normally more inclined to contain information on royalty income received from such patent licensing due to the increasing proprietary costs attached to such disclosures, which enable rivals to learn a lot of things and plan their next strategies from the information disclosed (Gu and Lev, 2001).

Gu and Lev (2001) investigate the effect of patent licensing activities and revenues to the market in terms of royalty income and also related disclosure issues. A sample of 198 companies from the USA that reported licensing of technology and disclosed the

amount of royalty income in their annual reports were observed, most of them from pharmaceutical and chemical companies. They conclude that when more R&D activities are carried out, the amount of licensable patents which lead to the creation of royalty income also increase on average. The royalty income on the other hand, is found to have negative association with the size of company. One significant criterion observed from the sample is that these companies, though small, are profitable. Big companies, such as IBM and Eli Lilly are also major licensors and profit-makers, but they were excluded from the sample of study because they did not fulfil the selection criteria, that is, they did not disclose information on their patent licensing and royalty income in the annual reports. Gu and Lev (2001) conclude that royalty income is highly valued by investors as it reduces uncertainty. It reflects quality signals (revenue source and technological strength) on the R&D activities.

It is evident from the above discussions that the existence of intangible assets in a company is important in enhancing growth and increasing business values. Some companies provide abundance of information on their intangible assets to indicate to others that they understand and highly value their intangible assets as their competitive advantages. On top of that, companies may want to signal to the market that they have advanced further through innovation within their business areas in hope that by disclosing the existence of intangible assets could help increase the stock price and market shares in the future. The action of disclosing intangibles-related information to the users of accounts has somehow resulted in a gap between the book value and the market value of a company, although some studies also highlight that the gap could also be created by line items in the financial statements other than the intangible assets. It is very crucial that the reporting framework be able to immediately capture and reflect the value of the intangible assets on the face of the financial statements because for some

types of intangibles such IT software and patents, the values could become eroded in a matter of overnight when rival companies introduce a substitute product of innovation into the market. Other than that, it is also observed that big companies have the options either to capitalise or to expense off their intangibles without actually affecting the compliance requirements of the IAS 38. They may want to avoid from attracting unintended external parties from using such disclosure against them, nevertheless by doing so would render inaccurate comparisons between companies.

2.6 The role of disclosure in financial reporting

Disclosure has a significant influence on a company's activities and performance. It could strengthen investors' confidence in the company and thus create or increase cash flow, which in return will broaden its market share (OECD, 2012). Perera (1994, p. 268) describes disclosure as "an accounting activity involving both human and non-human resources or techniques as well as the interaction between the two", whilst a simpler definition is given by Karim and Ahmed (2005, p. 8) as "the appearance of an item of information in the annual reports of the companies".

Disclosure has a close connection with reporting transparency. Ho and Wong (2001) quote the definition of transparency provided by the Working Group on International Financial Crisis (1998) as "a process by which information about existing conditions, decisions and actions is made accessible, visible and understandable". Collectively, at a macroeconomic level both disclosure and transparency contribute a significant impact on the country's ability to attract domestic and foreign investment.

There are various forms of disclosure made available to companies to disseminate information. Firms may choose to disclose their financial information during meetings with the analysts and investors, in the quarterly announcement, through a video conference, company bulletins and also on the internet via the homepage. However, in general many agree that the annual report is the best medium for managers to disseminate various kinds of information. It is being referred to as the main source of information and thus serves as a good proxy for the level of voluntary disclosure provided by a firm across all disclosure avenues (Botosan, 1997; April, Bosma and Deglon, 2003).

Disclosures are influenced by various cultural, economic, political and corporate factors. Some disclosures have been made mandatory, whilst the rest continues to be voluntarily provided to users. Therefore, studies related to disclosures are abundant. Some studies examine the relationship between disclosure practices and company-specific characteristics (Chen and Jaggi, 2000; Haniffa and Cooke, 2002; Karim and Ahmed, 2005; Aljifri, 2008), whilst others examine the corporate governance structure (Eng and Mak, 2003; Ghazali and Weetman, 2006; Luo, Courtenay and Hossain, 2006). There are also a large number of studies that look at the effect of disclosure to analyst activities such as forecast, reports or rating exercises (Lang and Lundholm, 1996; Francis and Soffer, 1997; Vanstraelen et al., 2003; Frankel, Kothari and Weber, 2006).

2.6.1 Mandatory disclosures

Over the years, more dissatisfied external users of accounts such as the investors, bankers, other key stakeholders and even the public are demanding greater clarity or transparency of information in the annual reports of companies they are interested in (Boesso and Kumar, 2007). The mandatory disclosures in the financial statements serve

to provide valuable information to the users of accounts, but many researchers opine that the conventional reporting framework should be reviewed so that it can accommodate the increasing need for mass information from users of accounts (Lev and Zarowin, 1999; Boesso and Kumar, 2007; Guthrie et al., 2007).

Ho and Wong (2001) claim that merely complying with the IAS/IFRS does not guarantee that the issue of transparency and disclosure can be resolved. Accounts preparers are facing a dilemma of not being able to report the true value of the company in the financial statements (Brynjolfsson et al., 2002; Wolfe, 2008). More concern is raised on whether such disclosures actually fulfil the requirements of the users of accounts, especially the investors group. Investors also argued that the quantity of disclosure provided in the annual reports often fails to reflect the actual picture of what is being disclosed (Gray, Kouhy and Lavers, 1995), therefore regard the existing mandatory disclosures insufficient in providing the required information (Boesso and Kumar, 2007).

The insufficient disclosure within the financial statements causes users of accounts to spend more time to extract information from other sources. To overcome this problem, companies resort to voluntarily disclosing additional information, where most of it can be found outside the boundary of financial statements (Dumontier and Raffournier, 1999; Boesso and Kumar, 2007).

2.6.2 Voluntary disclosures

Archambault and Archambault (2003) explain that as a result of rapid changes and development in the cultural environment, together with the promulgation of new regulations in annual reporting and auditing process, pressures are increasing on the

companies to maximise shareholders' interests. As a result, many companies are heading towards voluntary disclosure to provide additional information pertaining to their business operations and performance.

Meek, Roberts and Gray (1995, p. 555) refer to voluntary disclosure as "disclosures in excess of requirements". According to the Financial Accounting Standard Boards (FASB, 2000), the definition of voluntary disclosure is "information primarily outside of the financial statements that are not explicitly required by accounting rules or standards". Such disclosures could be in the form of quantitative (or numerical) figures, and qualitative (historical or operational and forward looking or non-financial) information (Gray et al., 1995; Milne and Adler, 1999).

Meek et al. (1995) and Dumontier and Raffournier (1999) found that most companies disclose financial information more than they should have disclosed, far exceeding the requirement of the existing law or accounting standards in order to reduce information asymmetry and increase transparency, which in turn is believed to be an effective way in reducing the agency and political costs. However, there are also companies that disclose information as little as possible on the grounds that disseminating information is costly and that these companies might experience leakage of competitive advantage to their rivals (Admati and Pfleiderer, 2000; Ku Ismail and Chandler, 2005).

Abrahamson and Amir (1996) in their study suggest that non-financial information voluntarily disclosed in the annual report is more useful in providing in-depth explanation for the analysts following the company as compared to the mandatory financial statements. This is supported by Rogers and Grant (1997), who suggest that

the annual report's narrative section provides more useful information to the analysts in their reports compared to the numbers or figures in the financial statements.

Kent and Chan (p. 4, 2007) describe the additional section in the annual report apart from the regulated financial statement as the section where "management has complete editorial control". Most of the information voluntarily disclosed in an annual report could be found in the Management Discussion and Analysis (Boesso and Kumar, 2007). According to Marston and Shrides (1991) and Lang and Lundholm (1993), the Management Discussion and Analysis section or MDA in the annual report is useful in conveying relevant information to various users of accounts. Nevertheless, the format of voluntary reporting here is not regulated, enabling companies to decide what, when and how to disclose information as desired (Van der Laan, 2004).

2.6.3 The annual reports

The annual report contains massive amount of information and has become the main source of information on company performance (Marston and Shrides, 1991). Due to its nature of being regularly produced in a timely manner, and its content regulated and standardised, managers of companies regard the annual reports as the best platform to signal important issues to outsiders (Guthrie et al., 2007). Abeysekera and Guthrie (2005, p. 155) view the annual report as a medium for managers to convey their concerns and corporate interests 'in a comprehensive and compact manner'. The annual report is also seen as a tool that connects an organisation with various users of accounts (Guthrie and Petty 2000). On top of that, when compared with other medium of communication such as investors' meetings and analysts' briefings, the annual reports are the channel of communication most favoured by both the accounts preparers and users of accounts due to ease of access. For these reasons, the annual report is thus

claimed to be the most effective tool to reach and communicate with various stakeholders (Yi and Davey, 2010).

The annual reports are also becoming an important source of reference amongst the analysts (Healy and Palepu, 2001; Orens and Lybaert, 2007). The analysts following a company benefit from the disclosures made by the company in its annual report when they can provide better information and guidance for the investors following the company (Nielson, 2005). In their study, Lang and Lundholm (1996) imply that a company reduces information asymmetry and thus lowers the cost of capital when they provide more information to the analysts following the company.

The annual reports do not only contain numerical figures required for mandatory disclosures, but also other information in abundance, covering the operation of the business, social responsibilities, corporate governance, employee welfare, the company's future planning and benefits, and much more. Such information is voluntarily provided by the companies to further educate their users of accounts on the important matters related to the companies. Due to this reason, the amount and quality of information disclosed could vary significantly from one company to another (Ho and Wong, 2001).

2.7 Disclosures on intangible assets

Along with the change in the way business is being managed is the creation of competitive advantages due to the employment of intangible assets within the business. Companies are urged to be more transparent and accountable. There are a growing

number of studies that highlight the importance of intangible assets from various perspectives. Some of these studies look at the relationship between disclosures of information on intangible assets with stock prices (Gelb and Siegel, 2000; Garcia-Ayuso, 2003), cost of capital (Botosan, 1997), market and book value (Brennan and Connell, 2000), insider gains (Aboody and Lev, 2000) and analysts' forecast (Dehning, Pfeiffer and Richardson, 2006). Most of the studies conducted were aim to cater for the needs of financial markets and investors (Boesso and Kumar, 2007).

Unfortunately, the intangible assets that create and increase value of the business are not easily recognised in the financial statement. In their study, Hunter et al. (2012) find that only 39.5 per cent of their Australian sample companies recognise intangible assets as an important value driver, therefore made a separate disclosure on the intangibles expenditure, distinctive from other types of expenditures in the company. It is also discovered that more intangibles-related information was found in the form of qualitative approach (narrations) to complement the traditional financial reporting. To remedy the situation, many are of the opinion that the time has come for the traditional financial reporting model to be enhanced beyond merely quantified information only (Lev and Zarowin, 1999; Lev, 2001).

The inability of the existing financial reporting practices to account for all types of intangible assets in the financial statements of companies prompts the need for companies to take more serious actions to improve the disclosure of intangibles-related information to further enhance the knowledge and understanding of the users of accounts on the importance of intangibles (Canibano et al., 2000). This is evidenced from the various forms of disclosures made by companies to disseminate more relevant information. More companies are taking additional initiatives to disclose information on

a voluntary basis to demonstrate the usefulness of intangible assets in generating future benefits.

Some jurisdictions even put up the initiatives to introduce a form of national guidelines on how best to report intangible assets beyond the mandatory requirements. Apparently, due to the absence of a properly regulated framework as main reference on how the guidelines on intangible assets valuation and disclosures should be prepared, it is observed that the design of each guideline is different from one jurisdiction to another (OECD, 2012). The preparation of guidelines on intangible asset disclosures is made on voluntary basis therefore the outcome is very much influenced by a country's specific characteristics, depending on the motivation behind the intended disclosures. Developed countries such as Japan, Denmark, France, Germany and Sweden have produced their own set of guidelines covering the aspects of valuation of intangible assets and make extended disclosures. For example, in 2011 France proposed for an extension of the existing financial reporting in the form of narrations to specifically disclose intangibles-related information without interfering the fundamental scope of the financial statements. In earlier development, Denmark issued a guideline on the disclosure of companies' four knowledge resources, which are the employees, customers, processes and technologies through an Intellectual Capital Statements. Other than that, there are also framework for analysing intangibles proposed by Denmark and conceptual framework for reporting and management of intangibles (MERITUM) proposed by Sweden (OECD, 2012).

When discussing the issue of voluntary disclosures, Beattie, McInnes and Fearnley (2004) take up the effort to review a collection of empirical studies on disclosure quality and discuss on the accounting narratives and problematic nature of quality

measurement. Specifically, they found that narrative disclosures in the annual reports have becoming an increasingly important element in providing higher quality of corporate reporting. Unfortunately, there are limited studies available on the attempt to measure the quality of disclosures on intangible assets in the annual reports (Lev, 2001; Wyatt, 2005; Teodori and Veneziani, 2007; Jones, 2007) and associate the quality of disclosure with the advantages gained from such disclosures. Marston and Shrives (1991) emphasise that most studies on disclosures could only measure the extent of disclosure but not the actual quality of disclosure. Wyatt (2005) investigates on the motivation to disclose intangible assets in the financial statements and concludes that managers may want to convey only information that could benefit the investors. Also, her findings suggest that managers choose to disclose intangible assets on the balance sheet only when the act of disclosing such information brings benefit to the company.

It is also important to highlight that the directors of a company play an important role in ensuring sufficient disclosure of intangibles-related information is made to the public. The board of directors holds a higher position in the company and has more authoritative power compared to the managers. When discussing about intangible assets usefulness, the directors of a company should attempt to make themselves informed of the valuable intangible assets within the company. This is because the main duty of the board members is to formulate and review the construction of corporate strategies and to guide the execution of the said strategies in accordance to the resources and assets made available. The board composition and the ownership structure of a company may have some influence on the disclosure practices (OECD, 2012). The existence of independent directors on board as compared to the executive directors and the fact that more directors sit on several boards of different companies are amongst the corporate

governance factors often discussed and investigated in studies related to voluntary disclosures.

2.7.1 Malaysian studies on intangibles-related disclosures

From the perspective of Malaysian business environment, the advancement of intangible assets and the disclosures made in association to the intangibles are still far lagging behind the developed countries. There are only a small number of studies that discussed on the value relevance of intangible assets in Malaysia.

One of them, by Abdul Rashid, Wan Abdullah, Tarmidi and Zainol (2009) suggest that Malaysian PLCs face the difficulty in identifying and measuring intangibles quantified in the financial statements as a result of emphasising more on reliability of information compared to relevance. In their study on companies applying for a listing on the Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange or KLSE) in 2007, Abdul Rashid et al. (2009) found that the extent and specificity of intangible disclosures are higher in the company prospectus for initial public offerings (IPO) as compared to the annual reports. This reflects the willingness of companies to disclose more information that focuses on future perspectives of the companies to attract the interest of potential investors when trying to secure for an investment or raise funds. They suggest that there is less information related to intangible assets contained within the annual reports.

Managers normally use the annual reports as the main medium to signal important information to users of accounts (Guthrie and Petty, 2000). Information disclosed on the annual reports should provide appropriate guidance to the market participants in assisting their decision making (Riahi-Belkaoui, 2000). Zaleha, Muhd-Kamil, Jagjit and Hamezah (2008) investigate the value relevance of intangibles-related information

disclosed in the annual reports of Malaysian PLCs during three different periods of the 1997-1998 Asian financial crises. In the absence of a sound accounting framework for intangible assets, their study observes a negative relationship between the intangible non-current assets disclosure with the companies' stock prices in all three periods of before, during and after the crisis. They propose that users of information failed to appreciate and did not value reporting of intangible non-current assets due to lack of direction and guidance on the measurement and treatment of intangible assets.

Uncertainty about the future economic benefits of the R&D activities undertaken has been depressing many intangible-intensive companies such that towards the end they resolve to write it off in the income statement (Amir et al., 2003). The same result is evidenced in the Malaysian PLCs before the enforcement of FRS 138. Lack of strategic planning, coupled with deficiencies in qualified and skilled personnel hindered the R&D activities from being successfully carried out. As a result, there were very few R&D activities carried out in Malaysia compared to other countries (Alfan, 2003).

On assessing the value relevance of R&D reporting in Malaysia, Mohd, Latif, Bakar, Husin and Ku Ismail (2006) made an observation on 246 companies listed on the Main board of Bursa Malaysia that represent industrial, consumer and technology industries for the financial year 2000 and 2001. Of the 246 companies, 76 were capitalisers, 23 expensers, whilst the remaining 147 are classified as non-R&D companies. The expensers were mainly big companies, characterised by total sales. The study found that the share price of a company is influenced by its R&D outlay. This indicated that R&D activities are value-relevant to the company. Malaysian companies tend to capitalise their investment in R&D activities only when they are confident such investment could bring future benefits to them. Relevant disclosures made on information pertaining to

the expenditure also have effects on share prices of companies. This is proven by the reaction of the investors in the market when they incorporated their expectation on the future benefits of an R&D activity of a company into the stock price, even though the company reports on fully expensed R&D capital outlays.

Zainol, Nair and Kasipillai (2008) investigate the value relevance of R&D investment in the balance sheet by way of looking at the difference between market and book value of companies, and also to look at the reporting practice on R&D of 230 companies from consumers and industrial sectors listed on both the Main and Second board of Bursa Malaysia for the financial year 2004. Their findings reveal that due to high competition within the industry and the urge to enhance product design continuously, companies from the consumer sector have a higher tendency to record R&D activities as intangible asset in the financial statements as compared to the companies in the industrial sector that prefer to record R&D activities as expenditures.

Another finding of the study of Zainol et al. (2008) relates to the characteristic of the company pertains to the size of company, measured by the size of total assets reported in the balance sheet. They found that the bigger the company, the more tendency to report R&D activities as intangible assets. In addition to that, the type of audit firm engaged by the company, performance achievement measured from profit before tax and the year of incorporation of the company exhibit positive relationship with the tendency to capitalise the investment on R&D activities.

Goh and Lim (2004) investigate the voluntary disclosure practice concerning intellectual capital in 20 top profit making companies' annual reports for the year 2001. Adopting the same methodology proposed by Guthrie and Petty (2000), they identified

three categories of intellectual capital and conducted a content analysis on the annual reports of the sample companies. They concluded that all sample companies made voluntary disclosures of some kind of information on management philosophy, corporate culture and entrepreneurial spirit in their annual reports. However, the extent of disclosure between one attribute and another varies, sometimes significantly. Several very low frequencies of disclosure were made on patent, trademark and copyright, franchising agreement and employee know-how. The external capital emerged the most disclosed category at 41 per cent disclosure level, followed by 36 per cent of internal capital and the remaining 23 per cent of employee competence. Most disclosures made were qualitative in nature.

To conclude the above discussion, significant efforts have been taken to indicate seriousness in tackling the issues of inefficient reporting of the intangible assets so that companies could reap full benefits from the opportunities presented by the intangible asset without attaching any potential harms to the companies. This study therefore supports the introduction of 'extended reporting' to exclusively disclose intangibles-related information sought after by the users of accounts for their decision making. Even though at present several developed countries such as France, Denmark and Sweden have introduced various ways to extend the reporting of intangible assets, each jurisdiction provide different methods on how intangibles should be best evaluated. Much of the information is seen as valuable for decision making processes, but the issue of comparability remains unsolved.

As for the Malaysian businesses, it is observed that both the accounts preparers and the users of accounts faced the difficulties in understanding and appreciating the importance of intangibles-related information due to the lack of exposure, guidance and proper

education and training. The appearance of intangibles-related information on the face of the PLCs' annual reports was to comply with the mandatory requirements of the FRS 138. Malaysia has not set any specific framework to be adopted by the PLCs when reporting intangible assets on voluntary basis. Having said this, it is entirely up to the managers of the PLCs what type of information they deem as appropriate to be published and what type of other information that is best kept within the company.

2.8 Financial reporting development in Malaysia

This section covers the development of accounting standards in Malaysia from the early 1970s until recently. It touches on the issues of weak regulations and non-compliance cases, the recognition that a strong corporate governance and control mechanism should be in place and efforts made towards improvement of financial reporting regulations through harmonisation and convergence with IFRS.

This section is particularly important to the context of this study as it discusses two important factors that construct the structure of this study: the first factor being the initiatives taken to regulate the Malaysian financial reporting standards (FRS) and consequently enforce these standards on PLCs for compliance purpose. The second factor is the early effort taken to establish and gradually improve corporate governance in the pursuit to combat non-compliance and fraudulent acts by PLCs in Malaysia. The issues of compliance with the FRS and corporate governance are both inter-related to each other in this study as both factors have significant influences on the intangibles-related disclosure practices of the PLCs. Compliance with the FRS ensures that all mandatory requirements are adhered by the PLCs when they prepare, present, audit,

review and compile financial statements for publication. On the other hand, effective corporate governance strengthens the credibility of a company, attracts foreign investments in order to raise capital, protects the investors, especially the minority, and facilitates the overall economic recovery process. When a PLC displays the evidence of compliance with the FRS, supported by effective corporate governance in practice, it gains the trust and confidence from the users of accounts, especially investors and creditors, not only at the national level but worldwide. This in turn promotes and enhances the process of globalisation. Intangibles-intensive PLCs gain additional advantage through product innovations. In a k-economy environment, coupled with heavy usage of IT and the internet, a PLC that finds and grabs the opportunity presented by intangible assets could see its way up to the top of the market much faster than the traditional company that still embraces the p-economy.

2.8.1 Malaysian economic post-colonialism

Colonialism was believed to have created significant economic vivacity to the multicultural Malaysia (Jesudason, 1990). The Malaysian economy has been dominated by the Europeans, especially the British, and to a lesser extent, immigrants from China (Susela, 1996). In 1957, when Malaya (before the inception of Malaysia) became independent of British rule, it immediately pursued an active policy of economy, which covered the issue of socio-economic development for national unity to cater for the politics of multiculturalism in the country (Susela, 2004). Financial reporting practices of companies, especially accounting pronouncement from the United Kingdom (UK), started to gain attention mainly from established major international accounting firms. The growth of foreign capital in the manufacturing sector encouraged the government to make available munificent incentives to attract more investments into the country. British multinational giants such as Shell, Dunlop, British American Tobacco, Guinness

and many others were interested to invest in Malaysia due to their technological advantage (Susela, 1996). Consequently, the Companies Act was introduced in 1965 to mandate on disclosure requirements under the Ninth Schedule for items of Profit and Loss account and Balance Sheet to reflect obligation to the ever increasing shareholders. Following after, the Income Tax Act was passed in 1967 to regulate better the corporate sector.

The government then introduced the New Economic Policy (NEP) in 1970 with the objective to increase ownership of the corporate sector for Bumiputra (Similar to the Malays, Bumiputra are also the indigenous of Malaysia, but consist of a larger group with various ethnicities, for example, the Malays, Kadazan, Dayak-Iban, Bajau, Murut, etc.) to 30 per cent by 1990 (Susela, 1999). At this point, the national economy was rapidly developing. Malaysia's utmost attention was on the production and export of primary commodities. To support a favourable investment atmosphere, the government has initiated the construction of facilities such as power, transport and communication.

Soon after, in 1973 the Kuala Lumpur Stock Exchange or KLSE (now known as Bursa Malaysia) was established to cater for Malaysia's economy that was becoming more diversified. KLSE presented the state of corporate financial disclosure practices in Malaysia through its first monograph entitled Corporate Financial Reporting in Malaysia in 1974, which was in a poor state. In 1978, Malaysia adopted the first four IASs as its national accounting standard in the move to improve further the accounting practices and expand the economic activities. Consequently, the 1980s saw the publication of more accounting standards and technical bulletins to accommodate the requirement for a more complex accounting treatment, such as merger and acquisitions, the aquaculture industry and insurance (Susela, 1996).

2.8.2 Initial adoption of international accounting standards

Malaysia adopted the first four IASs in 1978 (Camfferman and Zeff, 2006) and the next four IASs in 1979 (Susela, 2004). There were altogether thirteen standards adopted during the period 1979 -1986 (Susela, 2004; Mohd Zain, 2006). As for the areas that were unique to the Malaysian environment and not covered by IASs, or in situations where IAS treatment contradicted the local legislation, the Technical Bulletins (TBs) were produced as guidelines. Five TBs were issued by the Malaysian Institute of Certified Public Accountants (MICPA) between 1982 and 1984. In 1994, the first Malaysian Accounting Standard (MAS) was issued. MAS covered several areas that were not dealt with in IASs which required a specific domestic standard be produced. The adopted IASs, together with a few non-IASs that were produced as MAS, were renamed as Malaysian Generally Accepted Accounting Principles (Thillainathan, 1998). Arising from some inconsistencies in adoption with the Malaysian environment and overlapping with existing MASs, only 25 of the 32 extant IASs were adopted (Thillainathan, 1998).

Initiatives were taken by the government to improve the Malaysian PLCs' compliance with the accounting standards. For example, BNM imposed high transparency in terms of disclosures by the banking sector and the requirement by the Securities Commission (SC) that the audit committee had to have a member who is financially trained (Abdul Rahman, 2006). Despite efforts taken by the government, non-compliance issues persisted. Recognising the need to have a body that could play a more active role in defining and enforcing the adherence of specific accounting and reporting standards, and as part of the government's strategy to develop its capital market, the Malaysian Accounting Standards Board (MASB) was established in 1997 under the Financial Reporting Act 1997 (FRA 1997) as the sole authority to produce and promote the

financial reporting standards for Malaysia. Its members, appointed by the Ministry of Finance, are those who possess extensive knowledge and experience in the affairs of financial accounting and reporting, and also in other areas related to accountancy, law, business and finance. By virtue of section 27 of the FRA 1997, all public listed corporations are required to prepare their financial statements in compliance with MASB-approved accounting standards.

As a regulator, one of the missions of MASB is to harmonise the national accounting standards with international accounting standards. This is carried out by reducing the gap between both national and international standards. MASB reviewed and revised the adopted IASs and MASs, and on top of that replaced new accounting standards when its deemed fit. In 1998, MASB approved and adopted 24 MASs and IASs accounting standards as an arrangement towards new financial reporting regime (Thillainathan, 1998). Its adoption gave these 24 extant standards the status of approved accounting standards.

2.8.3 Regional financial crisis and corporate governance

In 1997 the arrival of the Asian financial crisis left a huge impact on the country (Azham, 2004). The financial crisis, doubled up with the economic recession, resulted in catastrophe when the world cast doubts on the ability of the Asian countries to regain growth. Malaysian Ringgit depreciated in value by almost 50 per cent between July 1997 and January 1998, whilst the interest rates soared to more than 12 per cent per annum (Abdul Rahman, 2006). Companies' wealth and strength were at risk of being eroded overnight when the equity market declined drastically. As a consequence, many companies faced difficulties to raise capital, not only to meet debt obligations but also for the purpose of financing new investments.

The Asian financial crisis denotes the essential of an effective corporate governance (Ho and Wong, 2001; Mitton, 2002; Abdul Rahman, 2006). Corporate governance, defined briefly in a simple term, refers to the way companies are directed and managed (Koh, 2001; Mohd Sulaiman and Bidin, 2002). It is described at length by the Malaysian High Level Finance Committee (1999, p. 52) as:

“... the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability whilst taking into account the interests of other stakeholders”.

In Malaysia, most of the discussions on corporate governance refer to the Asian financial crisis that took place in 1997/1998 (Azham, 2004; Zulkafli, Abdul Samad and Ismail, 2003; Abdul Rahman, 2006). No doubt that the significant contributory factor behind the Asian financial crisis was poor corporate governance practices, including lack of transparency, disclosure and accountability, asset-shifting and over-leveraging by companies (Abdul Rahman, 2006). There were also weaknesses in the mechanisms for protecting investors and frail enforcement-ruling in third party transactions. In general, the poor state of corporate governance was mainly due to weak enforcement of regulations (Zulkafli et al., 2003)

The problems discussed above occurred due to weaknesses in law and enforcement. Therefore, the optimum solution to these problems that could turn an economy round is to have effective corporate governance. For this purpose, several moves were taken during the recovery period, aimed at further strengthening the law, increasing transparency and promoting effective corporate governance. The government has initiated the reform agendas which include the Malaysian Code of Corporate Governance (MCCG), Capital Market Master Plan (CMP) and Financial Sector Master Plan (FSMP).

In 2000, the MCCG was established by the SC to look into the improvements of corporate governance practices and create public awareness. MCCG specifically focuses on four areas, namely: the structure of the board of directors, directors' remunerations, shareholders and accountability, and audit. Effective July 2002, a Corporate Governance Statement was included in the annual report of all PLCs mandatorily to indicate whether the companies comply with the Code's recommendations or not, and to provide reasoning for any departures (Abdul Rahman, 2006).

The SC introduced CMP in February 2001. It maps out the direction of the Malaysian capital market within ten years' time. An effective corporate governance structure is important in playing a role to ensure the success of CMP as it involved efficient mobilisation of funds and strategic allocation. One of CMP's objectives is to encourage a conducive capital market environment. This is done by way of increasing investors' protection and regulating the mandatory disclosure which requires PLCs to disclose the state of compliance with MCCG in the annual reports.

The central bank, Bank Negara Malaysia (BNM) launched FSMP in March 2001 with the objective of developing sound and efficient financial systems as a drive towards the growth of the economy. Again, corporate governance became the main area of concern. FSMP emphasises on the importance of shareholders' and stakeholders' rights and activities and also on the priority sector financing.

In 2005, the World Bank published a Report on the Observance of Standards and Codes (ROSC) assessment of corporate governance in Malaysia, which benchmarked laws and practices against the Organization for Economic Cooperation and Development (OECD) Principles of Corporate Governance. In the report, it highlighted the concern

of having overlapping authority between Companies Commission of Malaysia (CCM), BNM and the SC. ROSC considered this as one of the key weaknesses that surfaced following the 1997 financial crisis. For example, SC's close connection with the Ministry of Finance has raised the questions of "whether the SC is truly a fully independent regulatory body, consistent with international good practice" (World Bank, 2005, p. 13). Such matters could result in vague accountability of the regulatory institutions governing the securities market. ROSC also touched on the prominent issue of concentrated shareholding in the Malaysian market, where companies are usually majority-controlled by a small group of related parties and managed by owner-managers, which forms a pyramid structure of shareholding.

In order to enhance the structure of corporate governance in Malaysia, Bursa Malaysia revamped its listing requirements in 1999. Chapter 15 of Revamped Listing Requirements (hereafter Chapter 15) imposed on PLCs states the type of disclosures that must be made in the annual reports by the board of directors. The main objective of Bursa Malaysia through Chapter 15 is to promote transparent and accountable companies, which in turn protect investors' rights and increase investors' confidence.

2.8.4 *Harmonisation with IAS*

Originally, the adoption of IASs into MASB standards was not made on "word to word" basis. Instead, the prefix "IAS" was also changed to "MASB" standards. For that reason, Malaysia was seen as non-compliant by international analysts and consultants (MASB, 2004), eventually creating an adverse viewpoint internationally. Effective 1 January, 2005, the Malaysian Financial Reporting Foundation (FRF) together with MASB have renamed the existing MASB approved standards to Financial Reporting Standards (FRS), and accordingly replaced the standard codes to correspond to those of

the international standards. To initiate the enforcement of compliance with IAS/IFRS, the new names and numbers must be employed in financial statements for annual periods beginning on or after 1 January, 2005 (MASB, 2008). However, the content of the respective FRS include some exceptions and a provisional paragraph to suit Malaysian business environment. Malaysia decided to give herself a one-year grace period before gradually taking up the effect of IFRS convergence.

Since 2006, the Malaysian standards (with a prefix of FRS) have been identical to IFRS, except for some transitional provisions that remain within the FRS. MASB has commenced discussions to gradually remove the provisions contained in the FRS and follow “word-for-word” the standards in order to be identical with IFRS (Canham, 2008). This includes the recently mandated FRS 139 *Financial Instruments: Recognition and Measurement* which commenced January 1, 2010. With effect from 1 January, 2012, MASB has changed the prefix again from FRS to MFRS to reflect the Malaysian standards. To date, there is only one more standard that is still under review and discussion, that is IAS 41 *Agriculture*.

2.9 Summary

This chapter discussed in detail the definitions and characteristics of intangible assets, the recognition and measurement requirements regulated by the IAS 38 and the issues arising from the adoption or implementation of IAS 38. Also discussed is the issue of non-compliance with the reporting standards in general. Many companies that claim compliance with the IFRS standards are in fact not complying with them. This raises a global alert amongst researchers. The literature on non-compliance issues indicate that

there is a gap needing to be addressed by the regulatory body. Non-compliance could be in the form of disqualified asset being recognised as intangible asset, recognising an intangible asset that does not fulfil the criteria required by the standard or failure to disclose sufficient information as needed, either intentionally or due to lack of knowledge and guidance. This highlights the importance of investigating the extent of compliance with the IFRS, and for the purpose of this study, to look specifically into the implementation of FRS 138.

This chapter also discussed several extant studies conducted in relation to the influence of disclosures and the value relevance of intangible assets in Malaysia. It is found that at a certain extent the financial market is influenced by intangible asset accounting treatment, irrespective of whether the intangible assets are being capitalised or expensed in the financial statements (Goh and Lim, 2004; Zainol et al., 2008; Zaleha et al., 2008; Abdul Rashid et al., 2009). Such findings strengthen the arguments that intangible assets are the main wealth creators not only at company level but also at country level.

The Asian financial crisis that landed in the same year of the inception of MASB gave a huge challenge to the regulatory body to curb non-compliance, coupled with the ineffective corporate governance practices, which in turn were due to weak enforcement of regulations (Zulkafli et al., 2003). Since then the Malaysian government has taken various actions to ensure enhancement of regulation. When everything was in place again, Malaysia has initiated the move in 2006 from harmonisation with IASs towards convergence with IAS/IFRSs.

CHAPTER THREE

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.0 Introduction

Chapter Two ended with the discussion on the early establishment of financial reporting standards and the efforts taken to strengthen corporate governance practices in Malaysia. The section pointed out why a discussion on compliance with financial reporting standards and corporate governance is important in this study. This chapter continues with the discussion of the elements of corporate governance, focusing on the board composition and ownership concentration of the Malaysian PLCs. Following on, the selection of suitable variables for this study is made based from the said discussion. This is to fulfil the third research objective of this study, which intends to investigate and identify the determinants that influence the implementation practice of FRS 138 amongst the Malaysian PLCs.

Section 3.1 discusses the application of appropriate theory to explain the role of corporate governance. Then in sections 3.5 and 3.6, variables are identified based on the previous literatures that look into the issue of compliance with IFRS and disclosure practice. Variables are divided into two categories: the corporate governance variables and company-specific variables. The corporate governance variables consist of independent non-executive directors on the company's board of directors, family members as directors, multiple directorships, director shareholding within the company and government shareholding within the company. The company-specific variables consist of size of company, profitability, leverage, liquidity, type of auditors and lastly,

type of industry. Also discussed is the development of hypotheses to be tested. Finally, in section 3.7 a theoretical framework is proposed to relate these variables to the disclosure practices.

3.1 Accounting theory

From a general perspective, the manner in which an organisation and its stakeholders behave in society is very much influenced by a societal value system, which consist of power factor, legitimacy, urgency factor, cultural differences, institutional factors and contextual differences (van der Laan Smith, Adhikari and Tondkar, 2005). From another perspective, accounting is also considered as a social system (Harrison and McKinnon, 1986) which involves human activities (Deegan, 2006). Burchell et al. (1980) suggest that accounting is not functioning in solitary, instead, forms part of the institutional and organizational environment in developing the economy. A company's accounting practices are mostly influenced by the type of ownership, organisational systems and its capital structure (Rahman, Yammesri and Perera, 2010). This creates a multi-perspective framework which contains several theories that could explain social or behavioural motivation.

Schroeder and Clark (1995, p. 1) suggest that “accounting theory should be able to explain why business organisations elect certain accounting methods over other alternatives and predict the attributes of firms that elect various accounting methods”, where theory is something that buttresses the development of a discipline (Higson, 2003). Chambers (1996, p. 125) quotes:

“Theories . . . enable us to understand in general terms how the world works, to move around, mentally, among the objects and relationships to which they relate and to act in ways that, as far as we can tell, will not defeat our reasonable expectations... A theory will not tell us what to do; but it will tell us what it is possible to do and what it is not possible to do. In that way it removes countless things from consideration when we are confronted with the necessity of choosing or acting”.

Chapter Two of this study discusses that disclosures could be influenced by various factors, such as cultural, economic, political and corporate strategies. With regards to the disclosure practices, Leventis and Weetman (2000) and Oliveira, Rodrigues and Craig (2008) argue that no single accounting theory is ultimate in explaining the disclosure phenomenon. A company discloses information for various motives, depending on the expectation or outcome from such activities. If a company discloses financial information to give an indication to the market that it is performing satisfactorily, then the most appropriate theory applicable in explaining the disclosure behaviour is the Signaling theory (Ross, 1977). If the act of disclosing information is to ensure that the company is operating within the bounds and norms of its society, then Legitimacy theory is more suitable for application (Guthrie et al., 2004). Other than that, Political Cost theory is adopted when the act of disclosing information would result in the incurrence of political costs such as taxes and regulation (Watts and Zimmerman, 1978). Also, Proprietary Cost theory is used to explain disclosure practice where the benefits arising from such disclosure has to be substituted with the costs of disclosing related information (Darrough, 1993).

For the purpose of this study, Agency theory and Stakeholder theory are adopted to explain the need and motivation of the manager to disclose information related to intangible assets of the company. Agency theory is deemed appropriate to be used in explaining disclosure here due to the existence of contracting costs (also referred to as agency cost) that arise in writing and enforcing contracts (Jensen and Meckling, 1976;

Watts and Zimmerman; 1990, Oliveira et al., 2008). Examples of contracting costs include transaction costs, agency costs, information costs, renegotiation costs and bankruptcy costs (Watts and Zimmerman, 1990). This is consistent with the positive accounting theory and is explained in detail in the next section. On the other hand, the additional effort taken by a company to furnish information beyond regulatory requirement to different users of accounts of the company is best explained by Stakeholder theory as it reflects the managers as being accountable to provide information as expected by the stakeholders, irrespective of whether such information will be used or not (Deegan, 2000; Guthrie et al., 2004). The element of stakeholders' control over information here matches the positive accounting theory (Watts and Zimmermann, 1986).

3.2 Agency theory

The relationship that a company nurtures with its shareholders forms the structure of its corporate governance. A strong corporate governance mechanism is essential to ensure an effective agency relationship exists between principal and agent. Agency, as defined by Clark (1985) is a two-way, legal relationship that emerges when the agent is granted some authority to make decisions, enter into contract or create liabilities on behalf of the principal.

3.2.1 Properties of Agency theory

Agency theory is applicable when there is a clear demarcation between company ownership (equity providers), debt (creditors) and management (managers) (Rahman, Yammeesri and Perera, 2010). The idea of Agency theory, created by Berle and Means

in 1932 and first introduced by Jensen and Meckling in 1976, explains the relationship between two parties in an organisation: the party giving orders (principal) and the party receiving orders (agent). Principal consist of shareholders of the company, whilst agent consist of the managers or management of the company. Since the principal could not carry out all of the roles and responsibilities in the company, the principal employs the agent to perform some tasks on his behalf. In order to ensure these tasks are properly assigned, worked out and completed as expected, the principal is willing to grant some authority and power to the agent for decision-making purposes. This is the point where a contractual relationship is established between the principal and the agent. Apart from the authority and power to act within the organisation, two other provisions normally specified in a contract between the principal and agent are the method of evaluation of an agent's performance, and the remuneration and incentives offered to the agent (Fama and Jensen, 1983).

3.2.2 Conflict between agent-principal

An agent must strive hard to maximise wealth in the interest of the principal. The agent must also disclose important information on the performance of the company and how the available resources have been utilised towards achieving such performance. In return, the principal will compensate the agent with attractive remuneration and incentives. A conflict between principal and agent could arise when managerial actions and performance are biased towards self-interest fulfilment. An agent may abuse the power given to him for his own welfare instead of the principal's.

Two agency problems under this category are the adverse selection and moral hazards. Adverse selection refers to a situation where the principal is in doubt whether the agent is doing what they should be doing exactly as told and paid for, or not

(misrepresentation of ability). Moral hazards involve uncertainty whether the tasks performed is in accordance to the agent's ability and authority due to lack of effort, as a result from self-seeking motives.

The agent has opportunistic behaviour where he will take the chance to satisfy personal desires and may possibly end up putting the principal's wealth at risk. Jensen (1989) proposes a contractual method to overcome the above issue by way of creating debts. Debt creation controls the agent from the opportunistic behaviour by bonding company's cash flows for payments, thus reducing its availability for discretionary spending. In a company where debt becomes a means of control of an agency problem, the lenders and creditors are identified as the main component in the company's corporate governance structure (Simerly and Li, 2000).

Conflict could also emerge when the principal and agent perceive risks differently and have dissimilar risk preference (Arnold and Lange, 2004). Shareholders may be interested on the return on investments made, but debt-holders are more concerned about receiving debt payment from the company. Larger debt means higher risks. As the level of debt increases, the internal control applied will also be altered to reflect the changes that take place (Simerly and Li, 2000). As a consequence, the agent may not act in the best of interest when carrying out responsibilities, either to maximise shareholders' wealth or to meet debt obligations.

Finally, a conflict could also arise due to differing time horizons involving short-term payoffs (at the interest of the agent) and long-term strategies and actions (at the interest of the principal). In this situation, unfortunately, the solution proposed by the Agency theory to solve disagreement between the principal and agent by way of contractual

agreement fails to consider the competitive environment surrounding the company, looking from the view point of maximising shareholders' wealth (Simerly and Li, 2000).

3.2.3 Agency costs and the solution

All the above conflicts discussed will result in one common problem: it gives rise to agency costs. Agency costs could be in the form of cost incurred to set up a monitoring and supervision system for the agent (monitoring cost), cost incurred to create an effective reward system to encourage the agent to perform for the maximisation of shareholders' wealth instead of self-interest (bonding cost), or the cost incurred when everything else has been done to address self-interest behaviour of the agent and yet the agent still acts differently from the main intention of the principal. This cost is sometimes referred to as a residual loss, because the cost incurred to curb and overcome agency problems is much higher than the benefit gained from doing so (Fama and Jensen, 1983).

Fama and Jensen (1983) discuss in detail on the agency costs in their study and suggest a way out: there must be an appropriate amount of control in the decision process. When agents enter into a contract with a principal, they are allocated a certain authority to participate in the decision-making process (hereafter referred as decision managers). If the decision managers are not also the residual claimants (persons who contract for rights to net cash flow - the shareholders) then the managers' involvement in the decision management process (initiation and implementation) should be separated from the decision control process (ratification and monitoring). This is a reasonable solution in a large, complex organisation where the functions of the board of directors exist as decision managers.

However, when there is no separation between decision management and decision control in a non-complex organisation (due to the small number of decision managers), the best alternative to curb residual loss is to limit residual claims to the decision managers. Either way of handling agency problems (separated versus combined decision control), both decision systems come with expensive costs attached to them, but they also have survival value and act as check and balance mechanism to curb improper expropriation of interests of the residual claimants by the agents.

3.2.4 The relationship between Agency theory and corporate governance

Agency theory assists in understanding human organisational arrangements (Abdul Rahman, 2006). On the other hand, corporate governance is all about human relations. Its elements are developed specifically to curb the agency problem between managers and the company's stakeholders. Information asymmetry between them can be alleviated by way of disclosures. Agency theory thus regards disclosures as a device to reduce the agency costs (Oliveira et al., 2008). Company's policies and procedures that legally affect its stakeholders should be disclosed to create awareness on the protected rights of the stakeholders. The company should also comply with laws and regulations that govern these rights. For shareholders, there are annual reports that disclose financial performance. For employees, there is employee handbook to outline issues on benefits and entitlement, working environment, insurance policy and others. For creditors, the debt covenants delineate the rights or claims on the company's assets.

Transparency of a company increases as the company discloses more information to the public. Concurrently, transparency is also a major indicator of corporate governance. Therefore, it can be concluded that there is a significant relationship between disclosure and corporate governance. Poor corporate governance practices lead to information

asymmetry, lack of transparency, disclosure and accountability, assets shifting and over-leveraging by companies (Abdul Rahman, 2006). On top of that, weaknesses in the mechanism for protecting investors and frail enforcement ruling the third party transactions also indicate that ineffective regulations are in place. To further explain the relationship among compliance with FRS 138, disclosure practices and corporate governance, this study quotes the statement made by OECD (2003):

“The quality of information disclosure depends on the standards and practices under which it is prepared and presented. Full adoption of international accounting, audit and financial disclosure standards and practices will facilitate transparency, as well as comparability of information across different jurisdictions. Such features, in turn, strengthen market discipline as a means for improving corporate governance practices”.

A scenario of the application of Agency theory is through the corporate governance practice in Malaysia, taking the example of the Asian financial crisis that raised concerns on the importance of an effective corporate governance (Mitton, 2002). Most of the problems occurred that led to the crisis were due to weaknesses in law and enforcement. Effective corporate governance by way of close monitoring of agents' participation within the companies is therefore essential to solve the above problems and make an economy turnaround. Several moves were taken during the recovery period as remedies, with the objective to further strengthening the law. In Malaysia, the Malaysian Institute of Corporate Governance (MICG) is responsible for looking into the improvements for corporate governance practices in Malaysia and creating public awareness. In 1999, the Malaysian Code on Takeovers and Mergers was introduced to protect the interest of minority shareholders, followed by MCCG's establishment in 2000 and revised in 2007 (MICG and MCCG were discussed at the end of Chapter Two). Commencing July 2002, all PLCs must include the Corporate Governance Statement in their annual reports to comply with the Code's recommendations and to provide reasoning for any departures (Abdul Rahman, 2006).

Agency theory also anticipates that effective corporate governance reinforces greater internal control within the company, thus greater extent of corporate disclosure is expected (Watts and Zimmerman, 1981). One of the early studies on corporate governance in Malaysia is by Haniffa and Cooke (2000), which look into the influence of corporate governance in the disclosure practices of the Malaysian PLCs in the 1994 annual reports. They split and categorise the determinants of disclosure into two: the human factors and the non-human factors.

According to Haniffa and Cooke (2000), the act of disclosing information is a human factor as it involves the agent's decision as to how much information is to be disclosed and how often the information should be released to the public. They further suggest that one human factor that is becoming increasingly vital and plays important role in an organisation is the corporate governance. Their study covers the elements of corporate governance by looking at the board composition, which reflects the role of non-executive directors, the proportion of family members on the board, the dual role of becoming the CEO and also the chairman, cross-directorships where one director sits on more than one board, and the appointment of a non-executive director as chairman of the company.

The result of their study reveals that the higher the number of family members on the board of a company, the lower the level of disclosure. Also, a chairman chooses to disclose less if he is concurrently the non-executive director within the same company. Other corporate governance factors, however, are not significant with the level of disclosure. Haniffa and Cooke's (2000; 2002) findings are useful as a basis of reference

for this study that focus on both mandatory and voluntary disclosures in the annual reports of the Malaysian PLCs.

3.2.5 The application of Agency theory

In this study, the agent-principal relationship is demonstrated through the relationships between the manager as an agent and the shareholders of the company as principal. Managers are bound to carry out their duties, which include compliance with the Malaysian financial reporting standards in general and FRS 138 in particular. Agency problems could emerge when a conflict of interest arise where the managers are reluctant to disclose certain information to the public. The motivation for not complying with FRS 138 and thus not disclosing the required information might be due to the sensitivity of information that may expose the company's advantages to its rival. One example is the new discovery on drugs enhancement, resulting from many years of R&D activities. Managers might not comply with FRS 138 because they know that the company is prohibited from capitalising the amount of money spent on early stage of research activity and that the company will have to expense off the research costs and thus affect the profit. As the profit figure becomes smaller, managers' performance incentives and rewards may be affected as well.

When the above happened, the shareholders may want to ensure that the managers carry out their roles accordingly to maximise the shareholders' wealth. They may have to incur the monitoring costs. The corporate annual reports are produced to present the financial statements and company's activities and achievements that might attract the interests of the users of accounts. Agency costs could be reduced using one common mechanism, namely voluntary disclosure (Patelli and Prencipe, 2007). When a large amount of information is disclosed, manager's opportunistic behaviour becomes

limited, thus reducing the monitoring costs. Disclosure thus is a corporate governance mechanism, useful to monitor a manager's performance. To ensure that the agency problem can be minimised, bonding costs are incurred in the form of remuneration and incentives rewarded to the managers so as to motivate them to engage themselves in the value maximisation activities for the shareholders (Jensen, 1983).

3.3 Stakeholder theory

Another important theory applied in this study is the Stakeholder theory. The Stakeholder theory explains the responsibility of the managers to feed information to various groups of interested parties who may or may not want to use such information in their decision making processes. Stakeholder theory best explains voluntary disclosures made by companies as an addition to the regulated information in the annual reports.

3.3.1 *Who is a stakeholder?*

Thompson, Wartick and Smith (1991) regard stakeholders as people who have connection with an organisation, whilst Alkhafaji (1989) states that stakeholders are groups of people to whom an organisation is responsible. A more organised definition of stakeholder is "person, group, or organisation that has direct or indirect stake in an organisation because it can affect or be affected by the organisation's actions, objectives, and policies" (<http://www.businessdictionary.com>). Stakeholders are mostly resource-providers to an organisation (OECD, 2003). Although stake-holding is usually self-legitimising (those who judge themselves to be stakeholders are de facto so), all stakeholders are different from each other and all stakeholders are entitled to different

considerations. For example, a company's customers are entitled to fair trading practices but they are not entitled to the same consideration as the company's employees.

Freeman and Reed (1983, p. 91) provide a similar definition of stakeholders, as "any identifiable group or individual who can affect the achievement of an organisation's objectives, or is affected by the achievement of an organisation's objectives". To further elaborate the definition, those who have direct influence on the company's directions or objectives through perpetual participation is categorised as the primary stakeholders (Clarkson, 1995). Examples of primary stakeholders include the creditors, suppliers, investors, shareholders, employees and customers. The direct influence mentioned above could be in the form of voting power of the shareholders, economic power of the creditors and suppliers and also political power of the regulators and lobby group. Meanwhile, those who do not take part in the business operation but whose lives could either be influenced or not influenced by the direction of the company are categorised as the secondary stakeholders (Clarkson, 1995). Examples of secondary stakeholders include the media and the environmental lobby groups.

3.3.2 Properties of Stakeholder theory

There are two branches forming the Stakeholder theory: the positive, also referred to as normative or managerial branch, and the ethical or moral branch (Oliveira et al., 2008; Deegan, 2006). The managerial branch of the Stakeholder theory delineates that management of a company must ensure business operation is carried out as per requirements and expectations of its stakeholders. Managers have the responsibility to carry out a variety of activities deemed important and of interest to the stakeholders and later report back to the stakeholders on the progress and outcome of these activities

(Deegan, 2000; Guthrie, Petty and Ricceri, 2006). In other words, the Stakeholder theory explains the management's responsibility of being accountable to the stakeholders. To be successful, the management of a company need not only establish a strong relationship with the shareholders, but the stakeholders group as a whole.

Some researchers regard the Stakeholder theory similar to Legitimacy theory because both theories revolve around the organisation's broader social system where it could either give impact or be impacted by other groups within the society (Gray et al., 1995). These authors are of the opinion that both theories should be seen not as competing theories, rather, complementing each other.

According to Suchman (1995, p. 574), as quoted by Van der Laan Smith, Adhikari and Tondkar (2005), the definition of legitimacy is "a generalised perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions". The Legitimacy theory states that organisations are legitimated when they continue to run the business consistent with the societal values (Guthrie and Parker, 1990). Accordingly, the management will ensure they respond to the needs of the society and provide only information that is sought after in order to stay bounded within the said society.

Deegan (2002, p. 294), however, highlights a minor demarcation between the two:

"While Legitimacy theory discusses the expectations of society in general (as encapsulated within the 'social contract'), Stakeholder theory provides a more refined solution by referring to particular groups within society (stakeholder groups)".

Van Der Laan (2004) differentiates both theories by highlighting that the Stakeholder theory explains that managers voluntarily disclose information as an act of being

accountable to the stakeholders, whilst the Legitimacy theory suggests that the act of disclosing information on voluntary basis is a process of legitimization. This means the creation of multiple social contracts within the Stakeholder theory to cater for various needs and interest of different stakeholder groups, as compared to only one general social contract applied for all needs as part of a legitimating process within the Legitimacy theory.

For this study, Stakeholder theory is chosen over Legitimacy theory due to the different motivation to disclose information. Chapter Two discussed the effort and initiatives of managers to disclose more than what is required to provide as much information to users of accounts for their decision making purpose. However, the information disclosed may or may not include some news or updates on the intangible asset as suggested by Hunter et al. (2012) because managers may not think solely of intangibles assets when making disclosures. On the other hand, Legitimacy theory regards disclosure as an activity expected to be carried out by managers to conform to the norms of the society. Rather than to feed information, disclosure is reflected as presenting a socially responsible image of the company to obtain legitimacy. Therefore, the Stakeholder theory is more suitable to be applied in this study.

3.3.3 The application of Stakeholder theory

Watts and Zimmerman (1986) explain that under the managerial aspect of the Stakeholder theory, a stakeholder's (or more precisely, the shareholders and the government) influence in the decision making of a company reflects the degree of control over the company's resources, and this in turn depends on how crucial the stakeholders' resources are to the company. It emphasises that due to the organisational accountability towards stakeholders' expectations, a company will voluntarily disclose

more information related to the business environment, intellectual and social performance. Stakeholder theory is most suitable to explain the initiatives and incentives to disclose more information voluntarily for the use of both external and internal users.

Managers disseminate information that is useful to stakeholders with the aim of obtaining their approval or consent on a particular issue related to the company (Gray et al., 1995). From the point of view of the stakeholders, disclosure is part of the interaction process between the managers and themselves (Gray et al., 1995). The stakeholders have their rights to gain access to some parts of this information within the company, regardless of whether they are going to use such information or not (Guthrie et al., 2006). In this study, higher perception on the importance of intangible assets in the company results in more information disclosed to the public. This helps increase understanding and also gain support from the stakeholders (Teodori and Veneziani, 2007). In addition to that, the intensity of voluntary disclosure is also influenced by the costs-benefits relationship related to intangible assets as perceived by the managers (Healy and Palepu, 1995).

The more important the stakeholders' resources to the company to ensure survival and to ward off competition, the higher would be the expectation from the stakeholders on the duties of the company (van der Laan Smith et al., 2005; Boesso and Kumar, 2007). Deegan (2000) sums up that in order to fulfil the expectations of these stakeholders, managers tend to provide additional information that will satisfy the needs of the stakeholders. Whilst there are so many media of communications available for managers to choose to convey messages and update information to stakeholders, the annual reports are regarded as the most effective channel of communications (Lang and

Lundholm, 1993). Therefore it is important that an annual report which contains a company's financial statements be able to fulfil the need for sufficient information by the stakeholders.

3.4 The connection between the Agency theory and the Stakeholder theory

Both Agency theory and Stakeholder theory explain the important role of corporate governance in an organisation. Drawing from the Agency theory, managers are known as the agent that is answerable to the principal, the shareholders. The contractual relationship that exists between agent and principal grants the managers some control over the decision-making process within the company. One of the important decisions managers need to make is allocating the company's limited resources in the manner that they think fit for the company and would benefit the stakeholders. If they perceived that a stakeholder's claim is crucial, there is bigger chance that they would immediately address the demand according to priority. From this point, the Stakeholder theory applies. It is the managers' characteristics and commitment towards responsibility and accountability to ensure the business operation is carried out according to the expectations of the stakeholders and that the outcome is reported back to the stakeholders.

3.4.1 Identification of variables and hypotheses

This study integrates elements from the Agency theory and the Stakeholder theory from the point of view of corporate governance of companies that helps explain the mandatory and voluntary disclosure practices of Malaysian PLCs on the intangibles-related information to come out with relevant variables to be tested against hypotheses

statements developed. In search for suitable variables for this study, both literature on mandatory and voluntary disclosures is examined and discussed as a basis of reference to come out with the selection of variables for this study. In addition to that, it is also acknowledged here that the more common type of studies on disclosure practices (either mandatory or voluntary) are conducted on a collection of reporting standards and rarely concentrate on only one particular standard of interest. The identified and chosen variables for this study are adopted from the extant literatures on disclosure practices and the determinants (refer to Appendix A). Selection of proxies for each variable are made based on two factors: a) same proxies are mostly used in other studies on disclosures. This is done with the aim to achieve consistency with previous studies as close as possible, and b) information on these proxies are easily available in the annual report of all sample PLCs, again, to ensure consistency in securing information for the proxies. The following discussion below explains on the selection of the variables for this study.

3.5 The corporate governance variables

“Effective reporting and accounting, and external scrutiny from auditors, are essential for effective corporate governance”

(Company Law Review Steering Committee, 2001: para. 8.1).

The code of corporate governance contains best practices on structures and processes to be adopted by the PLCs (in the case of Malaysia, also includes some private companies as well) to promote greater awareness on the importance of good governance. Initiated in May 1995, Cadbury Code of Best Practices is the first code of corporate governance issued in the United Kingdom. It later becomes the yardstick and reference for countries

from all over the world to establish their own national governance. In Malaysia, the Malaysian High Level Finance Committee (1999, p. 52) describes corporate governance as:

“...the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability whilst taking into account the interests of other stakeholders”.

By referring to the Agency theory discussed above, this study suggests that if factors of corporate governance are improved and thus enhance the internal monitoring and control of a company, more reliable and relevant voluntary disclosures will be made by the company (Biondi and Reberiou, 2012).

To avoid agency problems and thus reduce agency costs, a good corporate governance mechanism is essential to ensure an effective agency relationship exist between the principal and the agent. The importance of looking at the structure of ownership concentration as one element of corporate governance is discussed by Schleifer and Vishny (1997). Generally, there are various forms of ownership concentration in existence, namely, individual, family, state, managerial, institutions and also foreign. In the case of Malaysia, the factor on ownership concentration is worth being carefully analysed since 60 per cent of Malaysian PLCs are family-owned (Zulkafli et al., 2003).

3.5.1 The board of directors

Effective corporate governance is achievable through a powerful connection between the board of directors, the management and the shareholders (Abdul Rahman, 2006). In Malaysia, the corporate governance agenda through the MCCG highlights among others, on the shareholders' rights and protection, accountability of the board of

directors and the disclosure and transparency on operational and financial performance of the company as one of the management's vital role.

The element of corporate governance is introduced in this study to reflect that the role of corporate ownership played by the board of directors of companies is increasingly important in determining the amount of disclosures in the annual reports (Gibbins, Richardson and Waterhouse, 1990). A board of directors' responsibility include establishing the company's strategies and policies, appointing and monitoring the management team and ensuring accountability to the shareholders. The board of directors of a company is often seen as the main institutional device that is essential to reduce the asymmetry between internal and external environment of the company (Biondi and Reberieux, 2012). Earlier, the Agency theory has also discussed on the importance of a proper monitoring to reduce agency problems. Several variables related to corporate governance and thus the function of board of directors are identified and discussed below.

The relationship between the board of directors from the perspective of corporate governance and the disclosure of intangibles-related information is simply explained as follows: Researchers have shown evidences that an intangible asset is a valuable resource of a company (Powell, 2003; Eckstein, 2004; Ashton, 2005; Garci-Ayuso, 2008; Wyatt, 2012). The economic growth rate of an intangible asset is higher than the tangible ones. However, due to restricted requirements on the recognition and measurement of an intangible asset stipulated in the IAS 38, most companies are facing difficulties in recognising their intangibles, thus results in blurry images of ownership and market values of the assets (Biondi and Reberieux, 2012). On top of that, due to the lack of knowledge some managers less appreciate the importance of intangible asset in

the company therefore regard matters related to intangible assets lightly (Hunter et al., 2012). Last but not least, frauds and corporate scandals that took place worldwide (for example, the unexpected collapse of Enron) have always involved some form of intangible resources of the related companies.

A company with the above criteria may be difficult to manage, therefore it is necessary for the company to have a 'dynamic institutional approach' (Biondi and Reberiou, p. 5, 2012) to understand and oversee the whole business operation. To ensure efficiency in overall performance will need the retrieval and utilisation of important, relevant and reliable information, which can only be done through critical monitoring of the development that transpires within the company (Biondi and Reberiou, 2012). Such development may include the introduction of new innovation and intangible assets.

The monitoring and control tasks are therefore best assumed by the board of directors. The directors are the ones responsible to supervise and provide approval on what to be reported and what not to be reported to the users of accounts. They are also responsible on the appointment of the external auditors and maintain liaison with the internal auditors and also the management team. The directors are directly accountable to all forms of reporting because they are the ones who certify, sign and endorse the financial statements and public disclosures made by the company. In short, the board of directors plays important role to lessen, if not curb, the agency problems and the agency costs. As has been mentioned in the previous paragraph, one way of reducing the agency costs is by reducing the accounting asymmetries between the insiders and outsiders through the supplies of valuable company information.

Having said this therefore justify the selection of corporate governance variables related to the board of directors as factors influencing the level of implementation of IAS 38 by the Malaysian PLCs. This is covered in the following discussion.

3.5.2 Independent non-executive directors

The board of directors and the management collectively, are accountable to the shareholders and stakeholders of the company in managing business operations. The role of a board in a company is indeed important to ensure directors are not making decisions that cater for individual interests and could result in conflict with shareholders' interest. This is consistent with the Agency theory discussed at the beginning of this chapter that states that directors tend to conduct opportunistic behaviour.

Wan-Hussin (2009) describes one common criterion listed in the code of best practice in corporate governance (he quotes the Cadbury Report, 1992, King Committee Report, 1994 and Bosch Committee Report, 1995) as having a board of directors with a mixed composition of internal (executive) and external (non-executive and independent) directors so that monitoring tasks could be carried out to ensure the directors do not act for personal interest.

There are two types of directors on the board: executive directors and non-executive directors. As opposed to the executive directors (inside directors), the non-executive directors (outside directors) are not full-time employees of the company, rather, their appointment are on part-time basis. Most important of all, they are independent from the management or significant shareholders of the related company.

An appropriate number of non-executive directors to the total number of directors on the board are essential as the “check and balance mechanism in enhancing the boards’ effectiveness” (Haniffa and Cooke, 2000, p. 3) because they are independent from the company and the management (Abdul Rahman, 2006). Chapter 15 (Corporate Governance) of the listing requirements on Bursa Malaysia (2001) stipulates that PLCs must have at least two directors or one-third of the board of directors who are independent from the company. In addition to that, the audit committee of a listed company should also be widely held by non-executive directors.

Arguments for and against outside directors in a company’s board of directors as an effective monitoring system have been widely discussed (Abdul Rahman, 2006). The Agency theory supports the concept of increasing the number of non-executive directors on the board of directors to make enquiries, scrutinise decisions and provide independent judgment for the best interests of the shareholders. According to the Agency theory, the more independent non-executive directors available on board, the better control and monitoring on the managers or team management (Eng and Mak, 2003; Boesso and Kumar, 2007). Adams and Mehran (2003) state that the involvement of independent directors on the board of directors is more effective in monitoring the performance of managers as compared to having more internal directors on board.

Having a number of non-executive directors on the board opens an opportunity for the company to gain expertise and share their wisdom and experience from outside and implement it for the benefit of the company (Fama and Jensen, 1983; Mangel and Singh, 1993; Tricker, 1984) in enhancing the strategic direction of the company (Pearce and Zahra, 1992) and result in more disclosures of information (Fama and Jensen, 1983).

This study includes the number of independent non-executive directors in a company as one of the variables to be tested against the motivation to fully implement the FRS 138. According to Biondi and Reberioux (2012), it is important that the information that is released from the company to be both relevant and reliable therefore requires some managerial decisions and actions be made based on knowledge and skills of the directors. It is posited that companies with more independent non-executive directors on its board are more effective in their monitoring role on the managers, which means these directors will ensure that managers find a way to disseminate information on intangibles that is important but could not be included in the financial statements. Also, it is posited that the independent non-executive directors may reduce managerial opportunism by monitoring the managers to ensure that they act for the sake of shareholders' wealth, in accordance to the Agency theory. Having said that, the following hypothesis is developed for testing:

***H₁:** The implementation of FRS 138 is positively associated with the number of independent non-executive directors on the board of Malaysian PLCs.*

The percentage of independent non-executive directors is calculated as the number of independent non-executive directors to total number of directors on the board of the company (Chen and Jaggi, 2000; Ho and Wong, 2001; Haniffa and Cooke, 2002). Alternatively, independent non-executive directors could also be measured dichotomously by assigning '1' if proportion of independent non-executive directors on board is one-third or more and '0' if less. For the purpose of this study, proxy of the variable is measured using the number of independent non-executive directors to total number of directors.

3.5.3 Multiple directorships

Multiple directorships, or sometimes also referred to as cross-directorships or interlocks, refers to a situation where a director of a company also sits on the board of another company (sometimes more than one company). This is a common view in Malaysian PLCs (Haniffa and Cooke, 2000; 2002). However, the Corporate Governance Blueprint issued by SC in 2011 limits the cross-directorship to a maximum of five directors serving each company.

Consistent with the Agency theory, it is suggested that engaging a director with multiple directorships provides the company with better and effective monitoring and control, allows the inflow of intelligence and hands-on experience into the company (Lorsch and MacIver, 1989), enhances the transparency of, and enables more meaningful insights and comparisons with, other companies based on personal knowledge (Dahya, Lonie and Power, 1996). These are the benefits that a unitary board, which resides in most of the Anglo-Saxon countries, are lacking (Haniffa and Cooke, 2002).

(Haniffa and Cooke, 2000; 2002) suggest that multiple directorships have strong implications on disclosure practices, as it tears down the veil that envelops important information and discourages confidentiality. As a result, the company will become 'transparent' as information is shared amongst companies where the director sits on the boards.

For the purpose of this study, it is posited that by having directors with multiple directorships on board will result in the dissemination of relevant and reliable information related to intangible assets to reach the external users of accounts. These directors are engaged to tap into their expertise, broad contact within the industry and

business acumen, therefore they are assumed to be aware on the importance of complying with the FRS 138. Overseeing the business operations of several companies and directly participating in the many decision making processes within these companies may provide some indications to the directors on the importance of generating a knowledge-based economy. By taking into consideration on the benefits of multiple directorships and how they clearly support the Agency theory, it is hypothesised that:

***H₂:** There is a positive relationship between multiple directorships on board of Malaysian PLCs and the implementation of FRS 138.*

Some studies on the relationship between corporate governance factors and disclosures simply measure multiple directorships on dichotomous scale by awarding '1' if there is multiple directorship and '0' if otherwise. For this study, the variable representing multiple directorships is calculated as the percentage of directors who hold directorships in other companies to total number of directors on the board of the sample company. Haniffa and Cooke (2002) also adopt the same proxy to represent multiple directorships.

3.5.4 Family-controlled companies

Agency problems could be minimised if the owners of the company and the managers are the same people (Fama and Jensen, 1983). Nicholls and Ahmed (1995) suggest that a family-controlled company exhibits vague divisions between those who own the company and those who manage the capital. In this situation, risk of conflicts can be reduced, transaction costs and agency costs avoided, thus the decision making process is easier. Since they have ultimate control over the company, the founding families and their allies determine most of the policies, business decisions and relationships,

resulting in many advantages residing with them (Abdul Rahman, 2006), such as better control of the cash flows, greater incentives and thus maximises shareholder value. Wiwattanakantang's (2001) study resulted in a positive relationship between family-controlled companies and the performance of these companies. The advantage of having the same figures as principal and agent simultaneously is that they control the flow of information within the company, therefore the tendency of providing high quality information is greater because when family members become the directors of a company, they would want to protect their family's reputation (Wan-Hussin, 2009). Simultaneously, family directors also manage to reduce Type I agency costs or managerial opportunism that might arise if the company is managed by non-owners (Fleming, Heaney and McCosker, 2005; Wan-Husain, 2009).

Unfortunately, in a more concentrated ownership environment, the company tends to disclose less information for fear of exposing company's competitive advantages to rivals (Thomsen and Pederson, 2003). Because the family members are the ones who monitor the projects and investments of the companies, they feel that they need not be answerable to any shareholders (Adhikari and Tondkar, 1992). This resulted in higher Type II agency costs due to owner opportunism (Ho and Wong, 2001). According to Ball, Robin and Wu (2003), family-controlled companies less than often also face exigency for transparency and timely disclosures of information because they prefer internal funding or bank loans compared to public equity, which will ensure they secure their control over the company and are not held accountable to any shareholders. Nevertheless in their study, Wang (2006) found that when weighed together and compared with each other, the Type II agency cost (owner opportunism) is less costly than the Type I agency cost (managerial opportunism) in a family-owned business.

In Malaysia, the majority of PLCs originate from family-controlled companies (Liew, 2007; Wan-Hussin, 2009; Jaggi, Leung and Gul, 2009). 59 per cent of these companies (as at financial year end 1996) are strongly influenced and managed by the founders (Claessens, Djankov and Lang, 2000) who also become directors on the board (Haniffa and Cooke, 2002). This finding is also supported by Abdul Rahman (2006). Capulong, Edwards, Webb and Zhang (2000) believe that as a result of the Malaysian government's initiative to allocate more corporate shares to the Malays, the majority of shareholdings by the nominee companies are actually owned by families. This is also reported by the OECD (2003) in its report on corporate governance in Asia. For the purpose of this study, it is posited that having a family member as director on the board will result in higher degree of compliance with FRS 138 because family member directors will work hard to maintain company's reputation and will put more effort to improve financial performance and ensure business sustainability.

The hypothesis made is thus as follows:

H₃: There is a positive relationship between family-member directorships of Malaysian PLCs and the implementation of FRS 138.

This study measures the proxy for family-controlled companies as the percentage of family members as directors to the total number of directors on the board of the company, based on the study of Ho and Wong (2001) and Haniffa and Cooke (2002). There is also a study that uses dichotomous scale of '1' if family member is a director and '0' if there is no family member on the board of director (Chen and Jaggi, 2000).

3.5.5 *Government shareholdings*

Apart from the typical family-controlled structure, a large number of PLCs in Malaysia are also controlled or influenced by the government (Azham, 2002; Abdul Rahman, 2006). Companies with government shareholdings are referred to as the government-linked companies (GLCs). The main objective of intervention by the government is to ensure better governance and improve the performance of the GLCs. This way, the monitoring cost of the Agency theory could be minimised, if not eliminated.

Nevertheless, a study conducted by Mohd Sehat and Abdul Rahman (2005) did not find evidence on the significance of GLCs on the companies' performance. This is probably due to different goals and objectives embraced by the government, which portrays itself more as a not-for-profit organisation (Xu and Wang, 1999).

However, for the purpose of this study it is posited that GLCs have higher tendency to comply with the financial reporting standards (including FRS 138) and disclose more information to the external users of accounts due to the responsibility of being accountable and to achieve good corporate governance practice. GLCs must preserve the good reputation of the government as the main shareholder of the company as they are under the watchful eyes of the public. The hypothesis is thus:

***H₄:** There is a positive relationship between government-owned companies and the implementation of FRS 138 by the Malaysian PLCs.*

To describe government ownership in a company, this study uses the information on percentage of government shareholding from the top thirty largest shareholders retrieved from the shareholding analysis in annual reports of the sample company.

Alternatively, in some other studies, the dichotomous scale of '1' is given if government shareholdings exist and '0' if there is no intervention from the government.

3.5.6 *Insider ownership*

In some companies, the board of directors and/or the top management own some shares of the company to motivate them to work harder towards achieving goals and objectives of the company. It creates the sense of belonging to the company to strive for higher performance and thus increase value of the company (Abdul Rahman, 2006).

From the view point of corporate governance, various studies find that insider ownership has positive relationship with the performance and thus value of the company (Claessen et al., 2002; Thomsen and Pederson, 2003; Samad, 2004). This is found to be true when the percentage of ownership is low (McConnell and Servaes, 1990). When the concentration of insider ownership increases between five to 25 per cent, negative relationship between insider ownership and company performance emerges. They argue that the more percentage of ownership held by the board of directors and the management, the more difficult it is for shareholders to control and monitor the behaviour of the directors and management.

According to the Agency theory, conflict of interest may exist between insider ownership (directors and management) and outsider ownership (shareholders) in a highly concentrated company. Only when the outsider ownership is larger than the insider ownership can the agency problem be restrained, as they have the power and control to prohibit expropriation by the insider ownership. In other word, large outsider ownership assumes the monitoring role to ensure the insiders provide sufficient disclosure on vital information of the company.

The study of Luo et al. (2006) also supports this argument. They find that in a company where management ownership is high, the managers would present less disclosure, so as to avoid external monitoring by shareholders. In an earlier study, Luo et al. (2003) suggest that insider ownership reduces the incentives to disclose more information to investors. Morck, Shleifer and Vishny (1988) produce the same findings in their study. They come to a conclusion that a highly concentrated company makes less effort to disclose information without the monitoring or influence from the external shareholders.

As for the business environment in Malaysia, the shareholdings of companies listed on Bursa Malaysia are mostly highly concentrated (Ghazali and Weetman, 2006; Wan-Hussin, 2009). For that reason, this study may be used as a testing ground to see if the results from studies discussed above are also applicable to the Malaysian PLCs. Therefore for this study, the hypothesis on insider ownership is made as follows:

***H₅:** There is a negative relationship between director ownership in the Malaysian PLCs and the implementation of FRS 138.*

Similar to government ownership, this study uses the information on percentage of directors' shareholdings from the list of the top thirty largest shareholders available in the annual report of the company.

3.6 Economic factors: company-specific variables

Apart from the corporate governance variables explaining the Agency theory discussed above, this study also looks at variables at micro level, that is, the company-specific

variables. In this study, these variables are divided into three groups. Profitability and liquidity represents the performance variable, size of company and leverage are the structural variables. Lastly, type of industry and type of auditors are the market variables. These variables are selected for investigation in this study mainly because these variables were mostly tested in the majority of disclosure-related studies. Discussions on the variables are as follows.

3.6.1 Company size

Size has always been perceived as reflecting the capability of a company to secure resources, run a smooth operation, generate profit, and thus benefit shareholders. A bigger company is perceived to be stronger and performs better in many aspects as compared to a small company. Judging from the size too, one can predict that bigger companies have a more complex organisational structure, therefore should have more accounting policies applied within the company to cater for business requirements as compared to smaller companies (Rahman, Perera and Ganesh, 2002).

In addition to that, companies may disclose more and accurate financial information to the media and financial analysts to gain investors' confidence, as they believe that a low level of disclosure is a sign that the company is having internal (or performance) problems (Aljifri, 2008). Also, due to the need for a larger financing capital compared to a smaller company, a big company discloses more information to the external parties in the hope of attracting them to provide the required funds (Ho and Wong, 2001). For these reasons, big companies are predicted to have higher level of compliance with the IFRS.

On a negative note, Wallace, Naser and Mora (1994) are of the opinion that big companies are normally open to political attacks, therefore disclosing less information will help reduce political actions. This may become a factor why some companies become less motivated to comply with IFRS compared to other companies.

Most of the studies involving compliance with IAS and disclosures include size as one of the essential variables (Lang and Lundholm, 1993; Ho and Wong, 2001; Street and Gray, 2002; Archambault and Archambault, 2003; Aljifri, 2008) and end up with mixed results. For example, the studies conducted by Chow and Wong-Boren (1987), Lang and Lundholm (1993), Ho and Wong (2001) and Archambault and Archambault (2003) found that company size has a positive relationship with the extent of disclosure. However, looking from the perspective of compliance requirement with IAS, Street and Gray (2002) investigate factors influencing level of compliance with IAS and find that company size does not affect the extent of compliance, from a sample of 279 companies across 32 countries with and without US listings/filings. Street and Gray's findings contradict the study result of Al-Shammari et al. (2008) who look at the relationship between company size and compliance level of 137 companies from the Gulf Cooperation Council (GCC) states and found out that level of compliance increases with company size.

Malaysia opens its door to foreign investors to come and make significant investments, therefore it is posited that big Malaysian PLCs are devoted to disclose more performance-related information to satisfy existing and potential investors, therefore the extent of compliance with IFRS is much higher compared to smaller companies. Compliance with the IFRS is not seen as merely a compliance matter, but brings a greater role in business expansion and globalisation. Big company also tend to woo

more foreign investments into the company. In order to do so, it may be willing to disclose more than necessary to make the company more transparent and gain the much-needed trust. Due to limited capability and resources, small companies are facing difficulties to do this.

Based on the above discussion, for the purpose of this study, a hypothesis on company size is made as follows:

H₆: There is a positive relationship between the size of a company and the implementation of FRS 138 by the Malaysian PLCs.

Four common measures used by researchers to represent firm size are: total assets (Ho and Wong, 2001; Street and Gray, 2002; Haniffa and Cooke, 2002; Archambault and Archambault, 2003; Aljifri, 2008; Al-Shammari, 2008), total sales (Karim and Ahmed, 2005) natural log of total sales (Chen and Jaggi, 2000) and market capitalisation (Hossain, Tan and Adams, 1994). There is also a study that uses number of employees as proxy for size (Boesso and Kumar, 2007). Chow and Wong-Boren (1987) and Glaum and Street (2003) use the natural logarithm of firm value as proxy to firm size, measured as the market value of equity plus the book value of debt. For the purpose of this study, the natural logarithm of total assets is used as firm size.

3.6.2 Profitability

Profitability is also another company attribute that is mostly tested in studies on compliance and voluntary disclosure (Raffournier, 1995; Inchausti, 1997; Owusu-Ansah, 1998; Glaum and Street, 2003; Alsaeed, 2006; Aljifri, 2008). Being profitable

may gain higher confidence in shareholders and also stakeholders as it gives the impression that the company is performing financially well (Inchausti, 1997).

To maintain trust and a good reputation, the company must ensure it complies with the adopted financial reporting standards when reporting its performance so that the external users of accounts are kept updated and informed on the progress of the company. However, from a different perspective, managers would also want to disclose more detailed information to reflect the company's excellent performance, for the purpose of increasing their compensation and remuneration (Wallace, Naser and Mora, 1994; Inchausti, 1997). This is consistent with the Agency theory that states managers of a company that reports large profits obtains individual advantages from the act of disclosing detailed information on the profitability, which indicates their performance in carrying out their responsibility to increase shareholders' wealth.

At certain times, bad news also needs to be disseminated to the shareholders. Karim and Ahmed (2005) opine that companies could use narrative-type disclosures to gradually transmit bad news in several stages until the whole news could be absorbed by the external users. This could help minimise the shock impact on the shareholders and prevent them from making spontaneous decisions that could harm the company's position.

Results from prior studies taking into account profitability as one of the variables were found to be mixed. Wallace et al. (1994), Raffournier (1995), Street and Bryant (2000), Street and Gray (2002), Alsaeed (2006) and Aljifri (2008) found that profitability is not a factor influencing the disclosure of information to external users, whilst Inchausti (1997) and Owusu-Ansah (1998) found a significant positive relationship between

profitability and disclosures. Lang and Lundholm (1993) observed that a company's performance from the profitability point of view that varies over time (could be positive, negative or neutral) influenced the company's decision to disclose information to the public.

Due to this mixed outcome, it is not easy to predict the direction of the relationship, whether profitability will have a positive or negative relationship in this study. Nevertheless, in this study it is anticipated that there is a positive relationship between profitability and the extent of compliance with FRS 138. The reason is that companies may make an effort to comply with FRS 138 to gain investors' confidence and increase/maintain market share. In the previous discussions in Chapter Two the importance of intangible assets as growth inducer has been highlighted.

For a company to enjoy being profitable from its business operation, it needs to be able to increase its market share and this can be achieved through globalisation. It has also been discussed that knowledge-based economy is the main inducer towards globalisation. Therefore, it is posited that there is a positive relationship between profitability and the extent of compliance with FRS 138. In accordance to the Agency theory, profitable companies update and explain the achievements and current positioning of the company to prevent the shares of the company being undervalued (Inchausti, 1997). For this reason, it is essential to test the relationship between profitability compliance with FRS 138 from the context of Malaysian PLCs to see if the effort to comply is motivated by the level of profitability of the company. Therefore it is hypothesised that:

***H₇:** There is a positive relationship between company profitability and the implementation of FRS 138 of the Malaysian PLCs.*

Profitability could be measured by looking at the overall performance (earnings return = earnings before tax to net assets or book value of equity) as in the study of Inchausti (1997); Burgstahler and Dichev (1997); Ho and Wong (2001); Haniffa and Cooke (2002); Glaum and Street (2003); Gallery, Cooper and Sweeting (2008). Alternatively, operational efficiency (measured by profit margin = profit before tax to total sales) is also used in the study of Chen and Jaggi (2000). For the purpose of this study, the overall performance measurement (earnings return) will be used as a proxy for profitability, following the selection of the majority of the studies.

3.6.3 *Liquidity*

Liquidity ratio is also known as performance-related variable. A company with a low level of liquidity is normally regarded as in 'tight' position and probably could not fulfil short-term financial obligations. Such a company would need to give a detailed explanation as to why the performance is 'weak' (as the company consider this bad news), which leads to greater disclosure to educate the external users of accounts to retain confidence (Wallace et al., 1994). From the viewpoint of the Agency theory, the principle would especially need to ensure that a company with low level of liquidity could still be able to operate as a going concern (Wallace and Naser, 1995) thus seek for more detailed disclosure from the company.

When tested against disclosure within the annual reports, Wallace et al. (1994) found that liquidity has a significantly negative relationship with disclosure: a highly-liquid company need not make detailed disclosure because their investors are satisfied with existing performance and thus are of no need of further information. Moreover, Wallace

et al. (1994) also suggest that companies also refuse to supply monotonous information that is to be repeated annually, to avoid being involved too deep in a particular issue.

For this study, the status of liquidity of a company is posited to have influence on the compliance with FRS 138. It is posited that companies with higher level of liquidity comply more with FRS 138 to educate interested parties on what had transpired in the company and to justify their current positioning to maintain confidence and support, hence:

H₈: There is a positive relationship between liquidity and the implementation of FRS 138 of Malaysian PLCs.

Liquidity ratio is calculated as total current assets to total current liabilities. Some studies also use a quick ratio. For this study, the ordinary liquidity ratio is used.

3.6.4 Leverage

The monitoring costs of a company could be reduced by way of providing sufficient disclosure for the external users of account. Aljifri (2008) opines that as a result from high leverage, companies need to be answerable to their creditors, thus the need to disclose more information for monitoring purposes. This is supported by Gallery et al. (2008). Consistent with Agency theory and Stakeholder theory, they claim that companies with high leverage provide more public disclosure compared to those with lower leverage.

In a study by Ku Ismail and Chandler (2005), leverage is found to have a positive relationship with the level of disclosure, which means, an increase in leverage also leads

to an increase in the level of disclosure. The study looked at the practice of reporting in companies' annual report for the year 2001, after the quarterly annual reporting was made mandatory by Bursa Malaysia as part of its listing requirements on all PLCs in Malaysia, effective 1999. The authors drew a conclusion that when annual reporting regulation and enforcement in Malaysia was strengthened, the level of disclosure also improves, giving more useful information and benefits to the users of accounts. Due to this reason, in this study it is posited that a company with greater leverage will comply more with FRS 138 to satisfy the need of information related to the performance of the company by the users of accounts, for example analysts and investors. Analysts would want to provide their recommendations on the company to potential investors. In their recommendations they may include the analysis on intangible assets and highlight on the importance of such assets in relation to leverage. It is therefore hypothesised that:

H₉: There is a positive relationship between leverage and the implementation of FRS 138 of Malaysian PLCs.

Leverage can be represented by total debt to total assets or equity (Ho and Wong, 2001; Haniffa and Cooke, 2002). On the other hand, Chow and Wong-Boren (1987) use the book value of debt divided by size of company (market value of equity plus book value of debt) as proxy for leverage. In this study it is measured by long-term debt to book value of equity, as has been used by Hossain et al. (1994), Inchausti (1997) and Chen and Jaggi (2000) in their studies on disclosures.

3.6.5 Auditor type

Jensen and Meckling (1976) and Watts and Zimmerman (1983) emphasise that auditing is a mechanism that can be used to reduce the agency costs. It is suggested that the

disclosure policies and the extent of disclosure of a company is influenced by the type of external auditors engaged by the company (Owusu-Ansah, 1998; Glaum and Street, 2003; Wallace et al. 2004). In general, large audit firms are associated with a better level of disclosure (Owusu-Ansah, 1998; Street and Gray, 2002; Glaum and Street, 2003). Large, international audit firms are more likely to be independent from their clients, therefore they are not constrained from reporting clients' material errors (due to negligence) when providing their opinion. Rather, they prefer to expose clients' error to safeguard their esteem and reputation in the eyes of the public (Fama and Jensen, 1983b). Dye (1993) and Owusu-Ansah (1998) also opine that large audit firms normally conduct their task with due diligence at all the times because they are aware that they are largely exposed to liability.

In addition to the above, large, international audit firms also are more established and have more professionals working with them, thus are able to offer various aspects of advice and consultation to clients as compared to small firms. They have numerous specialised and technical divisions or departments to handle clients' requests and issues pertaining to financial reporting. Therefore, it is posited that large audit firms have the influence over the client company on the extent of compliance with the financial reporting standards and to what extent the information will be exposed to the public. To support this, Street and Gray (2002) in their study find a positive association between the level of compliance with IAS and the type of auditor engaged by companies. It is hypothesised that:

***H₁₀:** The implementation of FRS 138 is associated with the type of auditor engaged in the Malaysian PLCs.*

Proxy for types of auditor is simply represented by dichotomous scale of '1' if audited by the Big-4 auditors and '0' if audited by smaller audit firms (Inchausti, 1997; Haniffa and Cooke, 2002).

3.6.6 Industry type

Disclosure practices, and therefore disclosure level of various companies may not likely be the same amongst each other due to the different industry background. One particular type of industry may require business operation to disclose more information compared to another type of industry, especially if there are specific regulations and control imposed on the companies within that particular industry (Owusu-Ansah, 1998). Looking at the nature and characteristic of the business itself could also explain why different companies have different levels of motivation to disclose information. For example, an offshore oil and gas company may need to disclose more company-related information to create public/brand/product awareness compared to a consumer products manufacturer. Even within the same industry, a company with more product range may want to disclose more information compared to a company that promotes a single or less products (Owusu-Ansah, 1998). Street and Gray (2002) find a significant (positive) relationship between the level of compliance with type of industry in their study.

Thus, the hypothesis developed is as follows:

***H₁₁**: The implementation of FRS 138 of Malaysian PLCs is associated to each type of industry.*

For the purpose of this study, eight types of industries are identified and tested, which are: consumer products, construction, industrial products, infrastructure, technology, trading/services, properties and plantation.

Finance sector is not included as variable in this study. The reason for this is, whilst the financial statements presentation are of similar format with the businesses from other industries mentioned above, the nature of assets and liabilities and accounts preparation are different. Companies from finance sectors are highly regulated by the central bank and also Basel II. Proxy for types of industry is represented by dichotomous scale of ‘1’ if (consumer/construction/industrial/infrastructure/technology/trading and services/properties/plantation) and ‘0’ if otherwise (Inchausti, 1997; Haniffa and Cooke, 2002). Table 3.1 below summarises the variables and development of hypotheses for this study.

Table 3.1: Summary of variables and developed hypothesis

Variables and proxy	Mandatory disclosure
Independent non-executive directors (INED) (H ₁) Ratio of INED on the board to the total number of directors on the board	H₁: The implementation of FRS 138 is positively associated with the number of independent non-executive directors on board of a company.
Multiple directorships (H ₂) Ratio of directors with directorships in other companies to total number of directors on the board	H₂: There is a positive relationship between multiple directorships and the implementation of FRS 138.
Family-controlled companies (H ₃) Ratio of family members on the board to the total number of directors on the board	H₃: There is a positive relationship between family members on board of directors and the implementation of FRS 138.
Government shareholdings (H ₄) Ratio of total shares owned by government to total percentage of ownership of top 30 largest shareholders	H₄: There is a positive relationship between government-owned companies and the implementation of FRS 138.
Insider ownership (H ₅) Ratio of total shares owned by insider/directors to total percentage of ownership of top 30 largest shareholders	H₅: There is a negative relationship between director ownership and the implementation of FRS 138.
Size of firm (H ₆) (log)Total assets as at financial year end 2008	H₆: There is a positive relationship between the size of a company and the implementation of FRS 138.

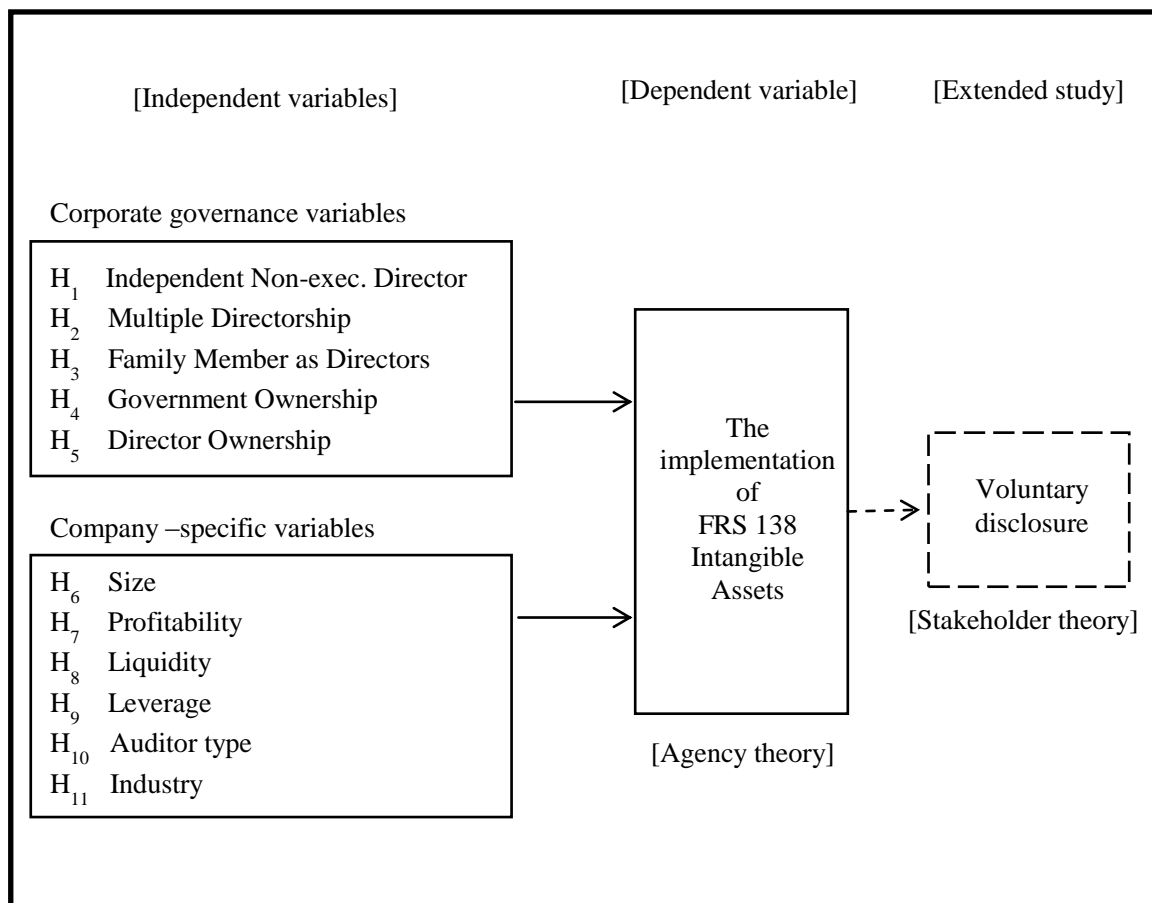
Profitability (H ₇) Earnings before tax to book value of equity	H₇: There is a positive relationship between profitability and the implementation of FRS 138.
Liquidity (H ₈) Current assets to current liabilities	H₈: There is a positive relationship between liquidity and the implementation of FRS 138.
Leverage (H ₉) Long-term debt to book value of equity	H₉: There is a positive relationship between leverage and the implementation of FRS 138.
Types of auditors (H ₁₀) Score '1' if audited by Big-4 Auditors, otherwise '0'	H₁₀: The implementation of FRS 138 is associated with the type of auditor engaged in the company.
Types of industry (H ₁₁) Score '1' if {Consumer/Construction/ Industrial products/ Infrastructure/Plantation/ Properties/Technology/ Trading/Services} otherwise '0'	H₁₁: The implementation of FRS 138 is associated to each type of industry.

3.7 Theoretical framework

Figure 3.1 summarises the theoretical framework for this study. The independent variables are classified into two groups: the corporate governance variables and the company-specific variables. The dependent variable is the disclosure index derived from the compliance scores (discussion on the disclosure index and compliance test is made in Chapter Four). Apart from the compliance with FRS 138 to represent mandatory disclosure, managers who value the intangible assets higher may also broaden or extend the disclosure practices further by way of voluntary disclosures. This is to compensate and supplement the insufficient information provided in the existing financial statements due to the restrictions imposed on the recognition and measurement of intangible assets by the IAS 38. The voluntary disclosure on intangible assets is shown on the theoretical framework of this study as an extension to the compliance with FRS 138. To explain the mandatory (compliance) disclosure, the Agency theory is

adopted in the study. When the study is extended to examine the voluntary disclosure practice, the Stakeholder theory is applied.

Figure 3.1: Proposed theoretical framework



3.8 Summary

This chapter starts off with the discussion on the accounting theory and the selection of appropriate theory under the positive accounting for this study. The Agency theory and Stakeholder theory are deemed the suitable theories that can best explain the disclosure practices of companies, both the mandatory and the voluntary disclosures respectively. The Agency theory applies when the manager acts as an agent to the stakeholders of the company, who collectively is also referred to as the principal. The agent is compelled to perform his duties to maximise the wealth of the principal. This theory states that the

manager has a role to maximise shareholders' wealth, but would also take the opportunity for his personal interest. Thus, the monitoring costs. Mandatory disclosure, via the compliance with IAS 38 is one way to solve this problem and reduce other agency costs as well.

Later, this chapter also discussed the application of Stakeholder theory in the study. According to this theory, the managers are compelled to report back sufficient information to the stakeholders on how the company spent the resources obtained from stakeholders and the result achieved from such consumptions. Stakeholders, on the other hand, may or may not want to use such information in their decision making.

This chapter proceeds with the selection of variables that may influence the extent of compliance with FRS 138 of the Malaysian PLCs. Eleven hypotheses are developed to fulfil research objective 3 and answer the related research question. Findings from previous studies on mandatory and voluntary disclosures are also covered in detail.

The implementation of FRS 138 (as mandatory disclosure) is determined by both corporate governance variables and company-specific variables, where it is posited that:

- i) By having more independent non-executive directors (H_1) who also hold multiple directorships on other companies' board of directors (H_2) could improve the implementation of FRS 138, especially if the majority of the shareholdings of the company are held by the government (H_4) or family members who are also the directors (H_3). This, however, could give a contrasting result if more percentage of shareholdings is controlled by the insiders (H_5).

- ii) Higher level of compliance with FRS 138 will also be found in a company of a bigger size (H_6) and a heavier debt burden (H_9). On top of that, the implementation of FRS 138 is also expected to have a positive relationship with profitability (H_7) and liquidity (H_8). The background of industry (H_{11}) and type of auditor (H_{10}) may have important role in influencing the implementation of FRS 138.

The next chapter covers the methodology and method proposed to be used in this study. For the purpose of measuring the level of implementation of FRS 138, the mandatory disclosure index is calculated from compliance test and converted into two ratios. These ratios answer research questions 1 [part (a) and (b)]. The ratios are then regressed using the multiple regression analysis with the identified variables already discussed in this chapter to identify the determinants that influence the implementation of FRS 138 amongst PLCs in Malaysia. This serves to answer research question 3. As for the additional information on intangibles that companies made known to the public and the amount of disclosure (intensiveness), thematic content analysis will be used, as discussed in Chapter Four. This answers research question 2.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.0 Introduction

This chapter starts with a brief discussion on the methodology and accounting paradigm in an effort to justify the selection of methods for this study before it goes into detail on each of the methods. It then discusses the research designs in three main sections: the first section discusses the construction of a compliance checklist to confirm that mandatory items as per FRS 138 are disclosed in the annual reports of sample companies. It later discusses on the construction of disclosure indices using the compliance scores to investigate the implementation practice of FRS 138. This section serves to answer research questions 1(a) and 1(b) as stated in Chapter One.

The second section of this chapter discusses the application of thematic content analysis as another means of examining disclosure practices. This stage extends the analysis of mandatory disclosure required by FRS 138 to voluntary disclosure. Content analysis is suitable in explaining the Stakeholder theory applied in the studies of voluntary disclosures. The annual reports of the Malaysian PLCs are content-analysed to understand the type of information and extent of disclosure made by these companies to convey intangibles-related information to the users of accounts. This section answers research question 2 of this study.

Finally, the last section discusses on the use of statistical techniques to identify the determinants that influence the implementation of FRS 138. Several determinants

identified from the previous disclosure studies are selected and labelled as independent variables. The disclosure indices discussed in the first segment of this chapter are labelled as dependent variables. The use of a disclosure index is to test the application of the Agency theory as discussed in this chapter. Both dependent and independent variables are regressed to test the hypotheses, thus identify the variables that influence the decision of companies to have different implementation practice of FRS 138. This section answers research question 3. The research questions and research objectives established in Chapter One are revisited as illustrated in Table 4.1 below.

Table 4.1: Summary of study revisited

Summary of the problem statement: Intangible assets are essential for economic growth of businesses and induce a knowledge economy. The disclosures of intangibles-related information by the Malaysian PLCs provide benefits to users of accounts, especially the shareholders and the potential investors. Nevertheless, very little is known on the implementation practice of the FRS 138 <i>Intangible Assets</i> by the Malaysian PLCs. For intangible assets that do not qualify for capitalisation, PLCs opt for voluntary disclosures to reveal them. Unfortunately, due to the unavailability of a proper guidance or framework, the details and trends of intangibles-related voluntary disclosures have been decided by PLCs based on varying individual motivations. Also, different ownership structure, business and industry background and other company-specific factors may have an influence on the implementation practices of FRS 138 amongst the PLCs.			
Methodology: Content analysis			
Research questions		Research objectives	Research design
1.	What is the level of implementation of FRS 138 of Malaysian PLCs in relation to: a) recognition and measurement? b) disclosure?	To investigate the level of implementation of FRS 138 by Malaysian PLCs in relation to: a) recognition and measurement requirements b) disclosure requirements	Compliance checklist and disclosure index
2.	What are other types of information and the extent of information pertaining to intangible asset that are voluntarily disclosed in annual reports?	To analyse the type of information on intangibles and the extent of voluntary disclosure made beyond the compliance requirement in the annual reports	Thematic content analysis
3.	What are the determinants explaining different level of implementation of FRS 138 by Malaysian PLCs?	To identify the determinants influencing the implementation of FRS 138 amongst PLCs in Malaysia	Statistical regression analysis

4.1 Accounting research paradigm

Method and methodology are always regarded as similar when they are actually not. Whilst methodology is the study of methods and the respective philosophical assumptions made when applying a particular method, the method itself is a process carried out to collect required data according to the philosophical assumptions made (Ryan, Scapens and Theobald, 2002). When discussing a suitable methodology for accounting research, Abdel-Khalik and Ajinkya (1979) emphasise that an ideal method for an accounting research should be the scientific method. Initially, the method involves the appraisal of a collection of literature, which is then formulated into a theory. Next, the theory is used to develop hypotheses to explain the association between variables. The essence of a scientific method lies in the procedures used during data collection and, most important of all, the application of a statistical technique to validate the hypotheses that is capable of generalising the results. In their report, Abdel-Khalik and Ajinkya (1979) conclude that scientific method is an ideal approach that no other method can improve upon.

Nevertheless, Tomkin and Groves (1983) hold a different view from that of Abdel-Khalik and Ajinkya (1979). They argue that the selection of a suitable methodology for an accounting research depends on the event of study, which may render the scientific method less appropriate. In addition to that, the ontological (the study of existence or what is deemed to be real) and epistemological (grounds of knowledge) assumptions that help strengthen the research also need to be taken into consideration. As a result of the establishment of several ontological assumptions, different types of accounting research emerge, ranging from subjective to objective. Citing the works of Burrell and Morgan (1979) and Hopper and Powell (1985), Ryan et al. (2002) add that for each

different ontological assumption, a different method of acquiring knowledge may need to be adopted, thus an epistemological component. Therefore, if ontological assumptions range from subjective to objective, epistemological assumptions on the other hand, span from interpretation to observation.

In the field of social science, Burrell and Morgan's (1979) work introduces one more assumption to the existing ontology and epistemology, namely human nature (relationship between human beings and their environment). All three assumptions have direct methodological implications and are expressed into a four-quadrant matrix (ontology, epistemology, human nature and methodology). These quadrants make up three main categories of accounting research, namely the mainstream research, interpretive research and critical research. Following on from there, Chua (1986) describes each category above from an accounting perspective, highlighting the underlying ontological and epistemological differences of each alternative. Her classification of the research paradigm covers the beliefs about physical and social reality (ontology), knowledge (epistemology) and relationship between theory and practice. According to her, the fundamental of accounting research consist of three different paradigms: 1) positivist, 2) interpretive and 3) critical.

Most financial accounting research has been concerned with the reporting of business activities (Ryan et al., 2002, p. 94). Increasing economic, political and social activities have brought about the rapid development of financial accounting and reporting worldwide. Later, the need for a detailed disclosure became significant to cater for the growth of businesses. Investors need more information to make decisions related to investments in the market, but managers are reluctant to share inside information with them. The only source that provides the most complete financial information to

investors is the annual report; various users of accounts (not only limited to investors and shareholders) are using different approaches to analyse from the disclosures made and predict future cash flows.

Literature on disclosure can be divided into two dissimilar strands: the first one is analytical in nature. The second strand of disclosure literature concentrates on the empirical. The second scenario explains the predictive ability criterion, which in turn influences the adoption of neoclassical economic model in financial accounting research (Ryan et al., 2002). The use of hypothetico-deductive methodology and empirical studies are examples from the neoclassical economic model, whilst examples of research involving disclosures to name some, include the disclosure determinants, impact of disclosure, disclosure quality, ratings and stock performances, management earnings forecasts and narrative disclosures. With the enhancement in information and computer technology (ICT) coupled with the establishment of databases that hold massive amounts of information of corporations worldwide, empirical research is made easier.

4.2 Positive accounting theory

The neoclassical economics, as mentioned above, revolve around the notion of economic rationality where individuals aim towards self-interest maximisation (Ryan et al., 2002). In addition to that, the economic reality is also the inception of analysis of economic problems using mathematical techniques, which in turn instigates the positive accounting theory and scientific research. Positive accounting theory is the backbone of

empirical (explanation and prediction) studies. The adoption of Agency theory and Stakeholder theory in this study designates the positive accounting research.

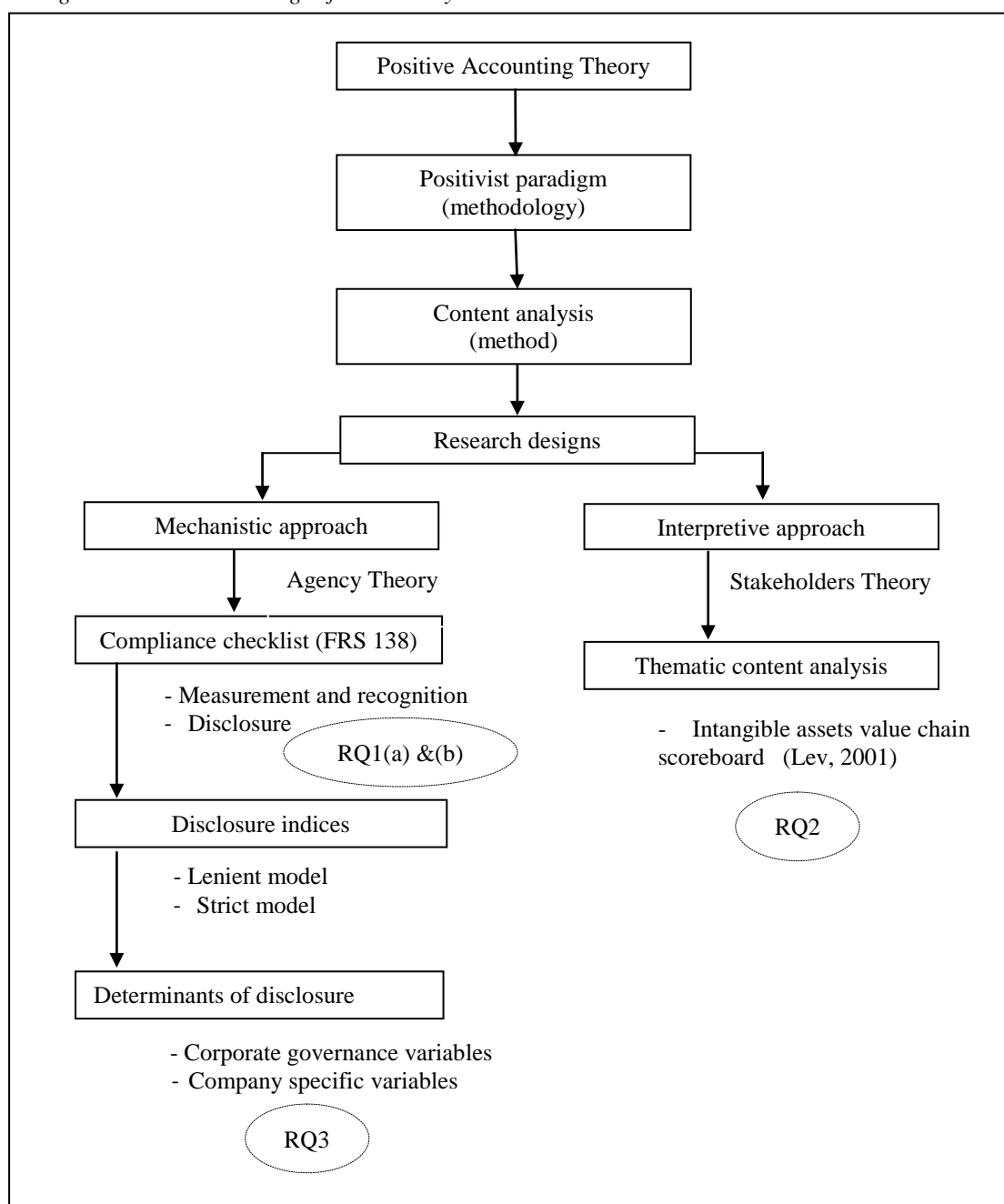
In the Agency theory, the manager, being an agent, is a rational economic individual who tries to maximise his personal interest as opposed to the principal's (Watts and Zimmerman, 1986). As a result, agency costs materialise in the form of monitoring cost or mandatory disclosures. The construction of disclosure indices represents positive accounting theory. Positive accounting theory (thus the empirical research) also emerges when research involving the development and testing of a set of hypotheses is conducted to analyse the implication arising from the agent's behaviour and agency costs. This study adopts the hypothetico-deductive methodology, where identifying the determinants of mandatory disclosures made in the annual reports result in the testing of related hypothesis.

As for the Stakeholder theory, the need for managers to continuously report back on the result of the company to its shareholders renders the voluntary disclosures of important information (Deegan, 2006). Nevertheless, the limited ability to do so due to restrictions imposed by the governing accounting standard has resulted in managers resorting to other means of disclosure, especially in the form of narrations. Interpreting narrative disclosures and describing their meanings typically involve extracting words or sentences according to predetermined coding categories. The coding is then converted into numerical frequency scores, thus involving a quantitative processing which is part of the classical (empirical) scientific model belongs to the positivist paradigm.

The use of quantitative content analysis in this study, therefore, refers back to the definition given by Berelson (1952, p. 18), as quoted in the work of Groeben and

Rustemeyer, (1994) as follows: “content analysis is a research technique for the objective, systematic and quantitative description of the manifest content of communication”. Based on the above discussion, it can be concluded here that this study, therefore, is positive accounting research. Discussions hereafter cover the research designs used for this study, in line with the positive accounting research. Figure 4.1 illustrates the methodology, method and research designs adopted in this study and the related research questions.

Figure 4.1: Research designs for this study



4.3 Content analysis

Content analysis is described as “a way of systemising the normal, everyday understanding texts” Groeben and Rustemeyer (1994, p. 310). It is “an application of scientific methods to documentary evidence” (Holsti, 1969, p. 5). It is also “a research technique for making replicable and valid references from texts or other meaningful matter to the contexts of their use” (Krippendorff, 2004, p. 18). In other words, it is very useful in social sciences studies where meanings and interpretation are important to understand the social environment (Krippendorff, 2004). Content analysis is a flexible research method and can therefore be applied to numerous issues in studies related to information in published communications, in order to determine the manifest content (Guthrie et al., 2004). It can either be applied as a single method or as a complement to other methods. It can also be in the form of quantitative analysis or qualitative analysis (White and Marsh, 2006). This method is very useful when information provided to the readers is not in an organised manner, rather than scattered throughout the content medium (April, Bosma and Deglon, 2003).

According to Krippendorff (2004), content analysis introduces two generic approaches that are termed as form-oriented and meaning-oriented. The form-oriented content analysis is more objective in nature and simpler, involving routine counting of words, concepts, references or themes (Beck, Campbell and Shrives, 2010). Meaning-oriented content analysis is more subjective and involves construing the underlying meanings or themes found in the texts being investigated as it aims to understand further the intention to communicate, which is the ‘what and how’ of the message (Aerts, 2005). Despite the difficulties in application, researchers mostly favour the meaning-oriented approach (for example in Ahuvia (2001) and Boesso and Kumar (2007)) as it has the

ability to uncover the message behind the texts and facilitates the process of deduction or reasoning. Beck et al. (2010) categorise content analysis into two broad approaches, which they call the mechanistic approach and the interpretative approach. The mechanistic approach resembles Krippendorff's (2004) form-oriented approach, whilst the interpretative approach is similar to meaning-oriented approach.

In conducting content analysis, researchers acknowledge that there will always be the issue of judgement and interpretation during the process (Weber, 1990). Content analysis requires the user's judgement in determining what kind of message is conveyed in the narratives (Krippendorff, 2004). Irrespective of which approach is applied, if both issues could be handled properly, content analysis has the potential to explore, reveal and provide the answer(s) to research question(s).

Unerman (2000, p. 667) emphasises that "the volume of disclosure signifies the relative importance of those disclosures [to the discloser]". Meanwhile, Guthrie et al. (2004) state that the employment of content analysis as a method of data collection and analysis is beneficial to enquire into accounting disclosure practices. The process in general involves codifying qualitative and quantitative information according to a set of pre-defined indicators (categories) to reveal if there is any particular trend shown when reporting information. In this study, the mechanistic, form-oriented approach is adopted to extend the use of disclosure indices to investigate factors influencing mandatory disclosure, whilst the interpretative, meaning-oriented approach is used to investigate additional information that is disclosed beyond the requirement. The research designs are further discussed in the segments following.

4.4 Development of the compliance checklist

For this study, a compliance checklist is self-developed based on the reporting standard that regulates the recognition, measurement and disclosure requirement on intangible assets in Malaysia, which is the FRS 138. Upon completion, the checklist comprises of 29 items under recognition and measurement compliance and 30 items under disclosure compliance (Refer to Appendix B for a sample of compliance checklist). Disclosure indices are then derived using the compliance checklist scores.

The use of an index as an instrument to measure the level of disclosures was first initiated by Cerf in 1961 and later picked up by other researchers (Marston and Shrivess, 1991). According to Marston and Shrivess (1991), the use of an index in studies that investigate disclosures involves preparing an extensive list of items that could be used to measure the extent of disclosure. Most of the disclosure studies in extant literature, be it mandatory disclosure or voluntary disclosure, use a disclosure index to investigate the level of disclosures (Street, Gray and Bryant, 1999; Tower et al., 1999; Cairns, 1999; Street and Bryant, 2000; Glaum and Street, 2003; Chatham, 2008; Al-Shammari, Brown and Tarca, 2008).

4.4.1 Scoring procedure and compliance categories

This study proceeds to look at the suitable scoring procedures to be adopted when measuring the sample companies' extent of compliance. Below is the discussion on the scoring procedures adopted in several studies that also look into the extent of compliance with the IFRS.

Tower et al. (1999) measure the compliance level of six Asia-Pacific countries in their 1997 annual reports according to the following seven categories as per Table 4.2. Extent of compliance is calculated as number of compliance scored over total possible compliance, involving two ratios. Ratio 1 assumes that non-disclosure means the particular guideline within the standards is not applicable to the company, thus removes all non-disclosed items. Ratio 2 strictly posits that non-disclosure means non-compliance with the standards and this is reflected with the inclusion of non-disclosed items. The multi-level of categories are established due to the fact that at the time of study (1997), some of the companies in the sample hold various status of IAS adoption and some follow the US GAAP. The IAS is applied at various degrees of adoptions by some countries as it had not been made mandatory. To fit in each company into a category in the study, Tower et al. (1999) established these seven compliance categories. Category no. 7 was eventually dropped from the study as it represented items not relevant to most of the companies under study.

Table 4.2: Compliance categories by Tower, Hancock and Taplin (1999)

Compliance categories	1 No compliance with the relevant IAS issue 2 Compliance with the relevant IAS issue 3 Compliance with IAS benchmark on particular issue 4 Compliance with IAS allowable alternative on a particular issue 5 Compliance with both the IAS benchmark and allowable alternative 6 Compliance not disclosed and not readily discernible 7 Non applicable issue
Weighting	Unweighted
Compliance measurement	<div style="text-align: center;"> Items deemed compliance (no. 2+3+4+5) <hr/> Total possible compliance (no. 1+2+3+4+5) </div> Ratio 1 = <div style="text-align: center;"> Items deemed compliance (no. 2+3+4+5) <hr/> Total possible compliance (no. 1+2+3+4+5+6) </div> Ratio 2 =

An extended study was conducted by Taplin et al. (2002) to revisit their study in 1999. As a result of a high level of non-disclosure in the earlier study (23.4 per cent of the sample set), they introduced the Discernibility Index (DNI) in their 2002 study on 1997 annual reports of 60 companies from six countries in the Asia-Pacific region. DNI is used to measure the uncertainty in terms of compliance so that even an ordinary user could reasonably make his/her own judgement as to whether a company complies with the IAS or not. An analysis of No Violation for Non-Disclosure (NVND) was also carried out. Both DNI and NVND extended the study of Tower et al. (1999) by way of measuring the level of compliance on measurement and disclosure on a separate investigation. DNI was calculated as “the ratio of items disclosed and detectable over the total possible items less any obvious non-applicable items” (p. 177). Table 4.3 illustrates the scoring procedure adopted by Taplin et al. (2002). The seven levels of categories used in the 1999 study were again applied (refer Table 4.2 above), but this time category no. 2 absorbed and combined the other three categories of compliance of nos. 3, 4 and 5.

Table 4.3: Compliance categories by Taplin, Tower and Hancock (2002)

1	Compliance categories	1 No compliance with the relevant IAS issue 2 Compliance with the relevant IAS issue (include benchmark, allowable alternative or both) 3 Compliance not disclosed and not readily discernible 4 Non applicable issue
	Weighting	Unweighted

2 Compliance measurement	$\text{NVND Ratio} = \frac{\text{Deemed compliance (no.2)}}{\text{Total possible compliance}^* (\text{no. 1+2})}$ <p>*removing non-disclosed items</p> $\text{DNI Ratio} = \frac{\text{Aggregate compliance (or lack of) clear from annual report (no. 1+2)}}{\text{Total possible compliance}^\# (\text{no. 1+2 +3})}$ <p>^\#excluding non-applicable items</p>
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In another study on the extent of compliance with IAS in continental Europe, Cairns (1999) presented more levels of categories (eleven categories altogether) because domestic/accounting standards were observed as having wider flexibility compared to IAS. As can be observed from Table 4.4, Cairns (1999) provides a more precise method of measuring compliance by way of having more categories for companies to fit in, but does not explain the guidelines on how to categorise each of the companies accurately. Instead, most categorisation requires considerable judgements, with no indication which category is better than the other. In this sense, Tower's et al.'s (1999) compliance measurement is easier to employ and is more precise.

Table 4.4: Compliance categories by Cairns (1999)

Compliance categories	1 Full IAS compliance 2 Full IAS compliance with exceptions specified in the accounting policies 3 Full IAS compliance with exceptions specified in the notes to the financial statements but outside the accounting policies
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	<p>4 Full IAS compliance claimed but material omissions or exceptions evident from the financial statements</p> <p>5 Accounting policies comply with IASs or are based on IAS's or IAS principles</p> <p>6 Accounting policies comply with IASs or are based on IAS's or the principles in IASs but with specified exceptions from full compliance</p> <p>7 IASs used only when there are no equivalent domestic standards</p> <p>8 IASs used only for selected items or when permitted by domestic requirements</p> <p>9 Reconciliation from domestic GAAP to IASs</p> <p>10 Summary IAS financial statements (restatement of domestic financial statements)</p> <p>11 Unquantified description of differences from IAS treatments</p>
Weighting	Unweighted

All studies discussed above (Tower et al., 1999; Taplin et al., 2002 and Cairns, 1999) adopt similar evaluations of compliance measurement, both as a dichotomous variable with a score of 1 for compliance and 0 for non-compliance, and as continuous variable (assessment on extent of compliance) by calculating the compliance indices/ratios.

Interestingly, CIFAR's (1993, 1995) disclosure scores resolve the issue of non-disclosure somewhat differently from the normal practice by other researchers. The approach taken was not to penalise companies in the study for not disclosing information that is not relevant (applicable) to the company. Level of categories and scores are illustrated in Table 4.5 as follows.

Table 4.5: Scoring procedures adopted by CIFAR (1993)

Compliance categories	1	Compliance with standards (score = 1)
	2	Non-compliance with standards (score = 0)
	3	Standards not applicable (score = -1)
Weighting	Unweighted	

For non-compliant companies that obviously did not make any disclosure, they were awarded a 0 point, whilst companies that did not disclose any particular information because the items were not applicable to the company, the denominator for percentage was subtracted by 1 point.

This method was criticised by Healy and Palepu (2001) who argue that even though CIFAR disclosure index only measures ‘what should be measured’ in the test, some individual judgment is yet still a requisite in order to ensure reliability and validity of study. Nevertheless, researchers like Cooke and Wallace (1989) and Frost, Gordon and Hayes (2002) make a favourable remark on the usefulness (generalisability and replicability) of the index. Hope (2001) carried out an extensive study to test on the quality of CIFAR’s disclosure scores and found that the differences (if any) in the scores assigned is insignificant. He finally made a conclusion that CIFAR’s disclosure scores are reliable and its quality is satisfactory.

Street and Gray (2002) prepared a checklist to separately measure the extent of compliance for measurement/presentation (referred as MEAS/PRES) practices and disclosure (referred as DIS) items of IAS standards in the 1998 annual reports of 279 companies from 32 countries and produced the following levels of compliance category as per Table 4.6:

Table 4.6: Compliance categories proposed by Street and Gray (2002)

Compliance categories	1 Items disclosed (DIS)/correct (MEAS/PRES) (score = 1)
	2 Items not disclosed (DIS) /incorrect (MEAS/PRES) (score = 0)
	3 Items not applicable (n/a)
Weighting	Uweighted
Compliance measurement	Two indices calculated as follows
Index 1	<p>Averaged for each IAS under review:</p> $\text{MEAS/PRES 1} = \frac{\text{Total number of required M/P disclosures}}{\text{Total number of applicable M/P disclosure}}$ $\text{DIS 1} = \frac{\text{Total number of required IAS disclosures}}{\text{Total number of applicable IAS disclosures}}$
Index 2	<p>Averaged for each company:</p> $\text{MEAS/PRES 2} = \frac{\text{Total M/P disclosure provided by company}}{\text{Total number of applicable M/P disclosures}}$ $\text{DIS 2} = \frac{\text{Total IAS disclosure provided by company}}{\text{Total number of applicable IAS disclosures}}$

On the issue of ambiguity on non-disclosed items, Street and Gray (2002) made a thorough review of the annual reports so as to reduce the likelihood that companies be penalised for not disclosing items that are not applicable to them. Thus, they conveniently classified items either under category no. 2 or no. 3 accordingly. The two types of measurement as illustrated above are constructed in order to provide equal weighting to each IAS reviewed and eliminate potential bias arising from multiple appearance of similar items being tested.

In a more recent study on measuring the extent of compliance with IAS of companies domiciled in three European countries from 1996 to 1998 by Chatham (2008), there are only three levels of category involved as presented in Table 4.7 below.

Table 4.7: Compliance categories by Chatham (2008)

Compliance categories	1 Full compliance with IAS (score = 3) 2 Unclear as to compliance (score = 2) 3 Obviously non-compliant (score = 1)	
Weighting: 2 options adopted	i) Equal weight for all 46 questions (score = 1)	ii) Assigned weight to importance of items: Score: A) Most important (2) B) Moderately important (1.5) C) Least important (1)
Compliance measurement	Level of compliance = $\frac{\text{Total individual scores (weighted/unweighted)}}{\text{Total possible scores (weighted/unweighted)}}$	

A score of 3 is given for full compliance with IAS. For areas where there is uncertainty of IAS compliance or not, a score of 2 is given. Finally, when there is evidence that non-compliance exists, a score of 1 is awarded. Compliance category no. 2 is arguable as it could both represent ‘items not applicable to the company’ and ‘items applicable but not complied with by the company’. Thus the measurement of compliance may be inaccurate and as a consequence, present a misleading result.

In another development, Al-Shammari, Brown and Tarca (2008) measure the level of compliance using three indices that explain different judgements on items unclear as to

compliance. The first (also the main) index is a simple measurement that considers two levels of categories (1 and 2) only, whilst the second and third indices named Alternative 1 and 2 add another two levels of categories (3 and 4), as tabulated in Table 4.8 below:

Table 4.8: Compliance categories by Al-Shammari, Brown and Tarca (2008)

Compliance categories	1 Items obviously applied and disclosed 2 Items obviously applied but were not disclosed 3 Items not applicable 4 Compliance unknown
Weighting	Unweighted

In the study of Al-Shammari et al. (2008), when calculating the disclosure index using Alternative 1, companies are penalised for not disclosing any particular item within the standard without considering whether it is applicable or not to the company. Also, in a situation where there is not enough supporting evidence saying the company is complying with the standard, Alternative 1 will consider it as non-compliance as well. To summarise, ‘items not applicable’ and ‘compliance unknown’ are both considered non-compliance, and are given a score of 0. On the other hand, Alternative 2 is more lenient as it considers ‘items not applicable’ as items not related to the company and only penalises ‘compliance unknown’ for non-compliance. Later, compliance category no. 3 is dropped from the calculation but no. 4 is given a score of 0.

4.4.2 Development of instrument for this study

As for the Malaysian financial reporting environment, the compliance categories should not be any more complicated from those in the extant literatures discussed previously. Malaysia has been implementing the domesticated IAS since the 1970s, and these

standards have been in harmony with the law of Malaysia since the MASB was established in 1997. Since its establishment, the MASB has been working towards harmonisation⁴ with IAS/IFRS. MASB has then announced its plan to move towards convergence with IFRS in several stages. Effective from 1 January 2006, FRS 138, which is comparable word for word with IAS 38, was adopted by MASB and made mandatory to all PLCs on Bursa Malaysia. For this reason, when developing the implementation categories for this study, these categories should not have multiple layers or be as complicated as the ones used in the previous studies.

For the purpose of this study, only two implementation categories are adopted: the first category is full implementation, otherwise companies will be strictly treated under the second category, which is not implemented. To strengthen further the argument for adopting only two levels or categories of compliance, this study refers to the definition of compliance according to IAS 1 *Presentation of Financial Statements* as follows: IAS 38 is equivalent to FRS 138 in the context of Malaysian annual reporting. FRS 138 was introduced and made mandatory to all PLCs in Malaysia effective from 1 January, 2006. Applying the definition of compliance regulated by IASB as stipulated in IAS 1 *Presentation of Financial Statements*, it states that:

“IAS 1 requires that an entity whose financial statements comply with IFRSs make an explicit and unreserved statement of such compliance in the notes. Financial statements shall not be described as complying with IFRSs unless they comply with all the requirements of IFRSs (including Interpretations)” [IAS 1.16].

Companies must therefore adopt the standards in full in order to be considered compliant. The accounting standard cannot be adopted partially, which means companies cannot adopt some parts of the standard and omit the remaining parts. This

⁴The definition of harmonisation with the IAS/IFRS bears a totally different meaning from the definition of convergence with the IFRS.

study therefore proposes only two implementation categories: compliance and non-compliance. For each of the items in FRS 138 deemed implemented by the sample PLCs, a score of 1 is granted to the company. When it is clear that an item in FRS 138 is not implemented, no score will be given. The proposed implementation categories are as follows:

- A. Implement FRS 138 (COM) = 1
- B. FRS 138 not implemented (NCM) = 0

Street and Gray (2002) suggest that the extent of compliance with IAS may differ between measurement and disclosure. This is also consistent with the study result of Taplin et al. (2002) that measurement compliance has no significant correlation with disclosure compliance. This creates another scenario: what if the company complies with only one part of the standard? For example, what if the company only complies with the measurement requirement but fails to make proper disclosure in accordance to the standard, and vice versa? Therefore, the definition of 'Implement FRS 138' in category A. above can be further expanded by the following sub-categories:

- A. i) Implement therecognition andmeasurement requirement (CRM),
- A. ii) Implement the disclosure requirement (CDR)

Therefore, a full implementation of FRS 138 can be explained as follows:

$$COM = CRM + CDR(1)$$

In between these two categories, issue of uncertainty as to non-disclosure is likely to emerge. How does a reader interpret 'silence' in disclosure? Has the company not disclosed particular information because it is not relevant to the company or because the company intends not to comply with the requirement of the reporting standard? To assist in understanding this issue, this study argues that a company's discretion either to disclose information or not depends whether the information at hand is favourable to the company or not. This study is of the opinion that companies may not abide by the accounting standards' compliance requirement because they do not want certain information to be released to the public. There is a need to take consideration of such argument as it is important to be able to reflect real life experience into the study. However, it is important to acknowledge that some items within the IAS 38 may not be applicable at all to these companies. By adopting the method used by Al-Shammari et al. (2008) as illustrated in Table 5(g), another category is proposed to be added in the current study:

C. Implementation not applicable (NAP)

In order to be as accurate as possible when labeling an item as NAP, the annual reports of all sample companies were read thoroughly to understand better the nature and complexity of business operations being carried out. Al-Shammari et al. (2008) also recommend checking and comparing current year figures with previous year figures within the annual reports to confirm the consistency of disclosure. This way, judgment can be made on a strong basis when awarding NAP to the company. This is also consistent with what has been done by Tower et al. (1999), Street and Bryant (2000), Street and Gray (2002) and Street et al. (1999). In doing so, the NAP column in the checklist is ticked only when there is certainty that the said item in the standard is not

relevant or not applicable to the company under review. When finalised, the complete levels of category that are to be incorporated in the compliance checklist for this study is as per Table 4.9 below.

Table 4.9: Proposed categories of compliance for current study

Compliance categories:	1	COM	Implement FRS 138
	2	NCM	FRS 138 not implemented
	3	NAP	Implementation not applicable

The checklist will be used to investigate the level of implementation of FRS 138 of the Malaysian PLCs, therefore the financial statements and the notes to the accounts in the annual reports of the sample PLCs will be investigated thoroughly. On top of that, the other sections of the annual reports will also be read thoroughly to better understand the nature of business, company development, recent activities embarked, non-financial achievements and many more.

4.4.3 Weight assignment

There are two main approaches commonly used by researchers in determining the importance of items within the checklists to scoring procedure. The first approach assigns certain weighting on items according to their importance, while the other approach assumes all items are equally important, therefore does not assign any weight on them. Marston and Shrives (1991) discuss in detail the issue of assigning weight to the disclosure index. They suggest that once weights are assigned to the index, the measurement is no longer at interval scale, thus raising issues on the appropriateness of parametric or non-parametric tests. In many cases, more researchers are favouring the

parametric test because it is much simpler to apply and proven to be less problematic in interpretation.

For the purpose of this study, each item in the checklist is given equal weighting. This is similar to the studies of Cooke, (1989), Tower et al. (1999), Street and Bryant (2000) and Street and Gray (2002) discussed earlier in this chapter, and also taking into consideration the argument raised by Marston and Shrives (1991). In addition to that, Chow and Wong-Boren (1987), Wallace et al. (1994) and Coy and Dixon (2004) have proven in their studies that the results obtained were not much statistically dissimilar from each other, either using the weighted or unweighted method. As a matter of fact, items of equal weighting reduce subjectivity (Ahmed and Courtis, 1999).

4.4.4 Goodness of data

The validity of the proposed instrument is important to ensure it actually measures what it is supposed to measure, and that reliability also exists, that is, whether an instrument can be constantly interpreted over and over again across different situations (Marston and Shrives, 1991). For this purpose, the instrument was constructed exactly in accordance to FRS 138 with due care not to omit any important element of the standard. The compliance checklist was then compared with the checklist produced and published on the internet by KPMG (2009) and Deloitte (2009) and then sent for validation by an experienced external auditor from Ernst & Young, Kuala Lumpur and an accounting professor from the University of Sydney, Australia to check on completeness and relevancy of the questions. The checklist was compared with the standard (IAS 38) and constructive comments and suggestions were given to improve the checklist. After several revisions, both examiners agreed that the checklist was complete.

Test/retest reliability was carried out to ensure the compliance checklist would produce the same result under the same condition. This was done by way of testing several randomly selected samples by different researchers. A doctorate student in financial accounting (her area of research at time of study is on corporate social responsibility disclosure or CSRD) was engaged to test the compliance checklist on the same samples. Her scores were then compared with the original scores. The result showed insignificant differences between both scores. The compliance checklist is thus properly prepared and ready (refer to Appendix B for a sample of the checklist).

4.4.5 Disclosure indices

To recap, the compliance checklist contains two main sections: recognition and measurement section (referred hereafter as CRM) and disclosure section (referred hereafter as CDR). The CRM comprise of 29 sub-items, whereas the CDR contains 30 sub-items. When both sections (CRM and CDR) are combined they produce a test score for the overall implementation of FRS138 (hereafter, COM). Therefore, when examining the level of implementation of FRS 138, each sample company will provide three test scores, each for CRM, CDR and COM.

Once when the implementation test has been conducted on all samples of Malaysian PLCs and the checklist is completed, the scores from the checklist will then be used to construct the implementation disclosure index. This index is derived from total score of disclosures made by the company divided by the total score of disclosures that should have been made or applicable to the company. Based on equation (1) above, the implementation disclosure index is expanded further to measure individual section as follows:

$$\text{CRM} = \frac{\text{CRM}}{\text{CRM} + \text{NCM}_{[\text{CRM}]}} \dots\dots\dots(2)$$

$$\text{CDR} = \frac{\text{CDR}}{\text{CDR} + \text{NCM}_{[\text{CDR}]}} \dots\dots\dots(3)$$

Also, if the level of implementation is measured without separating FRS 138 into two sections of CRM and CDR, then the general equation to calculate the implementation disclosure index is as follows.

$$\text{COM} = \frac{\text{CRM} + \text{CDR}}{\text{CRM} + \text{CDR} + \text{NCM}_{[\text{CRM} + \text{CDR}]}} \dots\dots\dots(4)$$

When constructing the implementation disclosure index, the NAP items should be reconsidered thoughtfully. Earlier in the construction of the implementation categories, NAP represents items that are not relevant or not applicable to the company. An item in the checklist is considered as NAP to the company when it is confirmed that the nature of business of the sample company renders a certain type of intangible assets unsuitable to the company. For example, not all company conducts R&D activities. Most of the intangible assets are acquired through separate acquisition and rarely by way of government grant or exchange of assets. The internally generated intangible assets should not be recognized at all in the financial statements, except for the development activity undertaken when it is assured that there is a future economic value attached to it. To decide whether an item is relevant thus applicable to the sample company or not will require a thorough reading and understanding of the business operation as stated in the annual report of the company.

In situations like the above the company will not be penalized if no disclosure is made. However, the extent of disclosure can still be argued as vague even if the annual report is read meticulously several times to ensure all necessary disclosures have been made accordingly. What if the company has not disclosed sufficient information to enable the judgment that NAP items are really representing irrelevant items in the company?

For the purpose of answering the above question, this study suggests that another set of disclosure indices similar to the ones calculated in equation (2), (3) and (4) be modified to include the NAP items. Total score of disclosures made by the company is divided by the total score of disclosures that should have been made. Nevertheless, this alternative ratio strictly assumes that items marked as NAP indicate items applicable but for some unknown reasons not disclosed by the company, or there has been insufficient information provided on the intangible asset in question. This time the NAP item represents item not implemented under FRS 138. This is illustrated as follows.

$$\text{CRM} = \frac{\text{CRM}}{\text{CRM} + \text{NCM}_{[\text{CRM}]} + \text{NAP}_{[\text{CRM}]}} \dots\dots\dots(5)$$

$$\text{CDR} = \frac{\text{CDR}}{\text{CDR} + \text{NCM}_{[\text{CDR}]} + \text{NAP}_{[\text{CDR}]}} \dots\dots\dots(6)$$

$$\text{COM} = \frac{\text{CRM} + \text{CDR}}{\text{CRM} + \text{CDR} + \text{NCM}_{[\text{CRM} + \text{CDR}]} + \text{NAP}_{[\text{CRM} + \text{CDR}]}} \dots\dots\dots(7)$$

Equations (2), (3) and (4) are used to calculate a set of disclosure indices to measure the level of implementation of FRS 138 based on a lenient treatment of NAP items. This means, a company is not penalised for an item it does not disclose if the item is not applicable to the company. This model is labelled as LENIENT to represent lenient implementation disclosure index. On the other hand, equations (5), (6) and (7) are used to calculate disclosure indices that impose strict treatment on items not implemented under FRS 138. This model is labelled as STRICT to represent strict implementation disclosure index. STRICT is constructed to reduce such bias that might exist when calculating LENIENT and also to highlight the gap as a result of the non-disclosed items. The difference between LENIENT implementation scores and STRICT implementation scores represents the unknown items that are yet to be explored and investigated to understand disclosure patterns in the annual reports. This will be dealt with in the coming section when voluntary disclosure is investigated.

The scores for LENIENT and STRICT models range from zero to one. The above proposed instrument for this study is a result of partial adoption and modulation from the earlier studies of Cooke (1989), Tower et al. (1999), Chatham (2008) and Al-Shammari et al. (2008) to fit into the financial reporting background in Malaysia. When constructing a suitable instrument for studies on any types of disclosures, researchers tend to partially adopt several indices and adapt them to meet their research objectives and fit in with the background of their studies. Thus, there is no single acceptable or universal index that can be applied or generalised on all situations when measuring disclosures (Marston and Shrives, 1991).

4.4.6 Selection of sample

There were about 977 companies listed on the Bursa Malaysia for the financial year ending 2008. PLCs on the Main board and the ACE board (a brief introduction on the Main board and ACE board is available in Chapter One) that possess one or more types of intangible asset qualify as a sample in this study, except for banks, finance, insurance companies and similar types, due to their specialised nature of operations and different compliance requirements. Out of 977, only 290 of the companies possess and disclose one or more types of intangible asset in accordance to the FRS 138 in their 2008 financial statements. All 290 companies were thus taken as samples for the study. The list of companies taken as samples for this study is available in Appendix C.

Since this study intends to adopt the multiple regression technique to analyse the data, it is important for this study to have sufficient number of samples in order to become representative and generalisable. Pallant (2001) emphasises that an appropriate sample size is essential to an empirical study because it is an influential element that can give effect to the statistical power of the significance testing. To test whether the sample size of 290 companies are large enough to represent the population, this study refers to the suggestions made by several researchers in the past. According to Krejcie and Morgan's (1970) sample size table, as cited in Sekaran (2003), a study population between 950 and 1,000 companies requires a sample size between 274 and 278 companies.

Other than that, Hutcheson and Sofroniou (1999) suggest every variable to have 10 samples. There are eleven variables in this study, therefore $11 \times 10 = 110$ samples required. Hair et al. (2006) suggest that for each independent variable, a desired number of observations are between 15 to 20 observations. Applying this rule of thumb means

11 independent variables x 20 maximum observations = 220 samples. Another suggestion is from Tabachnick and Fidell (1996) who give a formula of $N > 50 + 8m$ (m = number of independent variables). Applying the formula in this study, the minimum number of sample should be $50 + 8(11) = 138$ samples. Either suggestion adopted, the number of samples used in this study (290 samples) are sufficient to render for representation and generalisation.

Once when the appropriate number of samples has been confirmed, next the compliance checklist is used to examine the financial statements contained in the annual reports of the sample companies. For each item complied as per requirement in the FRS 138, a score of one (1) is given and recorded in the checklist. For items required in the FRS 138 but not disclosed anywhere in the financial statements, a zero (0) score is given. When the exercise is completed, the implementation disclosure index is calculated based on the two scenarios, which are LENIENT and STRICT. Three disclosure indices are produced under each scenario, to represent indices based on CRM, CDR and COM, as discussed earlier. The results obtained from each disclosure indices represent the level of implementation of FRS 138 of the Malaysian PLCs, thus answer research question 1(a) and (b) of this study.

4.5 Voluntary disclosure

Many studies on voluntary disclosure adopt content analysis as methodology (such as Brennan (2001), Abeysekara (2003), Bozzolan et al. (2003), Goh and Lim (2004), Guthrie et al. (2006) and Boesso and Kumar (2007)). Analysing qualitative reports will require good judgment in order to come out with a reliable result of study. In almost all

cases, content analysis is conducted on a company's annual report, as most researchers unanimously agree that the annual report provides valid findings in various accounting researches/studies (Guthrie and Parker, 1990; Gray et al., 1995; Guthrie and Petty, 2000). The following section discusses several studies that adopt content analysis to examine voluntary disclosure practices in the annual reports.

4.5.1 The type and amount of disclosures

Guthrie and Petty (2000) study 20 companies, 19 being the biggest companies listed on the Australian exchange and one more Australian company that is recognised for its best practice in reporting intellectual capital. The objective is to look at the amount and type of information related to intellectual capital that is being disclosed in the annual report. Using content analysis as the main tool of methodology, quantified and qualitative information were coded according to the categories (or frameworks) introduced by Sveiby (1997), namely internal structure, external structure and employee competence. Sveiby's intellectual capital framework was modified to come out with only 26 elements. The researchers find that there is no specific trend that can be observed in the voluntary disclosure as scores for all items seem to be fairly distributed at random. Items mostly reported are distribution channels, value chain reconfiguration and customer values. Items least reported include copyrights, contracts, franchising agreement and financial relations.

The managers are aware of the importance of communicating information to the external parties, but they also show signs of 'low commitment' to do so. Guthrie and Petty (2000) argue that this is possibly due to the lack of an established reporting framework, the low level of awareness and knowledge of how intellectual capital could affect the company, and also the perception that information on intellectual capital

should not be disclosed in the annual report because it is an issue of the internal management. They finally conclude that compared to several European outstanding companies, Australian companies lack the abilities to measure and report their intellectual capital through voluntary disclosure in the annual report, even for the sample company distinguished for its best practice in the field of reporting intellectual capital.

4.5.2 Disclosure from stakeholder perspective

In the study of Boesso and Kumar (2007), the researchers use content analysis to measure the quality and volume of disclosures in the MDA section of financial year end 2002 annual reports of 72 Italian and US companies, and also to identify the factors determining the disclosure practices in these companies. They identify seven perspectives related to various stakeholders of the company, and from these perspectives they establish a set of 42 Key Performance Indicators (KPIs) which they use to analyse the volume and quality of voluntary disclosures. To cater for arguments raised by other researchers on the effectiveness of content analysis in “conveying an accurate message to reflect the true story” by means of voluntary disclosures, relative weight was assigned to the types of information disclosed to reflect the quality of a more meaningful disclosures.

Boesso and Kumar (2007) developed a disclosure quality index to incorporate the density and types of KPIs as discussed above. The disclosure index was then regressed with variables associated with investors’ information needs, within-company factors and control variables to determine the drivers of voluntary disclosure. The result of the study found that quality of voluntary disclosure is influenced by size and industry background. On top of that, variables associated with the investors’ information needs

(that are business complexity and volatility) seem to have a strong effect on the volume of disclosures, but less on the quality of disclosures itself. When tested on variables of corporate governance structure, intangible asset management and stakeholder engagement, only the last attribute shows strong relationship with the volume and quality of voluntary disclosures. There were mixed results, but Italian companies that own intangible assets were found to be disclosing more quantitative, non-financial and forward-looking types of information as compared to the US companies.

Brennan (2001) investigates if the existence of intellectual capital within 11 Irish companies with a knowledge-based background, mainly the technology and people-oriented companies, is represented by the difference between company's book and market values for financial year ending 1998 (two companies, however, were measured for financial year ending 1997 and 1999). Her study aims to examine if the reporting of intellectual capital influences the market value of the company. Though the adopted measurement may be surrounded with stock price volatility and unrealistic tangible assets valuation, it is deemed the most suitable, considering the easy availability of information required, which contradicts other approaches/measurements. Her initial observation finds nine out of the 11 companies demonstrate higher market value compared to book value. Adopting the framework of Guthrie, Petty, Ferrier and Wells (1999), she uses content analysis to investigate 24 intellectual capital variables, assigning a 0:1 coding system. The frequency of disclosure in the annual reports was then recorded and compared with those of Guthrie et al. (1999). The result of the study indicates that there is lack of initiative to seriously measure such intangible assets in Irish companies. They also disclose poorly on the intellectual capital, and most of the disclosures made are highly discursive in nature.

4.6 Conducting content analysis

This study adopts semantic content analysis which goes beyond simply counting and quantifying words to look at the frequency of disclosure on intangible items located somewhere else apart from the financial statements and its notes to the accounts. The objective is to classify large amount of texts into several categories that represent similar meanings, in order to investigate and observe any particular patterns in the texts.

4.6.1 *Sampling unit*

A common sampling unit in a content analysis study is the annual report (Guthrie and Petty, 2000; Abeysekera, 2003; Bozzolan et al., 2003; and Goh and Lim, 2004; Kang and Gray, 2009). Annual reports are becoming thicker from time to time. Companies use the annual reports as the main platform to disseminate useful information to stakeholders and to educate and update them on the progress and development of the company. The analysis on content of annual reports for this study focuses only on the MDA section for the following reasons:

- i) The section on MDA is generally available in each annual report of the sample PLCs, thus focusing only on this section can ensure standardisation of information sources for study.
- ii) Similar information has been found to re-appear in other sections within the annual report. By limiting our search only to the MDA section would help prevent double or even triple counting of the same events (redundant properties, as referred by Krippendorff, 2004) during coding activity.

- iii) Marston and Shrides (1991) and Lang and Lundholm (1993) are of the opinion that the MDA section in the annual report is the best platform of communication where managers disclose important messages to various stakeholders effectively.

4.6.2 Units of analysis and the coding process

Recording units represent character, word, symbol, phrase, clause, sentence, paragraph, page, theme, whole text, item, interaction (Weber 1990). In some studies, researchers claim that the use of sentences is more reliable and accurate when compared to any other unit of analysis (Milne and Adler 1999; Vandemaele, Vergauwen and Smits, 2005; Steenkamp and Northcott, 2007; Yi and Davey, 2010), whilst some others prefer to use the paragraph (Guthrie et al., 2004) and pages (Gray et al., 1995). The usage of word brings restricted meaning as it is deemed too simple, whilst the usage of paragraph or page may carry more than one meaning, which is difficult to be coded. This study uses sentences as recording unit of analysis.

Further to the usage of sentence as unit of analysis, the following rules are constructed to be adopted during the coding process:

- i) Some studies (such as Guthrie and Petty, 2000; Brennan, 2001; Guthrie et al., 2007) restrict coding only on voluntary items (items that are not governed by any accounting standards). For example, in their study, Guthrie and Petty (2000) exclude items mandatorily disclosed in the annual reports. Nevertheless, their study covers the whole annual report including the audited financial statements and the respective notes to the accounts. This study includes the coding for mandatory items (such as R&D, patent,

trademark, licensing, etc.), as long as these items when coded are not derived from the audited financial statements and the related notes to the accounts. It is opined that even though these are mandatory items, disclosing further information (in narrative/numerical form) beyond numbers and figures in the financial statements may assist information users (stakeholders) in making better decisions;

- ii) For each of the sub-items (elements), a systematic numerical coding scheme is employed for recoding purpose and easy reference;
- iii) Instead of looking for precise or exact words that are categorised and listed for coding, this study codes words with equal or close meaning so as not to omit any important information;
- iv) Even though they also represent some form of useful communication medium, the coding process does not include any pictures, graphs or diagrams of any kind due to its nature of being highly subjective, which could bring multiple meanings;
- v) To code tabulated items, a sentence is represented by each row in the table. Finally;
- vi) Similar item disclosed more than once within the same sentence is counted (coded) once only. In other words, the same repetitive messages found in different sentence units will be counted separately (presence), whereas the same repetitive messages found within the same sentence will be counted once only (frequency).

4.6.3 Context units

Context units represent the passages in which the recoding units are set. For this study, the context unit is the MDA section in the annual report. This section is deemed suitable to be used in the study because it is “a narrative explanation, through the eyes of the management, of how your company performed during the period covered by the financial statements, and of your company’s financial condition and future prospects” (Canadian Securities Administrators, Form 51-102F1, Part 1(a), as mentioned in Guthrie et al., 2007).

4.6.4 Coding categories: themes and concepts

There are no single, particular universally accepted definitions and guidelines in categorising the suitable themes (or sometimes also referred to as concepts, indicators, or constructs). Boesso and Kumar (2007) highlight that an acceptable general framework on voluntary disclosure is not in place, therefore many researchers construct their own checklist to suit the requirements of their studies. In this case, Krippendorff (2004, p. 173) provides the guidelines in determining the analytical constructs by way of deriving them “from (1) existing theories or practices; (2) the experience or knowledge of experts; and (3) previous research”.

Steenkamp and Northcott (2007), and Kang and Gray (2009) suggest reference to prior researches and studies that have gained acceptance by other researchers to avoid inconsistency and ambiguity. For example, the study of voluntary intellectual capital disclosure by Guthrie and Petty (2000) was originally modified from the work of Sveiby (1997), has been adopted by many other researchers such as Brennan (2001), Abeysekera (2003), Bozzolan et al. (2003) and Goh and Lim (2004). The coding

categories adopted by Guthrie and Petty (2000) are illustrated in Table 4.10 below, whilst the modified version as used by Bozzolan et al. (2003) is shown in Table 4.11. It is also a pre-requisite to ensure that the coding scheme is unambiguous and provides clear definition that enables coders to follow instructions easily. The construction of a coding definition would definitely help reduce the subjectivity and possibility of misinterpretation. This will assist in increasing reliability where items will be coded in a similar fashion by different coders at any point of time (White and Marsh, 2006). Coding definition used in this study is attached in Appendix E.

In other development, Beattie and Thomson (2007) accumulate and list down comprehensively 128 sub-items nested within three main categories: human capital, structural capital and relational capital, that are proposed and used in various studies related to intellectual capital disclosures in annual reports. They argue that even then the list could be an exhaustive one because “intellectual capital is a broad concept” (Beattie and Thomson, 2007, p. 133).

This study follows Krippendorff’s second advice: to derive from the experience or knowledge of an expert. In this case, it will adopt the intangible asset’s Value Chain Scoreboard (which refers to ‘the fundamental economic process of innovation’, p. 110) proposed by Lev (2001) to come out with a more comprehensive list of intangibles-related framework for voluntary disclosure. Lev is concerned with the insufficient intangibles-related information made available for various stakeholders of companies. He emphasises more on the lack of disclosure on the employment of intellectual properties, the ability to generate and commercialise innovation and benefit from internet-based supply and distribution channels.

Table 4.10: Coding categories by Guthrie and Petty (2000)

<u>Internal (structural) capital</u>	<u>External (relational) capital</u>	<u>Human (competence) capital</u>
1. Intellectual property	12. Brands	21. Technical know-how
2. Patents	13. Customers	22. Education
3. Copyrights	14. Customer loyalty	23. Vocational qualification
4. Trademark	15. Company names	24. Work-related knowledge
5. Infrastructure assets	16. Distribution channels	25. Work-related competencies
6. Management philosophy	17. Business collaborations	26. Entrepreneurial spirit
7. Corporate culture	18. Licensing agreements	
8. Management processes	19. Favourable contracts	
9. Information systems	20. Franchising agreements	
10. Networking systems		
11. Financial relations		

Table 4.11: Coding categories* by Bozzolan et al. (2003)

<u>Internal structure (structural)</u>	<u>External structure (relational)</u>	<u>Human capital</u>
<i>Intellectual property</i>	2a. Brands	3a. Know-how
1a. Patents	2b. Customers	3b. Education
1b. Copyrights	2c. Customer loyalty	3c. Employees
1c. Trademark	2d. Distribution channels	3d. Work-related knowledge
<i>Infrastructure assets</i>	2e. Business collaborations	3e. Work-related competence
1d. Corporate culture	2f. Research collaborations	
1e. Management processes	2g. Financial contacts	
1f. Information systems	2h. Licensing agreements	
1g. Networking systems	2i. Franchising agreements	
1h. Financial relations		

*Contains 22 sub-items or attributes, modified from Guthrie and Petty's (2000) framework.

To justify the adoption of Lev's value chain as constructs for coding, this study highlights that the extant literatures on voluntary disclosure are mostly covering intellectual capital only. Whilst the term 'intellectual capital' is often exchangeable with intangible assets, intellectual capital is only a subset of intangible assets. Therefore, it will not be accurate and complete to use the confined (though broad) framework of intellectual capital to measure a much bigger and wider scope of intangible assets.

In addition to the above, Lev's proposal on the value chain received a positive feedback from a prominent figure in FASB, Wayne Upton (he was the senior project manager at the time he provided the feedback) who interpreted Lev's work as a great effort to compensate the lack of usefulness of traditional accounting and reporting that fail to recognise more intangible assets in the financial statements (Lev, 2001). Initially, Upton proposed three solutions to overcome issues in business reporting, as quoted in Lev (2001). The propositions proposed by Upton read as follows:

Proposition 1: Traditional financial statements focus on the entity's ability to realise value from existing assets and liabilities. Proponents argue that financial statements are largely backward looking. A new financial reporting paradigm is needed to capture and report on the entity's creation of value. This paradigm would supplement, or might replace, existing financial statements.

Proposition 2: The important value drivers in the new economy are largely non-financial and do not lend themselves to presentations in financial reports. However, a set of measures could be developed that would allow investors and creditors to evaluate entities and compare them with one another.

Proposition 3: The importance of intangible assets is the distinguishing feature of the new economy. By and large, existing financial statements recognise those assets only when they are acquired from others. Accounting standard setters should develop a basis for the recognition and measurement of internally generated intangible assets.

Upton agreed that Lev's value chain scoreboard matches with the second proposition.

Finally, considering that the first half of the study gives attention to the mandatory disclosure according to the financial reporting standards FRS 138, the second half of the study that focuses on voluntary disclosure should also be in line with the main objective of the study to cover on intangible assets.

Table 4.12 lists the intangible elements contained in Lev's (2001) value chain scoreboard, which will be adopted and used as indicators in the content analysis framework to investigate voluntary disclosure in annual reports. The adoption of Lev's value chain scoreboard to represent a complete cycle of intangible asset implementation in a company is also supported by Sveiby (2005). He, however, warns that measuring intangible assets using score cards has its disadvantage of being so new and thus is not easily accepted by societies, especially those who are more interested in looking at numbers and figures.

4.6.5 Weighting

The issue whether it is appropriate to assign a weight on each items of disclosure or not has been debated by many. Researchers such as Cooke (1989), Ahmed and Courtis (1999), Brennan (2001) and Goh and Lim (2004) opine that assigning weights will only increase subjectivity and might not reflect the samples that represent the true population. On the other hand, researchers such as Choi (1999), Boesso and Kumar (2007) and Guthrie et al. (2007) are of the opinion that by assigning weights appropriately (according to the importance or specificity of the disclosed items) may assist in understanding the motivation behind disclosure that entails company's confidence on the value of such items.

Table 4.12: Lev's (2001) coding categories in his intangible assets Value Chain Scoreboard

Discovery and learning	Implementation	Commercialisation
<u>Internal renewal</u>	<u>Intellectual properties</u>	<u>Customers</u>
1. Research & development	10. Patent, trademarks & copyrights	19. Marketing alliances
2. Workforce training & development	11. Licensing agreements	20. Brand values
3. Organisational capital, process	12. Coded know-how	21. Customer churn & values
	<u>Technological feasibility</u>	<u>Performance</u>
<u>Acquired capabilities</u>	13. Clinical tests, FDA approvals	23. Revenues, earnings & market shares
4. Technology purchase	14. Beta tests, working pilots	24. Innovation revenues
5. Spillover utilisation	15. First mover	25. Patent & know-how royalties
6. Capital expenditures		26. Knowledge earnings & assets
<u>Networking</u>	<u>Internet</u>	<u>Growth prospects</u>
7. R&D alliances & joint ventures	16. Threshold traffic	27. Product pipeline & launch dates
8. Supplier and customer integration	17. Online purchases	28. Expected efficiencies & savings
9. Communities of practice	18. Major internet alliances	29. Planned initiatives
		30. Expected breakeven & cash burn rate

The definition of each sub-items (coding categories) are attached in E.

Described below are some examples of weighting assigned to items of disclosure applied by researchers in their studies. Brennan (2001) and Goh and Lim (2004) provide the simplest (dichotomous) weighting to measure intellectual capital disclosure:

0 = if no disclosure
1 = if disclosed

Some researchers are of the opinion that items in the voluntary disclosure should be weighted to compensate the willingness (readiness) of the management to furnish the necessary information to its various stakeholders, which also indicates self-exposure to competitors and the high possibility of incurring proprietary cost. Assigning weight to

the disclosed items is a subjective matter and it cannot be said that there is only one correct way of doing it. The researchers therefore propose various ways to weight the importance of disclosures in their studies, which normally relate to a certain degree of quality of information; some examples are discussed below.

Bozzolan et al. (2003) assign the following weight on items of voluntary disclosure in their study:

0 =	no disclosure made
1 =	qualitative disclosure
2 =	quantitative disclosure

In the study of Guthrie et al., (1999) relative weight assigned to each disclosure is made based on more categories as follows:

0 =	no disclosure made in the annual report
1 =	disclosure is made in the form of narration
2 =	disclosure is made in the form of numerical
3 =	disclosure is made in the form of monetary value

Boesso and Kumar (2007) assign the following weights in their study, incorporating the element of time dimension (future and history) as proposed by Lev and Zarowin (1999) and Hooks, Coy and Davey (2002):

2 =	quantitative item as opposed to 1 = qualitative item
2 =	non-financial items as opposed to 1 = financial items
2 =	forward-looking item as compared to 1 = historical item

Finally, another example of weighting assigned to disclosure items is the one adopted in the study of Abeysekera and Guthrie (2005) where they penalise disclosure made on liability, as illustrated below:

-1 = if disclose of intellectual liability item
0 = if there is no disclosure made
1 = if disclose of intellectual asset item

This study is adopting the “frequency of issues mentioned” measure, which is more interested to look at the pattern or trend of disclosure and investigates on the type of information and the amount of information related to intangible assets disclosed in the annual report. There is no intention to investigate on the quality of information disclosed. Therefore, the adoption of a simple weighting is appropriate. The assigned weight for this study follows the study of Goh and Lim (2004):

0 = if no disclosure
1 = if disclosed

4.7 Size does matter

Two issues to be clarified here are the size of sample (how many companies to be taken as sample of study) and the size of the companies taken as sample (what size should be considered?). Both are interrelated to each other, as will be explained further as follows.

4.7.1 Size of study sample

Similar to the concept applied when assigning weight to the disclosure items, there is no one universal rule applied when deciding the appropriate size of samples for study under content analysis. Krippendorff (1980) once stated that a study of content analysis involving samples more than 12 will not provide any better or more accurate result.

Nevertheless, at that point of time he was referring to an analysis in newspapers' content. At a much later date, Kripperdorff (2004) opines that appropriate sampling should represent similar conclusion as with the whole set of population in the study, it therefore need not be big if it exhibits redundant properties. Due to the nature of this method that is labour-intensive and time-consuming, it is common in many studies to have a relatively small sample size, as summarised below in Table 4.13 below.

4.7.2 *Size of individual companies*

Size of company is an important determinant in a study related to voluntary disclosure (Gray et al., 1995). Researchers such as Chow and Wong-Boren (1987) and Eng and Mak (2003) signify that the level of voluntary disclosure is associated with size of company. In voluntary disclosure studies, the decision to have small numbers of study samples is always backed up by selecting big companies as samples. For example, Guthrie and Petty (2000) believe that big companies have more resources, capability and opportunity to become the industry leaders. Abeysekera and Guthrie (2005) opine that big companies are likely to possess more intellectual capital (or intangible assets), thus more disclosure is expected to be made. This is further supported by Vandemaele et al. (2005) and Guthrie et al. (2007).

Table 4.13: Studies on voluntary disclosures using content analysis

Author(s) / Country	Research objective(s)	Sample size	Selection criteria
Guthrie and Petty (2000) Australia	To better understand challenges in using knowledge management to report intellectual capital by big companies.	20 biggest companies	Market capitalisation
Brennan (2001) Ireland	To find out if book value and market value of Irish companies differ, and the extent of voluntarily disclosing intellectual capital assets to address this issue.	11 listed companies and 10 private companies	Knowledge-based companies (technology & people-oriented)

Bozzolan, Favotto and Ricceri (2003) Italy	To find out what is the amount and content of intellectual capital disclosure and what are the factors that influence different voluntary reporting behaviours.	30 randomly selected companies	Market capitalisation, sales and total assets
Goh and Lim (2004) Malaysia	To examine qualitatively and quantitatively the practice of disclosure on intellectual capital by top 20 profit-making companies.	20 biggest listed companies	Net profit
Boesso and Kumar (2007) Italy and USA	To find out what are other factors that motivate voluntary disclosure practices other than the needs of financial markets of companies.	72 companies, divided to those that received corporate communication award and those that do not	Number of employees
Guthrie, Petty and Ricceri (2006) Australia and Hong Kong	To assess the impact of size and industry on voluntary disclosure practices.	50 biggest, listed companies (Australia) & 100 companies (Hong Kong)	Market capitalisation
Whiting and Miller (2008) New Zealand	To examine the difference between firm's market and book value and its relationship with the extent and type of voluntary intellectual capital disclosure in the annual reports.	70 publicly listed companies	Industrial groupings: hi-tech and traditional
Yi and Davey (2010) China mainland	To examine the extent and quality of intellectual capital disclosure by companies with dual-listed A and H shares.	49 dual-listed companies	A-shares (domestic) and H-shares (foreign)

Logically, big companies should also have more initiatives in the area of financial reporting, with the purpose of strengthening confidence of investors, increasing brand awareness, enhancing reputation and warding-off surrounding competition. Big companies are thus able to disclose more information to stakeholders. In their studies, Abdolmohammadi (2005), Boesso and Kumar (2007) and Bruggen, Vergauwen and Dao (2009) have proven that as size becomes greater, more information is disclosed.

Since big companies represent the major portion of total disclosures altogether, excluding small companies that disclose less information will not give any influence to

the amount of disclosure as a whole. Again referring to Krippendorff (2004), if the appropriate sampling could represent a similar conclusion as with the whole set of population in the study, there is no need to have big study sample as it will only result in redundant properties. Abdolmohammadi (2005) provides his support by adding that ideally a content analysis study sample should be small enough to compensate the highly time-consuming process, but sufficient enough to perform statistical analysis.

So how is size measured as big? There are many ways size can be represented. Some studies on voluntary disclosures use total sales/revenue (Bozzolan et al., 2003) and total assets (Bruggen et al., 2009) as proxy to size of company, while most others use market capitalisation to determine the size of company (Guthrie and Petty, 2000; Abeysekera and Guthrie, 2005; Abdolmohammadi, 2005; Guthrie et al., 2007). On a different note, Bontis (2003) and Boesso and Kumar (2007) use number of employees but Yi and Davey (2010) go further by referring to class of shares on the stock exchange.

As for this study, since the issue of voluntary disclosure revolves around intangible assets, size of company is measured by looking at the portion of intangible assets to total assets in the balance sheet. This may better reflect how a company appreciates the existence of intangibles and their values within the company and the initiatives taken by the company to explain and educate their stakeholders on the importance of the intangibles.

Also in this study, a finalised sample size of 43 PLCs (or almost 15 per cent of the original total sample size of 290 PLCs) is appropriate, based on the calculation illustrated in Table 4.14. The process of sorting out and selecting final samples is made based on the following steps:

- i) Only PLCs that score 0.90 (or 90 per cent) and above in the disclosure indices will qualify for the content analysis. The rationale of selecting those with a score of 90 per cent or higher for the implementation practice of FRS 138 is to reflect only companies that are serious in complying with the financial reporting standards. Applying the criteria reduces the number of the sample from 290 to only 174 companies.
- ii) The remaining 174 samples are then sorted according to size of company, from the biggest to smallest size, determined by looking at the amount of intangible assets disclosed in the balance sheet as a percentage to total assets. The rationale behind selecting big companies has been discussed in detail earlier. Taking the proportion of intangible assets to total assets is deemed suitable, since this study is investigating the voluntary disclosure practice related to intangible assets.
- iii) Samples are selected based on the percentage of intangible assets to total assets of 10 per cent and above. This reduces the final sample to only 43 companies.

Table 4.14: Selection of samples for content analysis

1.	Total number of companies as original samples in study	290
2.	<u>Deduct:</u> Companies that score less than 90% compliance with FRS 138	116
3.	Remaining samples are then sorted based on descending order	174
4.	<u>Deduct:</u> Companies with less than 10% intangible asset to total assets	131
5.	Finalised sample for use in content analysis (approximately 15% of 290)	43

To recap, the objective of conducting the content analysis is to look at the types and amount of information on intangible assets disclosed in the annual reports, and this can

well be represented by big companies, but essentially, a small sample size is deemed sufficient.

4.8 Goodness of data

Sekaran (2003, p. 203) says, “We need to be reasonably sure that the instruments we use in our research do indeed measure the variables they are supposed to, and that they measure them accurately”. By this she is referring to the reliability and validity of measure that requires the adoption of appropriate instruments in this study. In the following sub-sections, the issue of validity and reliability is discussed.

4.8.1 Validity

“Any content analysis must be validatable in principle.” Krippendorff (2004, p. 39). The nature of content analysis entails much subjectivity, which reduces representativeness and generality. When conducting content analysis, the main concern is to be able to analyse the data that covers what the researcher is looking for in his/her study. Bryman (1988) and Silverman (1993) believe that the only way to ensure the question of validity is addressed properly is to go through a thorough and rigorous examination on the data and not depend only on selected samples before a conclusion is drawn. In other words, in order to have a valid representation of the data, all samples must be examined.

Nevertheless, further referring to Hammersly (1990, p. 57), he interprets validity as “the extent to which an account accurately represents the social phenomena to which it refers”. Applying his interpretation to this study, the sample size of 43 companies fulfils the requirement of the phenomena under investigation. To justify, before the sample

companies qualify for further investigation on their voluntary disclosures, it must be first ensured that they comply with the requirement of mandatory disclosure. Since one of the objectives of this study is to investigate the level of compliance with FRS 138, it is deemed useless to investigate the voluntary part of the disclosure when the mandatory requirement is neglected. The situation is similar to the road and transportation regulation: a person may know how to drive, but he/she will need to have a valid driving licence before he/she can drive a vehicle. In order to obtain a driving licence, he/she needs to obtain certain minimum marks in the driving test.

Once sorted out on the basis of a strong compliance level of 90 per cent and above, qualifying samples now stand at 174 companies. A further sorting is required, this time to extract those with insignificant amounts of intangible assets (of less than ten per cent as compared to total assets on the balance sheet) from the samples. Rationale for doing this: PLCs must possess a substantial amount of intangible assets to put in extra effort to disclose more information about them. Thus, final samples consist of 43 companies only. The process of sorting out companies based on the criteria explained above fits in Hammersly's (1990) description of "accurately represents the social phenomena" to ensure validity.

4.8.2 Reliability

The issue of reliability revolves around the accuracy, reproducibility and stability of methodology adopted (Krippendorff, 1980). Researchers need to be aware of potential biases that could emerge when analysing texts in content analysis.

Accuracy (the degree which an analysis conforms to a known standard), reproducibility (the procedures are replicable in the future under varying circumstances) and stability

(the ability to re-code the same data again in a consistent manner over a certain period of time) of this study have been duly taken care of, as the research design is adopted from extant literature on voluntary disclosure and the coding categories, together with the definition of each sub-items, based on Lev's (2001) value chain.

Accuracy of results has been tested by asking a colleague to conduct a separate content analysis on two of the sample annual reports of this study at different time intervals. The results of analysis were then compared with each other. It was found that the result did not reveal any significant differences. Therefore, it is opined that the result obtained from content analysis conducted in this study is accurate and reliable. The result of analysis on voluntary disclosure is used to extend and attest the existing Stakeholder theory adopted in Chapter Three in this study.

4.9 Regression analysis: preparing the data

The purpose of data analysis using statistical techniques in this segment is to test the hypotheses on the independent variables in order to identify which variables have influence the extent of compliance with FRS 138. Adopted from the studies on disclosures by Tower et al. (1999), Taplin et al. (2002), Haniffa and Cooke (2002), Street and Gray (2002) and Al-Shammari et al. (2008), the summary of all variables and the respective operationalisations or proxy are constructed as per Table 4.15 below:

Table 4.15: Dependent variables and the respective proxy

Category	Variables	Label	Operationalisation/proxy
Corporate governance variables	Non-executive directors	INDEPD	Number of independent non-executive directors over total number of directors on the board of the company
	Multiple directorship	MULTI	Number of directors holding multiple directorships over total number of directors on the board of the company
	Family members as directors	FAMILY	Number of family members who are directors over total number of directors on the board of the company
	Government shareholdings	GOVERN	The percentage of government shareholdings in the company over the total of top 30 largest shareholdings
	Insider shareholdings	DIRECT	The percentage of director shareholdings in the company over the total of top 30 largest shareholdings
Company-specific variables	Profitability	PROFIT	Earnings before tax over book value of equity
	Liquidity	LIQUID	Current assets over current liabilities
	Leverage	LEVLAG	Long-term debts over book value of equity
	Firm size	SIZE	lg(Total assets)
	External auditor	AUDIT	1 = Big4 Auditors; 0 = Non-Big4 Auditors
	Sector (Industry)	SECTOR	1 = Consumer, Industrial, Infrastructure, Properties, Technology, Trading/Services, Construction, Plantation, otherwise 0

4.9.1 Cell size distribution

According to Hair et al. (2006, p. 24), “unequal sample sizes among groups influence the results and require additional interpretation or analysis”. The rationale for pooling small industries is to increase the degree of freedom, to reduce further the issues of collinearity and multicollinearity and thus produce more efficient estimates and

inferences of the regression (Gujarati, 2003). Due to the small cell sizes (number of samples) for Consumer products (35 samples), Infrastructure (four samples), Properties (11 samples), Construction (11 samples) and Plantation (six samples), these five types of industries are grouped together and coded as “Consumers and others”, as illustrated in Table 4.16 above. The new structure of types of industry is thus simplified from eight groups to four groups, representing practically equal cell sizes of variables. The new combined group of industries is labelled as “COMBIN”.

Table 4.16: Grouping of industries to create equal cell sizes

Industry type <i>before</i> grouping (8 groups)	No. of samples	Industry type <i>after</i> grouping (4 groups)	No. of samples
Consumer products	35	Consumers and others	67
Industrial products	69	Industrial products	69
Infrastructure	4	Technology	73
Properties	11	Trading/Services	81
Technology	73		
Trading/Services	81		
Construction	11		
Plantation	6		
Total	290		290

4.10 Linear regression assumptions

Before an analysis is carried out, it is important that the data is explored and cleaned first to check for errors, inconsistencies, redundancies or missing values. Further to that, it is also important to ensure that the data fulfils the assumptions of a classical linear regression. There are four assumptions that must be qualified in prior to conducting analysis, namely, 1) the data must be at least of interval measure; 2) the data is normally

distributed; 3) the variances should be homogeneous throughout the data, and finally 4) data does not correlate with and explain each other. If these assumptions are not met, there is a possibility that the regression results may not be trustworthy.

4.10.1 Linearity

Linearity assumption can be tested using scatterplots of the variables, which is the easiest way to examine if there is any nonlinear characteristic. Other than the scatterplot, the normal probability plot or P-P can also be used to detect non-linearity.

4.10.2 Normality

This assumption of linear regression requires that variables are normally distributed. This is because non-normal data could distort the relationships and significance tests conducted on the variables. Variables that are not normally distributed can be detected from skewness or kurtotic shapes in the histograms (Field, 2009) or vertical bar chart (Malhotra, 2007). The general rule of thumb for assessing normality according to Hair et al. (2006), the distribution of data is considered normal if the value of skewness and kurtosis are within the range of (+/-) 2.58 (rejecting the normality assumption at 0.01 probability level); and (+/-) 1.96 (signifies a 0.05 error level). According to Kline (2005), a data is normally distributed if the measurement is +/-3.00 for skewness and +/-10.00 for kurtosis. Field (2009) states that the measurement of skewness and kurtosis depends on the sample size. "Large samples will give rise to small standard errors, and so when sample sizes are big, significant values arise from even small deviations from normality" (Field, 2009, p. 139).

Variables may also not be normally distributed if the data-plot and box-plot test conducted shows the existence of outliers. Normality test can also be conducted to detect outliers using the Kolmogorov-Smirnov (K-S) test. When applying the K-S test, if the significance level is greater than 0.05, then normality is assumed. Otherwise, there is non-normality in the distribution of the samples.

One possible reason for non-normality is the existence of sample data with large values. Sample data sometimes contains large values that might affect the calculation of the sample means (Field, 2009). In addition to that, Pallant (2004) states that it is quite normal to have K-S test significant and the null hypothesis is rejected (therefore non-normality exists) when examining a large samples.

Hair et al. (2006) state that normality assumption can be violated based on two dimensions: 1) the shape of distribution and 2) the sample size of data. According to Hair et al. (2006, p. 81) for sample size of 200 or more, “as the sample size become large, the researcher can be less concerned about non-normal variables, except as they might lead to other assumption violations that do have an impact in other ways (e.g., homoscedasticity)”. This is supported by the study of Tabachnick and Fidell (1996). Instead of assessing normality using a statistical test, Tabachnick and Fidell (1996) and Hair et al. (2006) further suggest that a visual observation of data be conducted on the graphical plots to determine the severity of non-normality of distribution.

4.10.3 Multicollinearity

The extent to which a variable can explain another variable is called collinearity. In the presence of two or more variables that correlate strongly with each other, multicollinearity exists. When multicollinearity exists, the interrelationships of the

variables result in difficulty in assessing and evaluating the effect of any single variable. Multicollinearity can be identified by way of examining the correlation matrix of the independent variables. This can be done using Pearson's correlation matrix and scatterplot of the continuous independent variables. As a rule of thumb, a correlation of 0.90 and above indicates a problem (Hair et al., 2006). The existence of multicollinearity may result in the value of the beta coefficient to be less trustworthy and the size of R^2 in the regression becoming limited (Field, 2009).

Other than Pearson's correlation matrix and scatterplot, the variance inflation factor (VIF) and tolerance statistic ($1/VIF$) are also of useful measurement of collinearity. The VIF explains the relationship between a predictor variable and other predictor(s) (Field, 2009). It is suggested that when the VIF is less than 10.0, and that tolerance for each of the variable is above 0.2, the problem of multicollinearity does not exist (Malhotra, 2007). In the existence of a strong correlation between variables, it is suggested that the variable with high collinearity be dropped or taken out of the data (Hair et al., 2006).

4.10.4 Equality of variance

Equality of variance, or normally referred to as homogeneity of variance or homoscedasticity, means "the variance of one variable should be stable at all levels of the other variable" (Field, 2009, p. 149), whereas, heterogeneity of variance or heteroscedasticity represents a situation where at some points the variance of a variable could be spread at different levels from other variables. To be more precise, Malhotra (2007) states that homogeneity or homoscedasticity assumes that the dependent variables exhibit equal levels of variance across the range of independent variables.

In order to test the equality of variance, the scatterplot graph and Levene's test can be used. The rule applied in conducting Levene's test is that if the result is significant at $p < 0.05$, the null hypotheses is rejected, thus the assumption of homogeneity of variables is breached (heterogeneity exists). On the other hand, if the equality of variance exhibits a significant result of $p > 0.05$, then the null hypotheses is accepted, thus homogeneity is assumed (Pallant, 2003). Other than Levene's test, heteroscedasticity can also be detected using the White's test, Breuch_Pagan Godfrey test, Park test or Glejser test (Gujarati, 2006).

There are many reasons that could be associated to the existence of heteroscedasticity. Heteroscedasticity may occur in the existence of outliers. Outliers can be detected by way of looking at large differences in the data. The existence of outliers can cause a model to be biased as it could produce a dramatic effect on the regression model chosen to fit the data, thus enlarging the residuals (Field, 2009). There are two common solutions to rectify the problem of outliers. First, the outliers can be detected and removed by examining the box-plot. This should be done with care, because by removing outliers that do not represent any observations in the population would only limit the generalisability of the analysis (Hair et al., 2006). Second, data is winsorised and truncated to eliminate the existence of extreme values. This option is claimed to be able to provide the largest reduction in mean squared error (Fuller, 1991) but again, as has been stressed by Hair et al. (2006), the decision must be done with due care to ensure generalisability.

Heteroscedasticity can also occur due to the presence of symmetrical or asymmetrical curves of the regressor included in the model (Hair et al. 2006). Normally this can be solved by way of transformation of data (Hair et al., 2006; Field, 2009). Transformation

can be done to the data and this can be in many ways: odds ratio transformation, log transformation, square root transformation, reciprocal transformation and reverse score transformation (Rivest, 1994). These transformation options are made easy to carry out with the use of statistical software.

One way of solving the issue of heteroscedasticity is by using the weighted least square regression (WLS). WLS involves the creation of a set of weights to be applied in the ordinary linear regression (OLS) to improve the efficiency of the OLS estimation (Willet and Singer, 1987). The weighting scheme performs to downplay the effect of isolated data points in the estimation process, therefore its function is as good as removing the outliers, resulting in a reduced deviation in standard errors and improved R^2 estimation.

4.11 Preliminary data analysis

In this study, each of the above issues and related solutions has been considered in order to meet the linear regression assumptions before analysing the data using multiple regression. The skewness and kurtosis of data exhibit non-normality, but still within the range suggested by Kline (2005), which is ± 3.00 for skewness and ± 10.00 for kurtosis. Other statistical tests such as the K-S test also show a non-normal distribution when conducted. Table 4.17 shows the result of a K-S test conducted on the dependent variables with a significant value of $p < 0.05$, thus breaching the linear assumption. However, it is crucial to note here that a large sample size could be significant in highlighting non-normality cases (Tabachnick and Fidell, 1996; Field, 2009). Therefore,

for this study, it is assumed that non-normality of data distribution is common and expected in large sample size of 290 companies.

Table 4.17: Test for normality of dependent variables.

	<u>Kolmogorov-Smirnov^a</u>			<u>Shapiro-Wilk</u>		
	Statistic	df	Sig.	Statistic	df	Sig.
LENIENT	.195	290	.000	.758	290	.000
STRICT	.117	290	.000	.968	290	.000

^a.Lilliefors Significance Correction

Following the suggestion of Tabachnick and Fidell (1996) and Hair et al. (2006), this study examines the normal P-P plot of regression of each variable, and where it is evident that the non-normality distribution of data is severe, transformation to logarithm (base 10) was done on the variables concerned. Also, transformation in the form of odds ratio is carried out on the dependent variables. As a result, one of the variables, LIQUID, that represents company liquidity is transformed into log base 10, whilst the dependent variable LENIENT compliance disclosure index is transformed into logarithm odds ratio.

When this was done, a total of 71 companies were eliminated from the samples due to the emergence of data with missing value, leaving only 219 companies ready for regression analysis. Even though the size of samples have reduced, referring back to the suggestions of appropriate sample size discussed in section 5.7 earlier, the maximum number of samples required is 220, according to Hair et al. (2006). Therefore, having 219 samples is still valid for representation and generalisation purposes. When re-checked for normality of data distribution for 219 samples, the data distribution after trimming down sample size has improved.

Tests were carried out to identify the existence of multicollinearity between the independent variables using both Pearson's correlation and VIF and tolerance statistic. The result shows that some of the continuous variables in this study are correlated to each other. However, when tested with the VIF and tolerance statistic, the result shows that each of the variables exhibits the VIF value of less than 10.0 and tolerance statistic of more than 0.2. Therefore, it can be concluded that the problem of multicollinearity does not exist in the data. The data, when regressed using the multiple regression analysis do not pose any threat to the model generated. The results of Pearson's correlation and VIF and tolerance statistics are presented in Tables 5.11 and 5.12 in Chapter Five.

Another test, the Levene's test was conducted in this study to determine if heteroscedasticity exists amongst the variables. This is confirmed further from the White's test carried out. The significant coefficient of the F-statistics also confirmed the existence of heteroscedasticity. Hair et al. (2006) suggest removing the outliers. In this study however, when data with high deviation were removed from the samples to eliminate outliers, the new findings did not differ much from the original findings. Transformation of data was also carried out, but when the newly transformed data was re-tested, the issue of heteroscedasticity can be fixed only for some data but not for the others.

Finally, the WLS approach is adopted. When data is regressed, there is a significant improvement in the results. This study therefore attended to the issue of heteroscedasticity by using WLS. The result is discussed further in Chapter Five.

4.12 Model development

When the data was made ready as discussed above, the development of equation for multiple regression analysis for this study was then constructed to test the hypotheses.

The general equation is as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \varepsilon$$

Where:

Y compliance disclosure index

α constant term

β coefficients

ε error term

For compliance disclosure that treats non-disclosed items in the financial statement as items not applicable to the company, adopting the general equation produces the lenient regression model as follows:

$$\text{LENIENT} = \alpha_0 + \beta_1 \text{INDEPD} + \beta_2 \text{MULTI} + \beta_3 \text{FAMILY} + \beta_4 \text{GOVERN} + \beta_5 \text{DIRECT} + \beta_6 \text{SIZE} + \beta_7 \text{PROFIT} + \beta_8 \text{LIQUID} + \beta_9 \text{LEVRAG} + \beta_{10} \text{AUDIT} + \beta_{11} \text{INDUST} + \beta_{12} \text{TRDSVC} + \beta_{13} \text{COMBINE} + \beta_{13} \text{TECHNO} + \varepsilon$$

On the other hand, for compliance disclosure that penalises non-disclosed items in the financial statement and regards them as non-compliant, the strict regression model is as follows:

$$\text{STRICT} = \alpha_0 + \beta_1\text{INDEPD} + \beta_2\text{MULTI} + \beta_3\text{FAMILY} + \beta_4\text{GOVERN} + \beta_5\text{DIRECT} + \beta_6\text{SIZE} + \beta_7\text{PROFIT} + \beta_8\text{LIQUID} + \beta_9\text{LEVRAG} + \beta_{10}\text{AUDIT} + \beta_{11}\text{INDUST} + \beta_{12}\text{TRDSVC} + \beta_{13}\text{COMBINE} + \beta_{13}\text{TECHNO} + \varepsilon$$

4.13 Summary

This chapter discusses on the appropriate methodology and methods for this study. The use of disclosure index is suitable to explain the Agency theory that resides within the Positive Accounting research. Investigation is conducted empirically with the application of hypothetico-deductive methodology as discussed in detail above. This study then proceeds with content analysis to understand the voluntary disclosure patterns in the annual reports, in accordance to the Stakeholder theory. Finally, this study also tests the suitability of the determinants of compliance with FRS 138 using statistical techniques. Some of the data were found not to be normally distributed, therefore alternatives were taken to prepare the data regression. This study adopts content analysis in its quantitative form, as it aims to examine the types and frequency of disclosure, not the quality of disclosure, which is more subjective. Therefore, this study remains a positive accounting research. In the next chapter, the results of data analysis conducted in each segments of this chapter are presented and explained in detail.

CHAPTER FIVE

RESULTS AND DISCUSSIONS

5.0 Introduction

The previous chapter discussed the methodology and methods to be used to measure the level of implementation of FRS 138, the determinants of compliance and also explored further on the voluntary disclosure on intangibles-related activities. Two models were developed to investigate the implementation practices of FRS 138 amongst the Malaysian PLCs. They are termed as LENIENT implementation and STRICT implementation. Disclosure indices were calculated from the scores of these two models. Results were obtained on the implementation practices related to intangible assets governed by the FRS 138. This study extends further its investigation beyond the mandatory disclosure requirement by using content analysis to find out what type of information is normally disclosed and how extensive is the disclosure made on free wills. Finally, the LENIENT and STRICT disclosure indices above become the dependent variables and regressed with a set of independent variables using the multiple linear regression technique, the determinants that influence the implementation practice of FRS 138 are identified.

This chapter provides discussions of the results. Section 5.1 provides the details of intangible assets that appear on the face of the financial statements of Malaysian PLCs in a glance. Then in sections 5.2 the results of investigation on implementation of FRS 138 are discussed in detail. Continuing from there, the types and amount of voluntary disclosure in the annual report are discussed further in section 5.3. This is then

continued with section 5.4 on the discussion on the result of regression to identify the determinants that influence the implementation of FRS 138.

5.1 Data observations

Analysis was carried out on 290 companies of various sizes and industry backgrounds that are listed on the Main Market and ACE Market of the Bursa Malaysia. Any company listed on the bourse may qualify as a sample, provided it owns at least one type of intangible asset which meet the requirement of FRS 138. Banks, financial institutions insurance and other finance-related companies are nevertheless excluded from the study due to the different treatment and approach adopted in the preparation of their financial statements. A summary of the selected sample details based on type of industry and proportion of intangible asset and its value are as per Table 5.1 and 5.2.

Table 5.1: Types of industry, number of samples and intangible assets proportion

Industry	No. of samples	Percentage of samples (%)	Intangibles (RM million)	Percentage of intangibles (%)
Trading/Services	81	27.93	21,042.59	72.67
Infrastructure	4	1.38	4,469.99	15.44
Industrial	69	23.80	1,719.98	5.94
Technology	73	25.17	531.02	1.83
Consumer	35	12.07	520.16	1.80
Plantation	6	2.07	346.12	1.20
Construction	11	3.80	279.89	.97
Properties	11	3.80	46.56	.16
TOTAL	290	100.00	28,956.31	100.00

Overall, total intangible assets denote 5.34 per cent of total assets of all 290 companies. Table 5.1 shows that although small in number of sample (of only four companies), the infrastructure sector represents one of the biggest portion of intangible assets, at 15.44 per cent of overall intangible asset value for all samples. The types of intangibles that contribute significant portion of intangible asset in the infrastructure sector include project development expenditure on rehabilitation and refurbishment of water treatment systems, development expenditure on highways and expressways and also licences for 3G spectrum and related computer software for telecommunications networks. On the contrary, the technology sector that comprises 73 samples represents intangible assets at a value of only 1.83 per cent of the total. Intangible assets related to the technology sector mainly comprises of computer software, management systems and product development expenditures. The biggest portion of intangible assets resides within the Trading/Services sector at 72.67 per cent, involving various types of rights and licenses, patents and trademarks, as well as intellectual properties.

Table 5.2: Type of intangible asset and its value in Malaysian Ringgit

Intangible asset	RM million	Proportion (%)
Rights – various types of rights	19,364.68	66.88
Development expenditure	4,655.03	16.08
Licences and franchises	2,660.55	9.19
Patents and copyrights	859.93	2.97
Computer software	632.52	2.18
Brands and trademarks	341.11	1.18
Intellectual property	214.93	0.74
Mastheads and publishing titles	115.00	0.40
Formulas, recipes, models, portfolios	87.25	0.30
Royalties	25.31	0.09
TOTAL	28,956.31	100

Referring to Table 5.2, when analysed individually, rights represent almost 67 per cent of the total intangible assets. Type of rights observed include gaming rights, mining rights, maritime charter hire contracts, land use rights, marketing rights and concession rights. The second largest intangible asset group is the development expenditures, which are mainly segregated into product development, information, communications and technology (ICT) related software, and service management for data centres. Meanwhile, the third largest intangible asset group is made up of operating licences and franchise fees, such as e-learning products, mining and mineral exploration and fast food restaurants. On the other hand, intellectual properties, mastheads and publishing titles, formulas, recipes, models, portfolios and royalties represent only 1.53 per cent of the total intangible assets, this group of intangible assets are acquired in business combinations.

5.1.1 ‘Boilerplate’ descriptions

Most sample companies in this study tend to adopt the ‘boilerplate’ descriptions⁵ to explain their significant accounting policy in the Notes to the Financial Statements. Since the accounting policy of a company cannot be changed without a strong justification and reasoning (in accordance to IAS 1 *Presentation of Financial Statements*), it was found that similar accounting policy was disclosed in the annual report each year and that there has rarely been any changes made to it for many years. Several sample companies in this study were found to have copied the exact wordings of their accounting policies straight from the standard (in this case, the FRS 138) because they do not foresee that their accounting policies will change. Nevertheless, the

⁵Boilerplate description = standard legal language, often in fine print, used in most contracts, wills, indentures, prospectuses, and other legal documents that can be reused over and over without change (retrieved from <http://www.allbusiness.com/glossaries/boilerplate/4952051-1.html>)

use of boilerplate description to explain the accounting policy provides limited insight into the accounts preparer's disclosure practice, because the description was prescribed as general guidelines by someone else (the IFRS) rather than the company itself, therefore does not fit in well with the real business practice.

In this study, because of the ease of adopting the boilerplate description in the accounting policy, two sample companies were found to have disclosed irrelevant policies that they did not actually apply in practice. The IAS 1 states that a company's accounting policy is prepared to assist users of accounts to understand the financial statements that reflect what is practised in the company. Therefore, unnecessary accounting policy might obscure the messages conveyed to the users of accounts. Ideally, an individual company should be able to produce its own disclosure model in the annual report to justify the differences in nature and extent of judgements and estimates that management may make within the company's financial statements. An example of a boilerplate description adopted in the accounting policy is as shown in Figure 5.1 below. Similar descriptions can be found contained within the significant accounting policy of more than half of the sample companies.

Figure 5.1: Example of a boilerplate description in the annual reports of sample PLCs

<p>Intangible Assets</p> <p>Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair values as at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses. The useful lives of intangible assets are assessed to be either finite or indefinite. Intangible assets with finite lives are amortised on a straight-line basis over the estimated economic useful lives and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method for an intangible asset with a finite useful life are reviewed at least at each balance sheet date.</p> <p>Intangible assets with indefinite useful lives are not amortised but tested for impairment annually or more frequently if the events or changes in circumstances indicate that the carrying value may be impaired either individually or at the cash-generating unit level. The useful life of an intangible asset with an indefinite life is also reviewed annually to determine whether the useful life assessment continues to be supportable.</p>
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By avoiding from using the boiler plate description to explain the company's accounting policy may assist the company in providing a more meaningful disclosure of its intangible assets and also prevent ambiguity and confusion when such information is used for decision making purposes.

5.2 The level of implementation of FRS 138

Following Street and Gray's (2002) recommendation, the self-constructed compliance checklist is segregated into two independent sub-categories, namely: the recognition and measurement checklist and the disclosure checklist. This is due to the fact that the level of implementation may not be similar between them. In addition to the two sub-categories checklists, another checklist is computed based on the overall implementation scores of recognition and measurement checklist and disclosure checklist. Table 5.3 reports on the frequency distribution of LENIENT implementation scores and STRICT implementation scores, each divided into three categories: the implementation of recognition and measurement, the implementation of disclosures and the overall implementation of FRS 138.

A calculation based on LENIENT implementation score reveals that 281 or almost 97 per cent of sample companies scored 90 per cent and above for recognition and measurement implementation requirement. However, only 69 companies that represent about 24 per cent of the total sample scored 90 per cent and above for disclosure implementation requirement. As a matter of fact, ten companies reside at the lowest tier of 20 per cent or less for disclosure implementation. When looking at the overall result of level of implementation of FRS 138, 174 companies or 60 per cent of the sample

scored above 90 per cent of the level of implementation, whilst another 86 companies that represent about 30 per cent of the sample scored between 81 and 90 per cent.

Table 5.3: Frequency distribution of level of implementation of FRS 138

Implementation Disclosure index	LENIENT implementation scores			STRICT implementation scores		
	CRM	CDR	COM	CRM	CDR	COM
0.00 – 0.20	1 0.34%	10 3.45%	0 0.00%	3 1.03%	186 64.14%	20 6.89%
0.21 – 0.30	0 0.00%	3 1.03%	0 0.00%	15 5.17%	90 31.03%	113 38.97%
0.31 – 0.40	0 0.00%	2 0.69%	2 0.69%	116 40.00%	10 3.45%	130 44.83%
0.41 – 0.50	0 0.00%	14 4.83%	2 0.69%	102 35.17%	4 1.38%	26 8.97%
0.51 – 0.60	1 0.34%	15 5.17%	3 1.03%	49 16.90%	0 0.00%	1 0.34%
0.61 – 0.70	1 0.34%	12 4.14%	5 1.72%	5 1.72%	0 0.00%	0 0.00%
0.71 – 0.80	2 0.69%	73 25.17%	18 6.21%	0 0.00%	0 0.00%	0 0.00%
0.81 – 0.90	4 1.38%	92 31.72%	86 29.66%	0 0.00%	0 0.00%	0 0.00%
0.91 – 1.00	281 96.89%	69 23.79%	174 60.00%	0 0.00%	0 0.00%	0 0.00%
Total (N)	290 100.00%	290 100.00%	290 100.00%	290 100.00%	290 100.00%	290 100.00%
CRM: Implementation of the recognition and measurement requirement of FRS 138. CDR: Implementation of the disclosure requirement of FRS 138. COM: The overall implementation of FRS 138. LENIENT implementation scores: Items not applicable (NAP) in the checklist is dropped from calculation of score. STRICT implementation scores: Items not applicable (NAP) is considered as fail to implement, thus penalised in the calculation.						

On the other hand, when calculating STRICT implementation scores, the highest score for recognition and measurement was between 61 and 70 per cent and this represents

only five companies, or 1.72 per cent of the total sample. 116 companies or 40 per cent of samples scored between 31 and 40 per cent, whilst 35 per cent, or 102 companies, reside in the 41 to 50 per cent tier. Disclosure implementation score reveals an extreme result with 186 companies representing more than 64 per cent of the samples scoring at the lowest tier of 20 per cent or less. The overall implementation result also shows a very low extent of compliance, with only one sample company scoring the highest between 51 and 60 per cent.

5.2.1 Recognition and measurement requirement

The result of recognition and measurement implementation for 290 PLCs listed on the Bursa Malaysia in 2008 indicates a higher score for LENIENT implementation as compared to STRICT implementation of FRS 138. Apparently, due to the leniency on the treatment of non-applicable items in the LENIENT model, more than 96 per cent or 281 PLCs scored between 90 per cent and 100 per cent on the implementation of FRS 138. The high level of implementation of FRS 138 is consistent with the importance of disclosing valuable information to interested parties outside the companies for various reasons, such as reducing the cost of capital (Botosan, 1997), increasing analysts' ranking to attract potential investors (Hope, 2003; Amir, Lev and Sougiannis, 2003) and portraying good brand image of the company, thus creating value relevance of intangibles (Holland, 2001).

In a Malaysian study, Abdul Rashid et al. (2009) suggest that Malaysian PLCs comply with the financial reporting standard possibly to attract potential investors into the company to obtain the required fund for business expansion or other strategic planning. Abdul Rashid et al. (2009) also put forward the idea that accounts preparers are merely complying with FRS 138 because it is mandatory to do so without being able to

appreciate much of the impact that it brings to the company. Their argument helps explain the result of STRICT compliance model where, due to lack of knowledge and awareness on the importance of intangible assets, poor implementation level is evidenced in the STRICT implementation model. Examples of poor implementation of FRS 138 by the Malaysian PLCs are attached in Appendix F. An analysis on the individual items stipulated within the recognition and measurement section of the FRS 138 reveals the following findings as per Table 5.4:

Table 5.4: Highlights on the implementation practice of recognition and measurement section of FRS138.

Recognition and measurement	About 61 per cent of the sample companies obtained their intangible assets by way of separate acquisition, whilst 21 per cent developed their intangible assets internally through R&D activities, and another 16 per cent of the companies acquired their intangible assets through business combination. Details of method of acquisition are as illustrated below.
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Method of acquisition of intangibles

Method of acquisition	N	%
Separate acquisition	176	60.70
Business combination	46	15.86
Government grant	3	1.03
Exchange of assets	1	0.35
Internally generated*	61	21.03
Unknown sources	3	1.03
Total companies	290	100.00

**Arising from R&D activities*

Internally generated goodwill	None of the companies recognise internally generated goodwill as intangible assets.
Internally generated intangible assets	There were about 158 companies (54 per cent) that claimed they had incurred some amount of expenditure to generate future economic benefit in the creation of an internally generated intangible asset. However, out of this amount, 131 companies (83 per cent) could not distinguish the expenditures either at research phase or at the development phase, therefore treated them as research expenditures (expensed in the income statement).

Measurement after recognition	285 companies (98 per cent) continued adopting the cost model in the subsequent year after acquisition, whilst only 5 companies (1.8 per cent) adopted the revaluation model. Companies choose to continue with cost model most probably because either there is no available market for their intangible assets to be re-valued at fair value, or, if there is a market for the intangible assets, it is not easy to determine the fair value of the assets.
Useful life assessment	278 companies (96 per cent) made an assessment on the useful life of the intangible assets to classify them as either finite or indefinite, whilst another 12 companies (4 per cent) did not mention anything at all about useful life on the assessment.
Amortisation method	Most of the companies that classified their assets as having finite useful life allocated the straight line method as a systematic basis to calculate the depreciable amount over the useful life of the assets. The amortisation charges for each year were then recognised as expenses in the income statement.
Residual value of assets	All sample companies have their intangible assets' residual value as zero and none of them expect to dispose the intangible assets earlier than their useful lives.
Review of useful life, period and method of amortisation	All but three companies stated in their annual report that they made annual revision on the useful life of their intangible assets, as well as amortisation period and method.
Indefinite useful life	214 sample companies (74 per cent) carried out an annual review on the impairment of assets with indefinite useful life, whilst five others did not mention anything on the impairment tests.
Impairment loss	Only 17 companies (6 per cent) recorded impairment losses in their financial statements. The rest of the companies did not recognise any excess of the carrying amount over recoverable amount of their intangible assets.
Retirements, disposals and replacements	Two companies (0.7 per cent) recognised gains/losses arising from de-recognition of assets. None of the PLCs identified the cost of replacement for the new intangible assets.

5.2.2 Disclosure requirement

For both LENIENT and STRICT implementation models, disclosure section shows lower scores compared to the recognition and measurement section. The scores for implementation of LENIENT model are distributed between 0.00 and 1.00. This indicates the existence of sample PLCs with perfect score for implementation and also extreme cases of PLCs not implementing FRS 138 at all. Nevertheless, more companies reside at the higher tier of the score, compared to the lower tier. On the other hand, the level of disclosure implementation for the STRICT model is far lower, with a maximum score only at tier 41 to 50 per cent. None of the samples scored a 100 per cent on the overall implementation of FRS 138. The largest portion of the samples resides at the tier of 20 per cent and less. The result above may provide some possible explanations on the implementation practices amongst sample PLCs. A company may assume disclosures can be made in any permissible format as long as the information is disclosed to the users of accounts. What the company does not realise is the amount of information disclosed is insufficient, resulting in decision making a difficult and probably inaccurate process. Nevertheless, the insufficient information provided could also lead to another possible explanation on the company's intention. The company may intentionally disclose less information so as not to expose itself to rival companies. If it involves some new discovery or technological advancement on the product, companies are especially aware that rivals can outperform them overnight.

An analysis on the individual items stipulated within the disclosure section of the FRS 138 reveals the following findings, as per Table 5.5 below.

Table 5.5: Highlight on the implementation practice of disclosure section of FRS138

General disclosure	Overall, more than 250 companies (86 per cent) disclosed the required information on the useful life of assets, amortisation rate, amortisation methods, gross carrying amount and accumulated amortisation and impairment in the annual reports. The remaining 40 companies (14 per cent) failed to disclose sufficient information related to the above.
Amortisation amount in statement of comprehensive income	All companies that amortised their intangible assets disclosed the amount in the statement of comprehensive income. Unfortunately, most companies did not make a separate disclosure solely for intangible assets; instead, the amortisation amount that appeared in the statement of comprehensive income consisting of combined expenses arising from more than one type of asset. As for computer software, several companies disclosed in the notes to the account that the acquisition of this intangible asset were included as part of Property, Plant and Equipment, thus related amortisation expenses were included in the depreciation expenses. Other than that, eleven companies did not indicate whether their assets are being amortised or impaired, and that there was no evidence of disclosing any amount in the statement of comprehensive income.
Additions, disposals, revaluations, impairment losses, other changes	The most common practice that companies made was to disclose on the new acquisition (addition) of intangible assets during the year but failed to specify which type of intangible assets have been acquired (trademarks, brands, distribution licences) and how they were acquired (separate acquisition, business combination and so forth). As a result, only 44 companies (15 per cent) complied with the requirement of FRS 138.(118).(e).(i) and FRS 138.(119). Another 185 companies failed to provide the details as required.
Impaired assets in accordance to FRS 136 Impairment of Assets	All but three companies (1 per cent) disclosed relevant information on impairment in accordance to FRS 136.
Other disclosure requirements	Other disclosure requirements stipulated in FRS 138 (122)(c) to 124(c) were mostly not applicable to all sample companies, except for 1) the disclosure of information on intangible assets acquired by government grant which all three

companies complied; and 2) the disclosure of aggregate amount of research expenditure recognised as expense during the period, fully complied by all related companies.

5.3 Content of annual report analysed

The objective of conducting a content analysis on the annual reports of sample PLCs in this study is to investigate further the trend of disclosure beyond what has been made compulsory to these companies. It is useful to examine the voluntary disclosure made on intangible assets because not all information on intangible assets can be recorded in the financial statements. In other words, the study result on the implementation of FRS 138 is further extended and supported by the result obtained from content analysis for voluntary disclosure.

This section discusses the result obtained from the observation made on the type and amount of voluntary disclosure made in the annual reports. This study uses the result to extend the Stakeholder theory. Due to limited studies on voluntary disclosure made in relation to intangible assets, this study refers to literature on intellectual capital as guidance but takes precautionary steps not to depart from the original research objectives.

5.3.1 General findings

Most of the voluntarily disclosed information published in the annual reports of PLCs is discursive in nature instead of numerical, except for the disclosures made on revenue, earnings and market shares.

Table 5.6: General descriptive statistics of data set

Number of sample companies	43
Number of incidents reported per company on average	42
Minimum number of sentences covered for any one company	12
Maximum number of sentences covered for any one company	367
Minimum number of intangible sub-items reported for any one company	3
Maximum number of intangible sub- items reported for any one company	18

Table 5.6 above illustrates management's voluntary initiatives to disclose some aspects related to intangible assets employed within the company. It is obvious that the management are aware of the importance of intangible assets and are willing to have further discussion about it in a separate report, although some may have indicated their action to convey important messages to their stakeholders as a 'loose' commitment by way of disclosing the information as minimum as possible. This is evidenced by the report and coverage of some aspects of their intangible assets in the annual reports, as the amount of items reported varies significantly from one company to another. Some examples are discussed as follows.

A company that reported the most on its intangible assets was a company from the trading and services sector. The company covered 16 out of 30 sub-items listed on Lev's value chain scoreboard in its annual report. Its intangible assets, such as gaming rights and trademarks to name a few, comprised of about 30 per cent of its total assets. Its annual report contained an abundance of discussion related to alliances and joint ventures, licensing agreements, brand values, market shares, marketing alliances, revenues and planned initiatives.

The company that came next was another company domiciled in the trading and services sector. In contrast to the former, the latter company disclosed a lot of information about its investment on capital expenditure: brand values, revenue earned, product pipelines and launch dates. The company's intangible assets, most of it comprised of licensing rights that built up to 19 per cent of its total assets as a whole.

A company from the infrastructure sector ranked in third place and covered more on R&D activities on the rehabilitation & refurbishment of a water treatment system, R&D alliances and joint ventures, organisational processes, and was one of the twelve companies that disclosed the strategy of becoming the first mover in its industry. 45 per cent of this company's total assets were intangibles.

The least information on intangible assets disclosed in the annual report was by a company from the technology sector, which had 13 per cent of its total assets as intangibles. It covered only on six sub-items of intangibles from Lev's value chain scoreboard which were mostly concerned with brand values and revenue earned. Another two more companies from the technology sector followed, with no mention at all on any of the intangible sub-items under the implementation indicator. These two companies had about 12 per cent and 11 per cent intangible assets to total assets respectively. Most of the disclosures made were related to customer churn and values.

Referring to Table 5.7 below, it is obvious that companies from technology sector disclosed less information as compared to other industries. The possible reason for this trend is that technology-based companies, especially those that are listed under the ACE market, are mostly new and young players in the market. As a matter of fact, companies

from trading and services sector filled up four of five highest ranks of most disclosed intangibles-related information.

Table 5.7: Industry background and types of disclosures

Rank	Industry / background	Three sub-items mostly disclosed
Top three companies with the most disclosure on intangible asset		
1	Trading/Services	Licensing agreements Marketing alliances Planned initiatives
2	Trading/Services	Capital expenditures Product pipelines and launch dates Planned initiatives
3	Infrastructure	Research and development R&D alliances Organisational processes
Bottom three companies with the least disclosure on intangible assets		
1	Technology	Customer churn and values Planned initiatives R&D activities
2	Technology	R&D activities Customer churn and values Organisational processes
3	Technology	Customer churn and values Online sales Expected efficiencies and savings

The relationship between the company and third party can be in the form of joint venture, partnership or alliances, hence is also valuable to the business. In Lev's value-chain scoreboard, such alliances and joint ventures are regarded as intangible assets that could not be recorded or expressed numerically in the financial statements; instead, the bonding and cooperation are being elaborated through voluntary disclosures. One common finding in all PLCs is that, irrespective of industry background and types of intangibles possessed, these companies disclosed almost similar casual references for

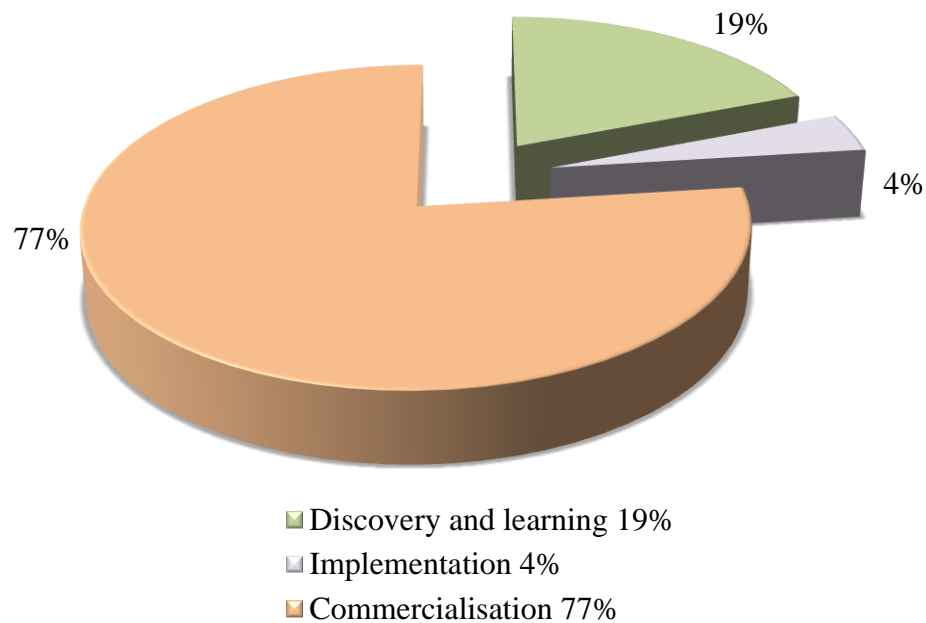
their employees, business partners, suppliers, customers and other stakeholders somewhere within the annual reports to indicate gratitude and appreciation to those who have cooperated and contributed towards the success of the company. This finding is similar to the study of Guthrie et al. (2007) who study intellectual capital reporting of a list of companies from Hong Kong and Australia. Such an example is shown below:

“We thank the Board of Directors and employees of the Group for their invaluable contributions, dedication and commitment. In addition, we would like to express our sincere gratitude to our customers, suppliers, business associates, bankers and most importantly, our shareholders for their continued support and loyalty”.

5.3.2 Observation at the level of indicators

Looking at the trend of disclosure as presented in Figure 5.2 below, most PLCs scored highest at the final (third) phase of the business life cycle, at the commercialisation indicator. This indicator represents 77 per cent of the total scores, mainly describes in detail on the performance and achievement of the company throughout the year, emphasising on revenues earned and market shares and new products in the pipeline. This is an obvious pattern of reporting business-end results. This sort of information is probably the one most sought after by investors, bankers and lenders who are interested to find out on the return on investment of the company and what the company has in store for each of them. The stakeholders may be eager to know if the company has any action plan to improve future performance, for example, the expected efficiencies and savings from effort carried out within the company and the initiatives taken up to boost up future growth. Some companies took proactive action in reporting these items to their stakeholders in order to secure their financial position in the future (Yi and Davey, 2010).

*Figure 5.2: Voluntary disclosure on intangible assets.
Descriptive statistics at category (indicator) level*



On the other hand, very few of these companies gave higher priority to the early (first) stage of the intangible life cycle, namely at the discovery and learning indicator, with only 19 per cent of the total scores coming from this segment, mostly boasted by R&D carried out and its related activities. They also tried to reflect continuous improvement in the operation of business by disclosing information on capital expenditure spent and expected benefit that could be reaped from such investment.

The implementation indicator or the second/middle phase of the life cycle scored the lowest, covering only 4 per cent of the total scores. 20 companies did not disclose anything at all on sub-items under the implementation indicator. This may have something to do with the management strategy of being reluctant to disclose more information to avoid exposing too much information to rivals and incurring proprietary costs. Companies may shun from disclosing what transpired behind closed doors

because they have plans to introduce new products into the market first before their rivals, or perhaps they are trying to conceal information on what they are working on from leaking out.

The above findings discussed resemble the result of intellectual capital study of Abeysekera and Guthrie (2005) on top 30 companies listed on the Colombo Stock Exchange, Sri Lanka, where they concluded that most companies tend to focus more on reporting performance and core competencies (which equals to the commercialisation indicator with sub-items consisting of customers, performance and growth prospects in this study). In providing voluntary information to the stakeholders, they have given less attention to the internal processes and inputs (which is equal to implementation indicator in this study with sub-items consisting of intellectual properties, technological feasibility and the internet). Abeysekera and Guthrie (2005) conclude that intellectual properties still lack the necessary attention due to low level of awareness on the importance of intellectual capital and that there is no regulatory framework put into effect what and how much to disclose.

5.3.3 Observation at the level of sub-items

From the result shown in Table 5.8 below, the most popular sub-items on disclosure are revenue, earnings and market shares. All companies reported at least once on these sub-items. The possible reason for disclosing such item is to educate and update their stakeholders on the operation of the business run and what the return is on investment offered to the stakeholders.

Table 5.8: Frequency of reporting specific sub-items

Indicator: Discovery and learning (Phase 1)	Incidence	<u>Technological feasibility</u>	Incidence
Sub-items:		13. Clinical tests, FDA approvals	0
<u>Internal renewal</u>		14. Beta tests, working pilots	1
1. Research & development	94	15. First mover	15
2. Workforce training & development	25	<u>Internet</u>	
3. Organisational capital, process	31	16. Threshold traffic	2
<u>Acquired capabilities</u>		17. Online purchases	0
4. Technology purchase	13	18. Major internet alliances	0
5. Spillover utilisation	8	Indicator Commercialisation (Phase 3)	
6. Capital expenditures	49	Sub-items:	
<u>Networking</u>		<u>Customers</u>	
7. R&D alliances & joint ventures	89	19. Marketing alliances	56
8. Supplier and customer integration	43	20. Brand values	419
9. Communities of practice	1	21. Customer churn & values	69
		22. Online sales	14
		<u>Performance</u>	
Indicator: Implementation (Phase 2)		23. Revenues, earnings & market shares	604
Sub-items:		24. Innovation revenues	43
<u>Intellectual properties</u>		25. Patent & know-how royalties	1
10. Patent, trademarks & copyrights	6	26. Knowledge earnings & assets	4
11. Licensing agreements	12	<u>Growth prospects</u>	
12. Coded know-how	0	27. Product pipeline & launch dates	70
		28. Expected efficiencies & savings	29
		29. Planned initiatives	72
		30. Expected b-even & cash burn rate	4

Table 5.8 also indicates that none of the sample companies disclosed any information on the clinical tests taken to perfect or improve their products, most probably because it is classified as sensitive information and is highly confidential. Instead, there are claims that they are the pioneer in exploring something new. For example, Company A claimed to be the first to explore a niche market in Asia that will increase sales; Company B claimed to be adopting a new technology no other company has used before; Company C found a new way of curing and preventing a particular disease, and so on.

Most of the reporting on intangible sub-items is expressed in narrative form, except for sub-item “revenues, earnings and market share” which often took numerical and monetary forms. All companies disclose at least once on brand awareness and brand

building. This is similar to the finding in the study of Goh and Lim (2004) and Abeysekera and Guthrie (2005) who report that the most disclosed sub-item in the external category of intellectual capital is ‘brand building’. It is posited that by doing so could increase brand awareness amongst the public and potential clients and thus increase market share within the industry as well. The third most published/disclosed item is on the research and development activities undertaken within the companies in relation to their products. Companies race to improve existing product or introduce a new product into the market to beat off competition and become leader in the industry. (Summary of the top five mostly reported items are shown in Table 5.9 below).

Table 5.9: Top five mostly reported intangibles-related items

Rank	Element reported	From category	Explanatory power
1	Revenues, earnings and market shares	Commercialisation (<i>performance</i>)	33.4%
2	Brand values	Commercialisation (<i>customer</i>)	23.2%
3	Research and development	Discovery and learning (<i>internal renewal</i>)	5.2%
4	R&D alliance and joint venture	Discovery and learning (<i>networking</i>)	4.9%
5	Planned initiatives	Commercialisation (<i>growth prospects</i>)	4.0%

Surprisingly, none of the 43 sample PLCs mentioned anything about online purchases and major internet alliances, even though globalisation and innovation also means having contacts and networking and providing services through sophisticated communications that could cover wider geographical areas and reach more potential customers in a much faster and cheaper way.

R&D activities are highly regarded as vital to generate economic growth. Most companies from the technology sector have at least one type of R&D activity, such as software design, product innovation or industrial management and services systems. In line with R&D progress, more companies have entered into agreements with their business partners and/or alliances and form joint ventures or collaborative arrangements from local and overseas to boost up brand values and broaden market share. This finding is consistent with Guthrie et al. (2007) where they claim that business collaboration is one of the three elements/items mostly disclosed by Australian companies, apart from management philosophy and management process. When looking at the Hong Kong companies, two elements mostly disclosed in the annual reports are business collaboration and distribution channel.

Disclosures on workforce (human resources) training and development received less attention by most companies; albeit general claims that employees are the main asset of a company. Only 16 out of 43 companies (about 37 per cent) mentioned training and development for their workforce. This is consistent with the findings by Olsson (2001), Brennan (2001) and Abeysekera and Guthrie (2005) that companies report the least on human resources matters. Ten companies boasted on their renewed organisation structure and improved processes and claimed that such initiatives taken had managed to generate a higher return to the companies.

Only one company mentioned “community of practice” where the skills and expertise of one division are shared vertically across other divisions within the group to maximise the benefit of knowledge sharing. On the contrary, companies prefer to expose more on their alliances and joint ventures, especially with third parties from overseas (foreign partners) where some skilled people are being seconded or hired, advanced technologies

adopted or selected employees being sent for intensive training to acquire valuable knowledge.

Expanding customer reach may include the company opens a new branch office in a new place locally or globally, or appoints agents to manage, sell and distribute their products and thus broaden their market. As an alternative, the company can also promote markets and distribute products of other companies from overseas by way of obtaining exclusive rights via the relevant licensing agreement. This is evidenced by the high incidence of marketing alliances in the result of content analysis.

Another discovery is on PLCs (mostly from the technology sector) that experienced operating losses tried to provide justifications to the stakeholders on the net losses experienced in the year and most of them related their poor financial performance with unfavourable global economic conditions that affect them either directly or indirectly. However, two companies openly profess that the operating losses they experienced were due to stiff competition within the industry and that their products have recently been replaced with a newer version with additional features by their rivals.

On average, companies reported on the customer churn rate and some even provide the values. Such action is deemed necessary because apart from good news, bad news must also be delivered to customers. By announcing bad news on a gradual basis, the companies hoped that they do not create panic in the market that could jeopardise their share prices and reduce the confidence of the public.

Patents, trademarks and copyrights are amongst the items least disclosed in the annual report. This is consistent with the study of Goh and Lim (2004) on Malaysian PLCs.

Finally, it is worth highlighting here that companies also prefer to disclose information on the products available in the pipeline and also forthcoming events on the launch of new products. Companies also shared their ideas and strategy to enhance performance efficiencies and increase savings.

5.4 Result on the implementation practice of FRS 138

Since the 1997 Asian financial crisis hit Malaysia, the Malaysian government has been working very hard towards recovering the economy and regaining investors' confidence. To reflect the results, convergence with the IFRS has shown significant progress and corporate governance became stronger after 2006, as documented by ROSC in 2011 (OECD, 2012).

The PLCs on Bursa Malaysia have showed the initiatives to comply with the Malaysian FRS, including the FRS 138 that regulates the recognition, measurement and disclosures of intangible assets. Nevertheless, from investigation made in this study, the level of implementation of FRS 138 are considered still low, perhaps due to the lack of knowledge, exposure and adequate training, which leads to the failure of companies to provide sufficient information as required. This argument may be supported by the fact that companies with low level of implementation score engaged small, local audit firms to examine their accounts.

On the other hand, companies that engaged the Big Four auditors mostly scored higher level of implementation, most probably because they were guided by experienced and

knowledgeable audit members who have the capability to give advice accordingly. Here, it must be emphasised that an external auditor has a limited role and ability to manipulate whether information should be included in the financial statements of a company or not, but at least some guidance could be shared on how to make a proper disclosure on a particular item of concern.

Also, as mentioned earlier on the boilerplate description, merely taking a standard or universal template to explain the company's existing accounting policy should be avoided so as to not create ambiguity and confusion whether an item under review is really applicable to the company or not. Companies should be able to prepare and present their accounting policies that reflect the real application in their financial statements.

In this study, when the treatment on non-disclosed items is relaxed, as in the LENIENT implementation model, it was found that 174 companies (60 per cent) scored over 90 per cent of the compliance requirement. Nevertheless, when non-disclosed items were firmly treated as in the STRICT implementation model, 26 companies (9 per cent) emerged with the highest scores of only between 40 and 50 per cent. In between the 40 to 50 per cent tier and 90 to 100 per cent tier a gap exists that represents the non-disclosed items or NAP, as in the checklist. NAP could appear due to several reasons. Earlier this study has discussed on the possibility of NAP representing items in the FRS 138 that are not applicable to the PLCs. Such NAP will not be penalised in the computation of disclosure indices. NAP could also represent items that should have been but not disclosed by the PLCs to prevent sensitive information from flowing out from the companies.

5.4.1 Descriptive statistics

In the previous chapter, preliminary analysis was conducted on the data to ensure the linear assumptions were met before the data was analysed using multiple regression techniques. It is important that all linear assumptions be met due to the complexity of the relationships amongst the variables, especially when a large number of variables are involved, to avoid potential distortions and biases in the results (Hair et al., 2006).

5.4.2 Dependent variables

The summary of descriptive analysis for dependent variables is presented below in Table 5.10. Overall, the LENIENT implementation model reveals that more companies score higher level of implementation as compared to the STRICT implementation model. This is also evidenced from the maximum value of LENIENT implementation model, which reflects a perfect score of 1.00 and minimum of 0.11, whilst maximum value for STRICT implementation model is only at 0.54 and its minimum value at 0.12. The value of mean and median for each section (recognition and measurement section, disclosure section and overall implementation) reflects how normal the data is, where smaller differences bring data closer to normal distributions. Referring to Table 5.10, it could be concluded that non-normality exists within the data, but still at an acceptable level.

Table 5.10: Descriptive statistics of dependent variables

	LENIENT model			STRICT model		
	COM	CRM	CDR	COM	CRM	CDR
Mean	0.909	0.995	0.739	0.311	0.427	0.197
Median	1.000	1.000	0.750	0.310	0.410	0.200
Std. Deviation	0.291	0.028	0.162	0.062	0.085	0.065
Variance	0.085	0.001	0.026	0.004	0.007	0.004
Skewness	-0.752	-6.714	-1.573	0.429	0.457	0.533
Kurtosis	0.167	49.167	2.652	1.018	-0.286	2.240
Minimum	0.110	0.730	0.130	0.120	0.210	0.030
Maximum	1.000	1.000	0.930	0.540	0.620	0.470

LENIENT implementation model = Items not applicable (NAP) in the compliance checklist is dropped from calculation of score; STRICT implementation model = Items not applicable (NAP) is considered as not implemented. These should be penalized, thus included in the calculation; CRM = implementation of recognition and measurement requirement as per FRS 138; CDR = implementation of disclosure requirement as per FRS 138; COM = CRM + CDR, represents overall implementation of FRS 138.

This study also observes that the significant difference in the scores between the two ratios was due to the influence of the NAP items in the checklist. Under normal circumstances, almost all companies in the study demonstrate high level of implementation of FRS 138, which is at the level of 90 per cent and above, but when the issue of non-disclosure is strictly treated, the level of implementation dropped drastically below the 60 per cent level.

To rule that an item qualifies for a NAP means to read the whole content of the annual report in order not to miss any relevant information and also to ensure that non-disclosure was neither made on purpose to conceal particular information nor due to a tendency to neglect responsibility. Whilst the LENIENT model is deemed the ideal circumstance of level of implementation of FRS 138 by the Malaysian PLCs, it is essential that the STRICT model is constructed to reduce (if not avoid) any bias in the study.

In a study on compliance with IASs of six countries in the Asia-Pacific region by Tower et al. (1999), they measure the extent of compliance using two ratios. Ratio 1 is derived by calculating the percentage of deemed compliance over total possible compliance, ignoring non-disclosed items, whilst Ratio 2 is derived by calculating the percentage of deemed compliance over total possible compliance, but taking into account the non-disclosed items. This approach is similar to the calculation of LENIENT and STRICT implementation models in this study (refer to Table 4.2 in Chapter Four). In the study of Tower et al. (1999), the results on the overall compliance score for Malaysia are 0.9068 for Ratio 1 and 0.422 for Ratio 2. When compared with the LENIENT and STRICT implementation results calculated in this study, the scores do not differ much, i.e. at 0.909 and 0.311 respectively. In this study, implementation on the disclosure section of the FRS 138 scored a mean of 0.739 and 0.197 for LENIENT model and STRICT model respectively. These results resemble the results from the study of Taplin et al. (2002) which is an extended work of Tower et al. (1999). In their study, Taplin et al. (2002) investigate the extent of compliance with IAS on individual basis, that is, instead of measuring overall compliance, the computation is split into measurement and disclosure categories.

Taplin et al. (2002) also introduce two methods of calculating the compliance scores: the first is NVND or No Violation for Non-Disclosure and the second is DNI or the Discernibility Index. When compared with this study, NVND is similar to the LENIENT model that is lenient to non-disclosed items, and DNI is similar to the STRICT model that strictly penalizes non-disclosed items (refer to Table 4.3 in Chapter Four).

Provided below in Table 5.11 is the summary of the study carried out by Tower et al. (1999) and Taplin et al. (2002). A comparison is made on the level of implementation of FRS 138 by the PLCs in Malaysia with the result of compliance with IAS by Tower et al. (1999) and Taplin et al. (2002). Even though this study cannot be compared directly with the study of Tower et al. (1999) and Taplin et al. (2002) because they examine a collection of IAS standards applicable to the jurisdictions at time of study, whilst this study examines only one standard in particular, it provides an indication that the scores obtained in this study do not differ much from earlier study.

Table 5.11: Comparison of results - Tower et al. (1999), Taplin et al. (2002) and this study

	Tower et al. (1999)	This study	Taplin et al. (2002)
Source of data	Annual reports	Annual reports	Annual reports
Year of study	1997	2008	1997
No of standard(s)	26 IAS standards	FRS 138 only	26 IAS standards
Research design	As explained in page 138 in this thesis.	As explained in detail in page 146 in this thesis.	As explained in page 139 in this thesis.
Research result (mean)			
Overall compliance	Ratio 1 = 0.9068 Ratio 2 = 0.4220	LENIENT = 0.909 STRICT = 0.311	Not applicable
Recognition & measurement compliance	Not applicable	LENIENT = 0.995 STRICT = 0.427	NVND = 0.78 DNI = 0.42
Disclosure compliance	Not applicable	LENIENT = 0.739 STRICT = 0.197	NVND = 0.94 DNI = 0.48
NVND = No Violation for Non-Disclosure and is similar to LENIENT implementation model in this study. DNI = Discernibility Index and is similar to STRICT implementation model in this study.			

5.4.3 Continuous independent variables

In linear regression, it is important to ensure that the model fits the overall data, as well as the contribution of the independent variables. Descriptive statistics for the continuous variables are shown in Table 5.12 below.

Table 5.12: Descriptive statistics of continuous variables, which consist of corporate governance variables and company-specific variables

			Mean	Median	Skewness	Kurtosis	Minimum	Maximum
N	valid	219						
INDEPD			0.4369	0.4080	6.287	66.211	0.000	1.000
MULTI			0.4185	0.4000	0.221	-0.912	0.000	1.000
FAMILY			0.1801	0.0898	1.129	0.108	0.000	0.750
GOVERN			0.2002	0.0174	4.248	37.242	0.000	0.970
DIRECT			0.1801	0.0860	1.129	0.108	0.000	0.840
PROFIT			0.0278	0.0550	-1.572	24.497	-3.320	2.660
LIQUID			0.2923	0.2541	0.297	2.552	-1.050	2.000
LEVRAG			0.3345	0.3100	5.684	47.551	0.000	6.940
SIZE			8.4143	8.3400	0.280	-0.119	6.420	10.500

INDEPD = Number of independent non-executive directors over total number of directors on the board of the company; MULTI = Number of directors holding multiple directorships over total number of directors on the board of the company; FAMILY = Number of family members who are directors over total number of directors on the board of the company; GOVERN = The percentage of government shareholdings in the top 30 largest shareholdings; DIRECT = The percentage of director shareholdings in the top 30 largest shareholdings; PROFIT = Earnings before tax over book value of equity; LIQUID = logarithm of current assets over current liabilities; LEVRAG = Long-term debts over book value of equity; SIZE = logarithm of company's total assets.

Independent non-executive directors (INDEPD)

Within the sample companies, the proportion of independent non-executive directors to total number of directors on the board recorded a minimum of 0.00 and a maximum of 1.00. There are 41 companies that have the proportion of independent non-executives of less than one-third of the board composition, which are not in accordance to the requirement in MCCG. 37 companies maintain minimum requirement of one-third

composition, whilst two companies have all their directors as independent non-executive directors.

Multiple directorships (MULTI)

The range of cross-directorships in sample companies spread between 0.00 and 1.00. Directors from 36 companies do not hold any directorships on the board of other companies, 29 companies have an equal proportion between directors that are involved in cross-directorships and those that do not, and ten companies recorded 100 per cent cross-directorships amongst their directors.

Family members as directors (FAMILY)

The distinctiveness of Malaysian PLCs is that most of them stemmed from small family-owned private business that turned public as the need to raise funds for further expansion surged. Upon listing on the Bursa Malaysia, the owners of the company appoint themselves as directors, together with several other family members, in order to maintain control on the company. The sample companies in this study showed that 96 out of 222 companies or about 43 per cent of the sample PLCs have at least two family members on board of the directors. 17 companies have equal numbers of family members and non-family members on the board and one particular company has six out of eight of its directors (or 75 per cent) being family members.

Government shareholdings (GOVERN)

Government shareholding ranges from 0.00 to 0.97, with a mean of 0.2002. About 149, or more than 51 per cent of sample companies, have no government shareholdings, whereas 16 companies have government holdings between 30 to 50 per cent and ten

companies have government interest of more than 50 per cent. Most companies with government interest are from the trading and services sector and have one characteristic in common: these companies are high-capital businesses with the very minimum competition from within the same market or industry, such as television and radio broadcasting, telecommunications service provider, manufacturing and supply of chemicals and pharmaceutical products, water facilities, air transportation and container depot operations.

Insider ownership (DIRECT)

Directors may have individual interest in the shareholdings of the company. In this study, the interest is represented in the range of 0.00 to 0.84. 166 out of 222 samples, or over 74 per cent, of the companies have directors who are also interested in the shareholdings of the companies. From this figure, only 37 companies have director shareholdings of more than 50 per cent, where the majority of them (15 companies or 40.5 per cent) are in the technology sector.

Size of company (SIZE)

Size of company shows a great variance amongst samples (refer to Table 5.13). The smallest is represented by a company in the technology sector, worth RM118 million in total assets, whilst the largest is represented by a company in the construction sector at RM38,458.56 million. Size of company is therefore related to the industry background. Due to the large variance, for the purpose of this study, size of company is transformed into logarithm.

Table 5.13: Description of company size in this study, represented by total assets.

Industry	Smallest size (RM million)	Largest size (RM million)
Technology	1.18	1,641.50
Trading and services	9.42	37,352.40
Industrial products	29.97	9,285.95
Consumer products	80.71	13,216.25
Properties	218.69	2,218.68
Plantation	265.03	8,510.24
Construction	412.59	38,458.56
Infrastructure	2,024.57	7,776.68

Profitability (PROFIT)

Profitability ranges from -3.32 to 2.66, with a mean of 0.0278. Negative figures indicate deficiencies in some companies, mainly from the technology sector with 32 companies, as well as 16 from the industrial sector and another 16 from the trading and services sector. The highest mean is from the infrastructure sector at 0.30, followed by plantation at 0.24 and consumer at 0.17. Whilst the rest of the companies are profitable, only five of them have a profitability ratio of more than 1.0 (profitability ratio is derived from earnings before tax over book value of equity). These five most profitable companies are from the technology sector (two companies), trading and services sector (two companies) and consumer products (one company).

Liquidity (LIQUID)

Extreme values were recorded for liquidity, with a minimum of 0.030 (a company from the trading and services sector) and maximum of 99.88 (from the technology sector). The mean is 3.012. 243 companies (or 83.8 per cent) of the sample having a current

ratio of more than 1.0, indicating strong positioning in meeting short term obligations. As a matter of fact, 44 companies exhibit a current ratio of a minimum of five times and above.

Leverage (LEVRAG)

Leverage ranged from 0.00 to 6.940, with a mean of 0.3100. Some companies were cash rich, therefore did not have any borrowings or debt, as in the case of 14 sample companies with a leverage of 0.00. On the other hand, some companies were heavily burdened with debt that exceeded the book value of the company, as in the case of a company from the infrastructure sector which exhibits the highest leverage at 6.94. Other highly leveraged companies are from the construction and industrial sectors.

5.5 Categorical independent variables

The sample companies are arranged in ascending order based on the value of total assets held and disclosed in the balance sheet. Next, they are divided into three groups of equal number of companies to represent three tiers of sizes: from small to gradually-becoming medium and finally big. Each size group has 74 companies. When the industry background was cross-tabulated with the type of external auditor engaged by these companies, the study produces the following result as per Table 5.14.

Table 5.14: Cross-tabulation of categorical independent variables according to size

Company size	Type of industry	Type of auditor				Total
		Non-Big4	%	Big4	%	
Tier-1: Small	Consumers and others	5	9.1	1	5.26	6
	Industrial products	7	12.7	4	21.1	11
	Technology	35	63.6	10	52.6	45
	Trading & Services	8	14.5	4	21.1	12
	Total	55	50.9	19	16.7	74
Tier-2: Medium	Consumers and others	12	27.3	7	23.3	19
	Industrial products	11	25.0	10	33.3	21
	Technology	10	22.7	3	10.0	13
	Trading & Services	11	25.0	10	33.3	21
	Total	44	40.7	30	26.3	74
Tier-3: Big	Consumers and others	5	55.5	25	38.5	30
	Industrial products	1	11.1	20	30.8	21
	Technology	1	11.1	1	1.5	2
	Trading & Services	2	22.2	19	29.2	21
	Total	9	8.3	65	57.0	74
Grand total		108	48.6	114	51.4	222

It can be observed here that as the size of companies grows bigger, there are more chances that companies engage the Big Four auditors. Possible explanations to this scenario include:

- a) Big Four auditors have more international exposure, highly knowledgeable in technical areas to provide advice to client companies and are regarded as reputable establishments. Due to this reason, their opinion given on the audited financial statements tend to be more reliable and trusted by users of accounts.
- b) Big companies that can afford the service fees imposed by these international audit firms may have a strategy when engaging the Big Four auditors. They want to reflect themselves as reputable and profitable companies, trusted by the

public and feared by the competitors. They claim compliance with the FRS with hope to increase the level of confidence and attract more investors to invest in the companies.

Other than that, Table 5.14 also shows that higher tendency to engage big international auditors as compared to local or smaller auditors came from the trading and services sector. As has been discussed earlier in Table 5.1, the trading and services sector contributed the biggest portion of intangibles at almost 73 per cent of the total intangibles in this study, worth RM21,042.59 million of mainly concession rights, various licences and franchise fees. Only nine out of 54 (or 17 per cent) samples, in the trading and services sector were listed under the ACE market of Bursa Malaysia, which means most of the sample companies in this sector are big and mature companies with good performance and track record. On the contrary, most companies representing the technology sector are more likely to be small in size with only one company located in tier-3 as big companies. Only 17 out of 60 samples from the technology sector, or approximately 28 per cent, are listed on the main market of Bursa Malaysia. These companies prefer to appoint local or smaller international external auditors. Types of intangibles involved include intellectual properties and development expenditure on IT and software-related products.

5.6 Bivariate correlation among the independent variables

5.6.1 Continuous independent variables

Multicollinearity could create a problem when at least one independent variable is a perfect linear combination of the others. When such a case transpires, the accurate estimation of regression coefficients is difficult to make and the β coefficient of each

variable become interchangeable. Pearson's r is used to measure the strength of an association or relationship between two variables in the study. Referring to Table 5.15 below, it can be concluded that there is a strong positive relationship between size (SIZE) and cross-directorships (MULTI) at 0.486, suggesting more directors with cross-directorships on board of directors of big-sized companies. Other than that, the value of 0.483 may indicate that the government shareholdings (GOVERN) are higher in big companies (SIZE) due to their ability to generate growth to the country's economy and also due to political interests. However, the relationship between insider ownership (DIRECT) and size of company (SIZE) is found to be negative at -0.425, most probably because directors who are also owners (founders) of the company prefer small business with a less complex organisational structure so that it can easily be managed.

Some moderate relationships can also be examined: in companies where there are family members on the board of the directors (FAMILY), a correlation of 0.383 with independent non-executive directors (INDEPD) may explain the need to have a good corporate governance to ensure agency costs can be minimised for the sake of shareholders' wealth. Another observation reveals a negative correlation of -0.357 between insider ownership (DIRECT) and cross-directorships (MULTI) in a company.

A possible reason for it is that directors who are also owners of a company may want to concentrate on the business operation of the company they have interest in to ensure they gain maximum advantages and benefits rather than hold positions in other companies that they have less or limited authorisation in the decision-making processes

Table 5.15: Pearson's correlation coefficients for continuous independent variables (2-tailed)

	INDEPD	MULTI	FAMILY	GOVERN	DIRECT	PROFIT	LIQUID	LEVRAG	SIZE
INDEPD									
MULTI	.105								
FAMILY	.383**	-.217**							
GOVERN	.003	.355**	-.189**						
DIRECT	-.060	-.357**	.088	-.303**					
PROFIT	-.060	.084	.078	.072	-.155*				
LIQUID	.035	-.052	-.036	-.093	.141*	.006			
LEVRAG	.007	.209**	-.071	.187**	-.035	-.346**	-.104		
SIZE	-.051	.486**	-.077	.483**	-.425**	.271**	-.152*	.221**	

** . Correlation is significant at the 0.01 level * . Correlation is significant at the 0.05 level

INDEPD = Independent variable. Number of independent non-executive director, as percentage to total directors on the board. MULTI = Independent variable. Cross directorship, represents number of directors with multiple directorship as percentage to total directors on the board. FAMILY = Independent variable. Family member(s) as director, calculated as number of directors with family relationship to the total directors on the board. GOVERN = Independent variable. Government ownerships, represents percentage of government shareholdings in the company taken from the top thirty shareholders. DIRECT = Independent variable. Director ownerships, represents the shareholdings of the directors in the company taken from the top thirty shareholders. PROFIT = Independent variable. Profitability is measured by the ratio of earnings before tax to book value of equity. LIQUID = Independent variable. Liquidity is transformed into log(ratio of current assets to current liabilities). LEVRAG = Independent variable. Leverage is measured by dividing long-term debt with book value of equity. SIZE = Independent variable. Size of company, represented by log(total assets).

Other variables were also correlated, but probably not strong enough to create a significant result in the regression. One final interesting finding is that, with a correlation of 0.006, the level of company's profitability has almost no effect or relationship at all with the state of liquidity of the company. Overall, the correlation matrix of all independent variables showed a correlation of less than 0.80 therefore the problem of multicollinearity did not exist. Tests such as the Variance Inflation Factor (VIF) and the tolerance statistics (1/VIF) values also show that there is no collinearity problem (refer to Table 5.16 below).

Table 5.16: Multicollinearity tests using VIF and tolerance statistic

Dependent variables	LENIENT		STRICT	
	Collinearity Statistics		Collinearity Statistics	
	Tolerance	VIF	Tolerance	VIF
SIZE	.402	2.489	.402	2.489
LIQUID	.932	1.073	.932	1.073
LEVRAG	.729	1.371	.729	1.371
PROFIT	.717	1.394	.717	1.394
INDEPD	.771	1.298	.771	1.298
MULTI	.632	1.582	.632	1.582
FAMILY	.707	1.414	.707	1.414
GOVERN	.687	1.455	.687	1.455
DIRECT	.730	1.370	.730	1.370
AUDIT	.715	1.398	.715	1.398
INDUST	.498	2.010	.498	2.010
TRDSVC	.524	1.907	.524	1.907
COMBIN	.431	2.318	.431	2.318

5.6.2 Categorical independent variables

The Pearson's chi-square test can be used to test if there is any relationship between two categorical variables. According to Field (2009, p. 688), the chi-square test is most suitable "to compare the frequencies you observe in certain categories to the frequency you might expect to get in those categories by chance." Expected frequencies are used here because with categorical variables, the means of such variables could not be calculated. For a chi-square test to be meaningful, two assumptions need to be fulfilled: 1) variables should be independent in a way data should be related to and explain only one item (no repeated measures) and 2) the expected frequency should be greater than 5.

Table 5.17: Chi-Square tests on the association between auditor and industry

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.192 ^a	1	.000
Likelihood Ratio	38.705	1	.000
Linear-by-Linear Association	2.618	1	.106

^a0 cells (.0%) have expected count less than 5. The minimum expected count is 14.44

Table 5.17 above shows a significant value of $p < 0.05$, therefore this study rejects the hypothesis that the type of auditors engaged by the company and type of industry are independent and also conclude that both variables are strongly related to each other, as the auditors are industry specialists.

5.7 Multivariate analysis

The general equation adopted for this study is as follows:

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \varepsilon$$

Due to the existence of heteroscedasticity problem in the data, the Weighted Least Square (WLS) is applied in the regression as a solution. WLS involves the creation of a set of weights to be applied in the ordinary linear regression (OLS) to improve the efficiency of the OLS estimation (Willet and Singer, 1987). In the presence of heteroskedasticity, the standard error, ε will be inefficient, either it becomes too big or too small. If ε is too big (overestimated), the constant term α will not be an efficient

estimate of β , therefore Type II error⁶ may occur. On the other hand, if the standard error ε is too small (underestimated), the constant term α will also not become an efficient estimate of β , therefore a Type I error⁷ may occur.

The weighting scheme performs to downplay the effect of isolated data points in the estimation process, therefore its function is as good as removing the outliers, resulting in reduced deviation in standard errors and improved R^2 estimation. This is done by finding a weight that can be used to modify the influence of large errors on the estimation of the best fit values of the constant term α and coefficients β . As for this study, the OLS results improved when WLS was applied. This is done by using the SPSS programme following these steps:

- 1) The errors or residuals are saved and squared through a data transformation procedure in SPSS.
- 2) The squared residuals are then regressed against the independent variables. This step is also referred to as residualising a variable.
- 3) Compute the absolute value of the residualised variable as in 2). This step is assigning weight to each of the variables to reduce the influence of extreme values on the estimation of constant and coefficients.
- 4) Create a weighting factor.
- 5) Compute the WLS regression.

The result of linear regression with WLS for LENIENT model and STRICT model is presented in Table 5.18.

⁶Type II error occurs when, based on the sample results, the null hypothesis is not rejected when it is in fact false.

⁷Type I error occurs when the sample results lead to the rejection of the null hypothesis when it is in fact true.

Table 5.18: Regression result with WLS to solve the issue of heteroscedasticity

Variable	LENIENT model		STRICT model	
	Coefficient	Prob.	Coefficient	Prob.
C	6.756		19.222	
INDEPD	0.126		-0.793	0.000*
MULTI	0.307	0.075*	0.816	0.033*
FAMILY	0.395	0.099**	1.604	0.003*
GOVERN	-0.942	0.034*	-2.067	0.036*
DIRECT	-0.590	0.009*	-1.513	0.003*
PROFIT	-0.052		0.149	
LIQUID	0.409	0.011*	0.698	0.049*
LEVRAG	-0.023		0.243	0.008*
SIZE	-0.003		-0.116	
AUDIT	0.390	0.011*	0.249	
IND_COMBIN	-0.409	0.003*	-2.910	
IND_INDUST	-0.242	0.003*	-2.539	
IND_TRDSVC	-0.504	0.013*	-3.508	0.093**
R ²		0.599		0.344
Adjusted R ²		0.571		0.299
S.E. of regression		1.02964		2.28768
F-statistic		21.745		7.654
Prob (F-statistic)		0.000		0.000
Sum squared resid.		216.271		1067.629
Durbin-Watson stat		1.897		2.109

*significant at p < .05 **significant at p < .10

Excluded variable: IND_TECHNO

LENIENT = Dependent variable. Representing lenient implementation disclosure index where item not disclosed in annual report is assumed not relevant to company, therefore not penalised. STRICT = Dependent variable. Representing strict implementation disclosure index where item not disclosed in annual report is considered non-compliant. INDEPD = Independent variable. Number of independent non-executive director, as percentage to total directors on the board. MULTI = Independent variable. Cross directorship, represents number of directors with multiple directorship as percentage to total directors on the board. FAMILY = Independent variable. Family member(s) as director, calculated as number of directors with family relationship to the total directors on the board. GOVERN = Independent variable. Government ownerships, represents percentage of government shareholdings in the company taken from the top thirty shareholders. DIRECT = Independent variable. Director ownerships, represents the shareholdings of the directors in the company taken from the top thirty shareholders. PROFIT = Independent variable. Profitability is measured by the ratio of earnings before tax to book value of equity. LIQUID = Independent variable. Liquidity is measured by transformation of log(ratio of current assets to current liabilities). LEVRAG = Independent variable. Leverage is measured by dividing long-term debt with book value of equity. SIZE = Independent variable. Size of company, represented by log(total assets).

5.8 Result of the LENIENT implementation model

Looking at the overall implementation results, the adjusted R^2 value is 0.571, which indicates that LENIENT model is significant ($F = 21.745$, $p < 0.000$) in explaining the implementation of FRS 138. Examination of individual variables is as follows:

***H₁:** The implementation of FRS 138 is positively associated with the number of independent non-executive directors on the board of Malaysian PLCs.*

The regression result as in Table 5.14 shows that independent non-executive director is not significant in explaining the implementation of FRS 138 within the company. This means, whether a company has any independent non-executive directors on its board or not does not influence the implementation of FRS 138 within the company. This is consistent with the result of study of Ho and Wong (2001) and Wan-Hussin (2009).

***H₂:** There is a positive relationship between multiple directorships on board of the Malaysian PLCs and the implementation of FRS 138.*

Haniffa and Cooke (2002) state that having a director with multiple directorships in Malaysia is something unusual. Hypothesis H_2 is supported, where a company that has directors with multiple directorships on board of various other companies exhibits higher tendency to implement FRS 138 compared to a company that has directors who do not hold multiple directorships. This might be due to a more efficient and effective means of monitoring and controlling agency costs when the directors are able to make

comparison and assessment on the transparency of one company with another where they are on the board.

H₃: There is a positive relationship between family-member directorships of the Malaysian PLCs and the implementation of FRS 138.

Hypothesis H₃ is also supported, where family members who are also directors on the company's board have significant influence on the implementation of FRS 138. Other studies that provide the same result are the studies of Ho and Wong (2001) and Wan-Hussin (2009).

H₄: There is a positive relationship between government-owned companies and the implementation of FRS 138 by the Malaysian PLCs.

In this study, the variable (government-owned companies) is significant in explaining the implementation of FRS 138 of the PLCs, but at an opposite magnitude. This study finds that there is a negative relationship between the government-owned companies and the implementation of FRS 138. Other study that produces a similar result is Haniffa and Cooke (2002).

H₅: There is a negative relationship between director ownership in the Malaysian PLCs and the implementation of FRS 138.

The result of this study shows a significant negative relationship, thus supports the above hypothesis. Directors act as agent in the company and will take an opportunity for the sake of individual interests. Therefore the argument that directors who owned a certain percentage of shares in the company are more reluctant to disclose information,

thus regard the implementation of FRS 138 lightly. Other studies with similar findings are those of Eng and Mak (2003), Arcay and Vasquez (2005) and Luo et al. (2006).

H₆: There is a positive relationship between the size of a company and the implementation of FRS 138 by the Malaysian PLCs.

Hypothesis H₆ is not supported in this study. Size of company is not significant in explaining the implementation of FRS 138 within the company. The result is similar to the study of Ahmad and Nicholls (1994), Archambault and Archambault (2003) and Aljifri (2008). More important of all, the study of Street and Gray (2002) on the extent of compliance with IAS in 32 countries around the world also find that size of company is not significant in explaining the level of compliance as it measures a lot of factors.

H₇: There is a positive relationship between the profitability and the implementation of FRS 138 of the Malaysian PLCs.

The result of this study shows that profitability is not significant in explaining the level of implementation of FRS 138. This is consistent with the studies of Wallace et al. (1994), Raffournier (1995), Alsaeed (2006) and Aljifri (2008). Profitability might not influence the implementation of FRS 138 by a company possibly because there are times when the company will also have to make other types of disclosure as well, such as the disclosure of the net operating losses, lawsuit that the company is facing or other kinds of bad news, therefore profitability should not be a single motivation for a company to implement the FRS 138.

H₈: There is a positive relationship between liquidity and the implementation of FRS 138 of Malaysian PLCs.

This hypothesis is supported in this study. A company may want to comply with the standards to maintain investor confidence, control market share and most of all to also enable it to secure financing for further expansion in the future. By complying with the standard, a highly-liquid company is more trusted in the market, thus can easily secure business contracts.

***H₉:** There is a positive relationship between leverage and the implementation of FRS 138 of Malaysian PLCs.*

This hypothesis on leverage is not supported by the result. Leverage is found to be insignificant in explaining the implementation of FRS 138. This means, the positioning of a company whether it is highly leveraged or not has no association with implementation of FRS 138. This is consistent with the study result of Hossain et al. (1994), Raffournier (1995), Archambault and Archambault (2003) and Aljifri (2008).

***H₁₀:** The implementation of FRS 138 is associated with the type of auditor engaged in the Malaysian PLCs.*

The type of external auditor engaged by the company is also found to be positively significant in explaining the level of implementation of FRS 138 in this study. It is found that companies that engage big international audit firms tend to implement more of FRS 138 when compared to companies that employ smaller audit firms. This result therefore supports hypothesis H₁₀. This is similar to the study of Ahmad and Nicholls (1994), Inchausti (1997) and Karim and Ahmed (2005).

***H₁₁:** The implementation of FRS 138 of Malaysian PLCs is associated to each type of industry.*

Finally the regression result of this study also supports hypothesis H₁₁ that there is a positive relationship between the type of industry and the implementation of FRS 138. It is found that the background of companies does influence the implementation of FRS 138. The result also indicates the existence of intangible assets in each type of industry. However, the technology sector has been excluded from the regression due to its criteria of being highly correlated with other variables.

5.9 Result of the STRICT implementation model

Applying the STRICT implementation model, when an item mentioned in the FRS 138 is not found in the sample company's annual report, the NAP column is ticked in the implementation score record. In the score calculation, the existence of NAP items brought up the assumption that the company did not make the necessary disclosure as required. The STRICT implementation model is thus important because it reduces the bias that might exist when LENIENT implementation model is applied. The enhanced regression results for STRICT model using WLS obtains an adjusted R² of 0.299 and is significant at $F = 7.654$ and $p < 0.0000$.

Overall, the corporate governance variables are significant in explaining the implementation of FRS 138. Similar to the LENIENT implementation model, hypotheses H₂, H₃, H₄ and H₅ are supported. The magnitude of each hypothesis in the STRICT implementation model is also parallel to the hypotheses in the LENIENT

implementation model. For the STRICT implementation model however, H_1 (the number of independent non-executive directors) is found significant but the result is of the opposite magnitude from the one predicted. It is found that the number of independent non-executive directors on the board of company is negatively associated to the implementation of FRS 138. This could be due to the reason that the existence of independent non-executive directors could cause difficulties as they impose excessive monitoring on the managers, thus leaving less time to review the company performance (Haniffa and Cooke, 2002; Eng and Mak, 2003).

As for the firm-specific variables, liquidity and leverage are found to be significant in explaining the level of implementation of FRS 138, thus hypotheses H_8 and H_9 are supported. Liquidity is also found positively significant in the LENIENT implementation model, but not leverage. In the STRICT implementation model, a positive relationship between leverage and the level of implementation could be explained as the need for a company to inform the users of accounts on its financial position and performance for monitoring purposes. Another study that finds a positive relationship between leverage and disclosure is by Karim and Ahmed (2005).

Types of auditor and type of industry however, are found not to be significant in explaining the level of implementation of FRS 138. Therefore, hypotheses H_{10} and H_{11} are not supported. What can be concluded here is that in a strict regulation environment, the implementation of financial reporting standards is not influenced by the background of the audit firm. Whether small or big, recognition internationally or not is not a matter. The same conclusion applies to the type of industry involved.

5.10 Summary

The first section of this chapter looks into the regression analysis results of two implementation disclosure indices, namely the LENIENT implementation model and the STRICT implementation model. The LENIENT implementation model assumes non-disclosed items as not applicable to the company, whilst STRICT implementation model is strict in assuming non-disclosures as not implementing the FRS 138. When investigating the level of implementation of FRS 138 amongst PLCs in Malaysia, both models are divided into three sections to investigate individual and overall implementation. There is a significant difference in the level of implementation due to the existence of NAP items within the compliance checklist, suggesting attention and further improvements. It is also found that almost all corporate governance variables are influential in determining the level of implementation of FRS 138, whilst the company-specific variables provide mix results.

Content analysis conducted on the annual reports of the Malaysian PLCs reveals the trend of disclosure of companies, which emphasise more on the end result (revenues, earnings and related market shares) but somehow disclose very little (if any) on the internal process and implementation. New and young companies in the technology sector disclose the least information to the public, whilst companies from the trading and services sector disclose the most information on intangible assets. Such discovery could assist regulators in finding solutions towards reducing the gap, also enhancing and improving transparency in reporting practice in Malaysia. In the next chapter, discussion is made to conclude the whole study. Also, recommendations are made to improve the study in the future.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter wraps up the investigations on the implementation of FRS 138, efforts taken to further disclose intangibles-related information on voluntary basis to the public and the determinants that influence the implementation practices by PLCs on Bursa Malaysia for the financial year end 2008 as discussed in Chapter Five. Section 6.1 revisits and discusses on the findings of this study, whilst section 6.2 discusses the conclusions and connects them with the research objectives of this study. Next in section 6.3 through 6.5, study contribution, limitations and future research prospects are covered.

6.1 Summary of research findings

The beginning of this study discusses the important role of intangible assets in a company as economic growth inducer, which is by far greater than the tangible assets. In fact, worldwide corporations have gradually shifted from managing tangible assets to intangible assets as they provide greater opportunities, add value, promote faster growth and future expansion. Intangible assets have thus become a global phenomenon. Intangibles such as product development activities and innovations bring companies up to a higher level where they can increase their value, broaden their market share and thus position themselves as leaders in their respective industries. IT and the internet

provide a borderless means of reaching a greater target audience from different geographical areas. Alliances and collaborations can be established from anywhere in the world to broaden and strengthen marketing strategies. Networking facilitates smoother business operations.

Three research questions were developed to investigate the disclosure of intangibles-related information by the PLCs in Malaysia. In the following discussions, each of the research questions is revisited and conclusions are drawn on the findings.

6.1.1 The level of implementation of FRS 138 by the Malaysian PLCs

Research question 1: What is the level of implementation of FRS 138 in relation to:

- a) recognition and measurement?
- b) disclosure?

The level of implementation of FRS 138 was examined by looking at the recognition and measurement section and disclosure section individually, as proposed by Tower et al. (1999) and Street and Gray (2002), as they claim that each section is different and therefore may produce different results. This is proven to be true when the implementation scores are finalised and compared. The summary of scores obtained from the checklist and discussed in Chapter Five is shown in Table 6.1 as follows:

Table 6.1: Summary of disclosure scores on the level of implementation of FRS 138

N = 290		Implementation level of FRS 138	
Compliance model adopted in study	Individual section of the standard	Highest score	Lowest score
LENIENT implementation model: Items marked as NAP in the checklist are considered not relevant to the company, therefore not included in the calculation.	Overall implementation	100%	39%
	Recognition and measurement	100%	55%
	Disclosure	100%	0%
STRICT implementation model: Items marked as NAP in the checklist are considered as non-compliant, therefore are penalised in the calculation.	Overall implementation	54%	0.08%
	Recognition and measurement	62%	0.17%
	Disclosure	47%	0%

As can be seen from Table 6.1, there are significant differences in the scores calculated between the LENIENT and STRICT model, due to the different treatment on the items not applicable (NAP) to the sample companies. Assuming that all companies are committed towards full compliance with FRS 138, and that the NAP items really represent items that are not applicable to the companies, the level of implementation of FRS 138 scores 100 per cent. However, if the study strictly assumes that companies have the intention not to disclose a certain type of information due to a particular reason, then the implementation scores become significantly lower at 62 per cent. As mentioned in the previous chapters, even though due care has been exercised when deciding that an item in the checklist is a NAP item, the element of uncertainty may still exist as to what the NAP represents, either not applicable item or non-complied item.

There can be many reasons why a company did not make any disclosure on a particular item in the annual report. Firstly, the item might not be relevant to the company. For example, in the investigation of this study, it was found that for the financial year 2008, none of the PLCs acquire any type of intangible assets through the exchange of assets or by way of government grant. Secondly, a company may believe that what was disclosed in the annual report was sufficient enough without the need to elaborate further on the details. An example in this study was when a company disclosed on the acquisition of an intangible asset, it only stated the method and cost of acquisition but did not specify what type of intangible asset that it acquired. Thirdly, the manager may refuse to disclose some type of information due to the sensitive nature of the information which could harm the company if made public. Several of the PLCs from the technology sector did not disclose sufficient information related to their software and system development because the value of such assets could erode in a matter of overnight. Finally, the company may be facing some difficulties to comply with FRS 138 due to lack of knowledge and proper training to understand and prepare the financial statements in accordance to the FRS 138. This is especially true when the external audit firm engaged was a small local firm instead of a big international firm.

Based on the above reasons, in order to achieve full convergence with IFRS, MASB as the regulatory body in Malaysia needs to strengthen its institutional structure to promote higher quality of financial reporting and for that purpose, possibly to review vital areas such as on-going training and seminars for accounts preparers, incentives for preparers and auditors, business ownership structure and regulations and legal enforcements, to name just a few. Apart from institutional structure, the financial reporting infrastructure will also need to reflect effective corporate governance practice, high quality auditing

standards and practices, effective enforcement and strong internal control on reporting processes.

In addition to the above issue, the normal practice of using the boilerplate descriptions in the annual reports to explain the accounting policy adopted need to be prohibited. Amongst the common disclosures using boilerplate descriptions includes the policy related to asset impairment, amortisation and the estimation of expected useful life that may cause misleading information, thus affecting the decision made by users of information if what is disclosed does not reflect the real situation. In this study, when elements of uncertainty exist, the use of NAP to classify such items will only reduce the implementation scores of the company. One way to address the issue of the boilerplate descriptions is by having the national standard setters or policy makers providing supporting mechanism to newly listed, young companies on the Bursa Malaysia in the form of data management, as an early guidance on how in the beginning the companies should be collecting and gathering important data related to their intangibles and converting these data into valuable information, until the end at the stage of preparing the required reporting using these information.

6.1.2 Voluntary disclosures on the intangible assets

Research question 2: What are the other types of information and the extent of information pertaining to intangible assets that are voluntarily disclosed in annual reports?

Overall observation shows that there is a clear awareness amongst the management of companies of the significant role of intangible assets, although the tendency is skewed towards disclosing more on historical performance and achievement as compared to the inception of the intangible assets and its implementation cycle. As a result, there is a broad gap in many areas of reporting on intangible assets as evidenced from this study. The investigation on voluntary disclosure is further elaborated below.

The content analysis conducted on the voluntary disclosure practice shows that the technology-based companies disclose the least information to the public. The management of these companies may be reluctant to disclose information more than necessary due to the fear of stripping their companies of the advantages and uniqueness, thus affecting the market share. This is assumed in this study. At the mandatory level these companies will be obliged to make proper disclosure as stipulated by the regulations (recall that each technology-based company in the ACE market must have a sponsor, so they must comply with the reporting standards to maintain sponsorship) but will not disclose more than what is required for fear of losing their advantage. This is reasonable because technology can be obsolete or become outdated very fast compared to other products.

Besides obsolete technology, another observation tells that another possible reason for having different levels of disclosure was due to the reason that most young companies from the ACE market were lack of resources to support the disclosure of valuable information as compared to the more established companies in the Main market. Their scarce resources (in the form of financial and human resources) need to be consumed wisely on other more important agenda of the company, therefore the cost of providing additional information to the users of account on voluntary basis is often avoided. In

this situation, companies often fail to see the needs to report their intangible assets due to the low level of knowledge, understanding and appreciation on the importance of intangible assets, added with the lack of reporting standardisation. They fail to regard the importance of intangible assets, therefore chose to use their scarce resources for other purposes.

On the contrary, it is found that companies from the trading and services industry contribute to the largest amount of voluntary disclosures. Companies categorised under the trading and services industry represent the majority of the whole PLCs on the Bursa Malaysia. These companies are already strongly established with several years of track record of reporting financial performance on the Bursa Malaysia. Due to the big number of companies, competition is also high within the industry itself. These companies therefore must ensure they continue to look attractive to the current and potential investors, and this can be done by way of feeding abundance of information to the public for their decision making purposes.

The type of intangible asset involved also plays an important role in determining the disclosure practice of companies. When companies from the technology sector are compared with the trading and services sector, it is found that the type of intangible asset owned by the trading and services sector is obviously different from the intangible assets owned by the technology sector. Disclosures made by companies from the trading and services sectors mainly cover licensing agreements, rights, marketing alliances and product launch dates, whilst on the contrary, technology-based companies disclose more on research and development activities and customer churn and values.

Finally, one noteworthy finding from this study is the stage where disclosures are usually made on intangible assets. According to Lev (2001) in his value chain scoreboard, intangible assets' life cycle comprises of three stages: the discovery and learning stage, the implementation stage and the commercialisation stage. This study found that 77 per cent of the disclosures made are at the commercialisation stage, as compared to 29 per cent at discovery and learning and only 4 per cent at the implementation stage. It would be interesting to find out why a company discloses less at the implementation stage, but this requires a separate investigation to be carried out on the companies.

As a conclusion, in order to provide useful information to the market and thus improve reporting and transparency between management and stakeholders, perhaps the regulators will need to intervene to delineate what type of intangibles-related information is essential to be disclosed and how it should be disclosed. It is essential that proper guidelines be made available to all PLCs on what and how much to disclose to the public so that the additional report on intangible assets could support the existing financial statements in providing more meaningful information. The guidelines should be able to demonstrate in detail the preparation of a report on intangible assets, which contains list of intangible resources, activities and the related system of indicators. Regulators may also consider including in the guidelines the method of collection of information, identification and appointment of suitable person responsible to prepare the report and how frequent the report needs to be prepared.

By preparing a report on intangible assets in accordance to the proposed guidelines, some levels of consistency in the areas of reporting could be achieved, even though the implementation or adoption of these proposed guidelines is not made mandatory to the

PLCs. On top of that, comprehensive guidelines through the establishment of a proper reporting framework could strengthen companies' commitment towards benefiting the stakeholders without losing much advantage to competitors. This is what has already been adopted in some European countries like Denmark and France. As mentioned earlier in this study, different jurisdictions have different cultural, political and socio-economic background; therefore the supplemental report on intangible assets not qualified under the IAS 38 could be dissimilar in each jurisdiction, depending on the suitability and business requirement.

More companies are disclosing additional information for the benefit of their users of accounts, but the type of information disclosed tends to be more historical information (revenue earned, services performed, market share increment) rather than future-oriented information (planning for expansion, future product development, product pipeline). The historical information, though useful to educate users of accounts on what transpired in the company, tend to be irrelevant in the decision making process (Abeysekera and Guthrie, 2005). With the establishment of proper guidelines on what to disclose and how much disclosure is deemed sufficient by the companies, it is hoped that additional disclosure made on intangible assets could be used to further boost the financial performance of the company.

6.1.3 Factors influencing the implementation of FRS 138

Research question 3: What are the determinants explaining the different levels of implementation of FRS 138 by Malaysian public listed companies?

Much has been discussed on the criteria and significance of the independent variables in Chapter Three and Chapter Five of this study. To wrap up, from this study's point of view, it can be concluded that in general, the PLCs in Malaysia have shown some improvement in the elements of corporate governance since the Asian financial crisis in 1997 (Abdul Rahman, 2006). This is evidenced by the result of multiple regression analysis carried out to identify what are the determinants that influence the implementation of FRS 138. All variables of corporate governance in this study were found to be significant in explaining the level of implementation of FRS 138. Irrespective of which model is used to identify the determinants (either LENIENT implementation model or STRICT implementation model), it is found that the corporate governance factors hold an important role in promoting the transparency and accountability of the company.

Elements of corporate governance such as independent non-executive directors, cross-directorships, family members as directors, government shareholdings and directors' ownership support the Agency theory that explains the agent-principal relationships in a company. This means that the PLCs, realising the importance of being able to provide sufficient information to the users to account for their decision making purposes, strive to gain confidence and trust from them and thus reduce the agency costs by complying with the IAS/IFRS.

It is therefore concluded that a company that owns one or more types of intangible assets and exercises good practice of corporate governance implement more of the FRS 138. In other words, it is evidenced that the level of implementation of FRS 138 is influenced by the element of corporate governance. Good corporate governance promotes the stability of market-oriented economies. More companies have realised that

by exercising best practice in corporate governance, the problem that occurs in the agency relationship could be minimised. Such a company may enjoy numerous advantages, such as increase in stock price, add-on values to the company, ward off competition, broaden the market shares and thus ensure its survival.

In this study, however, it is important to also take note that the significant negative relationship between government shareholdings and the level of implementation of FRS 138 are most likely due to different goals and objectives embraced, whereby the GLCs do not foresee disclosure (and thus indirectly affect the level of compliance with the financial reporting standards) as essential for the growth of the company because they regard themselves more as not-for-profit organisations. A negative relationship is also found in a company with a large proportion of director ownerships. Directors act as agents for the principal, and they have a motivation to fulfil self-interest if they find the right opportunity. Therefore, they may not regard the implementation of FRS 138 as something essential for the company.

The types of industries in the market also have some degree of influence over the level of implementation of FRS 138 of the PLCs. More than 80 per cent of the companies listed on the ACE market of Bursa Malaysia in 2008 were technology-based companies. Looking at the background, companies from the technology sector are mostly new companies with either no track record to date on financial performance or are still in the early stage of the growth cycle, thus they rely on a three-year sponsorship from large established financial institutions to maintain their listing in the ACE market. Due to the characteristic of being new and young, technology-based PLCs might be reluctant to disclose their performance to the public for fear of threats from rival companies within the same industry.

Companies from other sectors, which mostly reside in the main market, especially from trading and services and infrastructures, are relatively established compared to companies from the technology sector. On top of that, after being in the industry for some time, these companies have reached their maturity stage and now need to ensure their survival. By complying with the FRS, in particular, the FRS 138 would assist them in maintaining investors' confidence in them and at the same time attract more potential investors and shareholders.

From other observation, it was also found that there is a clear pattern that small companies engage small audit firms to provide their opinions on financial statements. Nevertheless, as the companies grow bigger, they tend to change to the Big Four. One possible reason for such a scenario is the perception that companies that engaged the Big Four as an external auditor implement more of FRS 138 compared to companies with smaller external auditors. This might be due to the strong and international reputation of the audit firms. However, note that such a scenario only applies under the lenient requirement of implementation of FRS 138. In a stricter requirement, irrespective of the type of audit firms engaged, both are found insignificant in explaining the level of implementation of FRS 138. The size of the company and profitability do not influence the level of implementation of FRS 138. It can be concluded here that the compliance (implementation) with the FRS 138 is compulsory to all PLCs on the Bursa Malaysia irrespective of the company background therefore there should not be an excuse on why some companies comply more than the others.

It is important to note here that the findings from this study might differ from the extant studies on disclosure compliance conducted on other jurisdictions by researchers and academics. This is due to the different settings and business environment of each

jurisdiction. OECD in its reports on the progress of reporting of intangible assets made a conclusion that “it is difficult to draw generalisations regarding the importance of these variables⁸ since most studies on intangible assets disclosure focus on one specific jurisdiction, rendering international comparisons difficult” (OECD, 2012, p. 22). Therefore, what is considered significant variable from this study might not be the same as in other study, making it unique and important when observed from the viewpoint of an emerging country.

6.2 Contribution to the body of knowledge

“The adoption of intangible assets reporting globally has been fraught with obstacles related to lacking harmonisation of standards, perceived risks associated with increased disclosure, the costs associated with issuing such disclosure, as well as growing interest in other types of disclosure” – OECD, 2012, p. 16.

The industrial era has shifted to the information age along with the dynamic changes in the global economy. Together with physical assets, the amount of intangible assets disclosed in annual reports has significantly increased over years and has become an important element that could influence the future value of the firm. Malaysia is in the process of gradually producing a growing number of intangible-intensive companies with huge potential to generate steady growth at the national economic level. This is witnessed by more technology-based companies now being listed on the Bursa Malaysia under the ACE market. The government of Malaysia has been putting continuous effort to provide a conducive environment for k-economy to expand and support continuous innovations by offering funds in the form of grants, promoting liberal tax incentives for the development of science and technology and R&D, approving more applications for

⁸OECD refers to industry differences, ownership and size of companies as variables.

patents and trademarks, these to name a few, to boost the development of industrial-oriented technology in the country.

Realising the importance of intangible assets above tangibles, it is crucial for all companies in general to be able to properly report their intangible assets so that the information made available to users of accounts could boost the value of the company and thus increase share price. However, quite a number of companies still do not possess the right foundation strong enough and reflect a low level of understanding on the economic consequences due to lack of knowledge on how to treat intangible assets in their books. Having said that, it is also important to notice that some small audit firms, professional consulting companies, and other accounting and business associations are also facing the dilemma of having insufficient knowledge to tackle the issues of recognition, measurement and appropriate disclosures of intangible assets in the books of their clients.

From the account preparers' point of view, this study assists in highlighting them the areas which raise issues concerning mandatory disclosures. This is crucial because the result of this study reveals that some areas of disclosure still need to be improved so that details on the treatment of intangible assets can be made available. An example found in the result of study is on the disclosure of amortisation and impairment of asset, which is vague and could raise doubts.

Consequently, the lack of proper knowledge on the accounting treatment and reporting of intangible assets could result in a serious issue of non-compliance with FRS 138. This study therefore contributes some useful guidance for the national standard setter to actively promote more awareness in the form of training, seminars, publications and

road shows to tackle the weak spots in order to curb any departures from the IFRS compliance requirements. This may complement the effort towards full convergence by 2012. On average, Malaysia's score on the implementation of FRS 138 is still low. This score need to be improved so that Malaysia's aim to fully convergence with IFRS in year 2012 can be realised.

This study also proposes that the national standard setter produces a suitable framework on voluntary disclosure to shed some light on the type of information that is sought by users of accounts, especially investors and creditors, for decision making purposes. Such valuable information can only be released at the discretion of the company, and proposing a framework does not mean voluntary disclosure will be regulated in any way. Nevertheless, it could assist in reducing the disclosure gap that exists due to inconsistent flow of information. Looking from the opposite angel, the voluntary disclosure framework could also assist preparers of accounts to avoid proprietary costs due to the excessive amount of disclosure made to the extent that it harms the company and puts the company in a disadvantageous position.

This study also theoretically assists in enhancing awareness, knowledge and appreciation on the growing importance of intangible assets as a main wealth creator and the appropriate disclosures within annual reports. It contributes to theoretical understanding of intangible assets reporting in the financial statement. Disclosures are the main source of reference of financial information to users, especially analysts and investors. Such information allows users to better assess the future viability of the company and assists them in making accurate decisions related to investment. There are many studies that investigate the importance of individual assets, such as intellectual capital (Guthrie and Petty, 2000; Brennan, 2001; Bozzolan, 2003; Garcia-Meca and

Martinez, 2007), R&D activities (Lev and Sougiannis, 1996; Yang and Brynjolfsson, 2001; Oswald and Zarowin, 2008), computer software (Aboody and Lev, 1998; Breshanan, Brynjolfsson and Hitt, 2002; Givoli and Chi, 2008), patents (Gu and Lev, 2001) and other types of intangibles, but the existence and disclosure of these intangible assets has so far never been studied in a collective manner, even though one company may have more than one type of intangible asset.

Actions of managers shown in the disclosure of information in annual reports provide hints to the capital market (Scott, 2000, as cited in Chen, DeFond and Park, 2002). Some managers voluntarily disclose information on a firm's intangible asset because they foresee the effect it could bring about on the firm's economic conditions (Wyatt, 2005). As much as the accounts preparers' experience on the complexity of recognizing, classifying and reporting intangible assets according to the standard, it is predicted that users of information are also having difficulties in analysing the information in their decision making process. Nevertheless, with continuous exposures and proper knowledge dissemination through voluntary disclosures, such complexity could be overcome in due course.

6.3 Implication to the financial reporting practice in Malaysia

As part of Malaysia's initiative to converge with the IFRS effective from January 2012, it is crucial that all PLCs work side by side with the national standard setter and regulators to fully comply with all the reporting standards, including the FRS 138. The appropriate identification or recognition of intangible assets, their measurement in the consequent years after recognition and the sufficient amount of disclosure made in

accordance to the FRS 138 should reflect how the PLCs appreciate their intangible assets.

It is hoped that this study could assist in improving the level of implementation of FRS 138 (and thus the level of compliance with FRS 138) towards better financial reporting practice in Malaysia. This study suggests that the existing mandatory disclosures made in the annual reports is still insufficient to fulfil the requirements and needs for information by the users of accounts. It highlights on the areas that need improvements, such as the disclosure of the accounting policy of the company, the presentation of asset amortisation, acquisition of new intangible assets and a few other examples discussed in the previous chapters within this study. As for the intangible assets that do not qualify for recognition under FRS 138, there are several alternative mediums for the company to disclose the assets and emphasise the importance of these assets too. One suggestion is to have a framework on what to disclose and how much of the information need to be released.

Improvements could be made by the accounts preparers in these areas that need attention, thus enhance the financial reporting practice in Malaysia. As a consequence, more FDIs can be drawn to enter into Malaysia, which could lead to greater path to globalisation. Effective financial reporting would lead towards the expansion of k-economy and in return enhance economic growth of the country.

6.4 Limitations of the study

Whilst the annual report is deemed a good proxy to investigate the level of voluntary disclosure (Botosan, 1997), by referring to only one source of information would mean the availability of valuable information is limited. This study did not take into consideration other sources of information such as supplemental reports, press releases, quarterly announcements and other information contained in the company websites. The main reason why annual reports are chosen in this study is due to easy and quick access to massive information required, the information are presented in a standardised manner and they are cheaper compared to other means of obtaining information. As a matter of fact, the issuance of annual reports is seen as resembling an important annual event when all eyes are fixed to the reports as they become the centre of attention and discussions. However, a more effective method of obtaining more valuable information is believed to be via live interactions with the key personnel through interviews, company's road shows and private meetings where in-depth explanations and further clarifications could be made on areas of interest.

When selecting the PLCs as sample for this study, there were approximately 977 companies listed on the Bursa Malaysia. However, since one of the main objective of this study is to examine the level of implementation of FRS 138 of the PLCs, the criteria that need to be looked at is the disclosure of one or more types of intangible assets on the face of the financial statements of the sample company, assuming that these PLCs comply with FRS 138. Bias could exist in the selection of samples due to the existence of companies that recognise some intangible assets when the assets are not recognised by FRS 138, or the existence of companies that disclose the intangible assets without recognising them accordingly.

When conducting content analysis as a method of analysis, it is common that this method be questioned of its descriptive nature. Content analysis is argued that it merely identifies that something is there but does not explain why it is there. In other words, content analysis is regarded more as counting words activity rather than drawing meaningful inferences about the object/subject under review. An interview session could help improve the level of understanding and answer all doubts concerning the results obtained from content analysis. However, it is not made available in this study. Also, when analysing the annual reports, this study also did not consider other forms of communication such as pictures, diagrams and tables. A company may convey a lot of meaningful messages in a page that contains colourful pictures, but this study did not count that as part of the message that can be content analysed due to the subjectivity in assigning appropriate weight to these pictures.

Other than that, a study that adopts content analysis normally encounters several common issues such as preparing the relevant training for the researcher(s) and other individuals involved, and having different perspectives and interpretations when more than one researcher is involved. The coding categories used in the study are also subjective in nature, thus can cause inconsistent or conflicting results.

6.5 Recommendation for future research

It is proposed that for future research, a time series study be carried out, from the year FRS 138 became effective (on 1 January, 2006) until recently, to be able to observe from the time series if there is any particular pattern in the disclosure practice, be it mandatory or voluntary disclosure, and to see if the disclosure level is improving.

On top of that, a comparison between Malaysia and another country/countries with similar criteria (for example, comparison with another Asian countries, common law practices, cultural background, IFRS convergence) would be useful to see Malaysia's positioning and the level of awareness on the importance of intangible assets.

The information on intangible assets are to be obtained through interview sessions with key personnel of the sample companies to grasp better understanding on the management of intangible assets within the companies.

When conducting the content analysis for voluntary disclosures, it is proposed that the exercise includes pictures, graphs, tables, diagrams and other forms of attachment as relevant data that is useful to examine the disclosure practices of PLCs in Malaysia.

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APPENDICES

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