

ASSESSMENT OF ACCOUNTING INFORMATION, MARKET VALUE, COST
OF EQUITY AND MODERATING EFFECT OF INTELLECTUAL CAPITAL

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This work is dedicated to my parents Zahra and Hossein who provided unconditional love and taught me how to soar on eagle's wings and to my siblings Abdolreza, Mariam, Gholamreza, Laila, Fatemeh and my shaheed brother Mohammadreza.

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ABSTRACT

It is contended among the accounting researchers that information asymmetry could be reduced through disclosure of information pertaining to quality of earnings and recognition of intellectual capital. Correspondingly, this study examined the relationship between accounting earnings attributes i.e. relevance and conservatism of earnings and cost of equity. This study included an investigation of the moderating effect of intellectual capital on (i) the relationship between earnings and book value (individually and aggregate) and market price, and (ii) the relevance of earnings and cost of equity. The data for the study were based on annual financial reports, Datastream and Bloomberg of firms from the Technology, Trading and Services, Consumer Products and Hotel sectors listed in the main board of Bursa Malaysia from 2006 to 2010. The study employed multiple and moderated multiple regression to analyse data. The results showed that, firstly, firms with high quality of relevance of earnings benefit more from lower cost of equity and there is no relationship between conservatism of earnings and cost of equity, Secondly, the moderating of intellectual capital has an effect on the relationship between earnings and book value with market price. Lastly, the findings showed that intellectual capital has a moderating effect on relevance of earnings and cost of equity. This study contributes to the valuation theory through extension of Ohlson model by the inclusion of new-knowledge of intellectual capital. Besides that, it contributes to the understanding of signaling theory through the explanation of the moderating effect of intellectual capital on the relationship between relevance of earnings and cost of equity. The findings of the study has shown the importance of intellectual capital and it is recommended that accounting standard setting authorities must pave the avenue for the disclosure of intellectual capital in a firm's annual financial report.

ABSTRAK

Penyelidik dalam bidang perakaunan menegaskan bahawa tahap ketidaksiharan maklumat dapat dikurangkan dengan adanya pendedahan maklumat tentang kualiti perolehan dan pengiktirafan modal intelek sebagai aset. Selari dengan itu kajian ini telah mengenal pasti hubungan antara sifat perolehan perakaunan, contohnya, kerelevanan dan konservatisme perolehan, dengan kos ekuiti. Kajian ini juga mengkaji kesan modal intelek sebagai moderator kepada (i) hubungan antara perolehan dan nilai buku (secara berasingan dan keseluruhan) dengan harga pasaran, dan (ii) hubungan antara kerelevanan perolehan dengan kos ekuiti. Data kajian ini diperolehi daripada penyata kewangan tahunan; Datastream dan Bloomberg bagi firma dalam sektor Teknologi, Perdagangan dan Perkhidmatan, Barangan Pengguna dan Hotel yang tersenarai di papan utama Bursa Malaysia dari tahun 2006 hingga 2010. Data dianalisis menggunakan *multiple* dan *moderated multiple regression*. Hasil kajian yang pertama menunjukkan bahawa firma dengan kualiti relevan yang tinggi memperoleh keuntungan yang lebih berbanding dengan kos ekuiti yang rendah dan tidak wujud hubungan antara konservatisme dengan kos ekuiti. Kedua, modal intelek sebagai moderator memberikan kesan kepada hubungan antara perolehan dan nilai buku dengan harga pasaran. Akhir sekali, hasil kajian menunjukkan bahawa modal intelek mempunyai kesan sebagai moderator kepada kerelevanan perolehan dan kos ekuiti. Kajian ini menyumbang kepada *valuation theory* melalui lanjutan model Ohlson dengan menambah pengetahuan baru tentang modal intelek. Selain itu kajian ini menyumbang kepada *signaling theory* dengan memberikan penjelasan tentang kesan modal intelek sebagai moderator kepada hubungan antara kerelevanan perolehan dengan kos ekuiti. Kajian ini menunjukkan kepentingan modal intelek dan mencadangkan bahawa pihak berkuasa yang terlibat dalam piawaian perakaunan haruslah membuka satu saluran bagi pendedahan modal intelek dalam laporan kewangan tahunan firma.

CHAPTER 1

INTRODUCTION

1.1 Overview

The relationship between accounting information and capital markets have attracted a considerable level of attention and the contribution of Ball and Brown in 1968 believed to be a pioneering work in this regard. Up till now this is one of the most popular issues in the accounting literature. The interest for this subject is legitimate, given the generally accepted statement that accounting figures are aimed at providing investors with relevant information for their investment decisions. Diamond (1985), Diamond and Verrecchia (1991) and Embong *et al.* (2012) noted that high quality of accounting information disclosure reduces the information risk (information asymmetry) between market participants in financial markets and as a consequence, reduces the cost of equity. Lang and Lundholm (1996), Botosan (1997), Botosan and Plumlee (2002), and Easley *et al.* (2002) empirically examined and supported this conjecture. Watts and Zimmerman (1986) advocated the most significant reason for establishing regulations and standards for accounting information disclosure is reducing the information asymmetry between management and external users particularly investors. Financial Accounting Standard Board (FASB) No. 2 (1980) states that relevance and reliability are two primary determinants to assess the quality of accounting information and deemed useful for investors, which guide them in decision making process. Consequently, to attract large number of investors and concurrently minimizing the cost of capital, firms

generally disclose substantial sets of information especially those related to the earnings for investors to facilitate them in decision process.

Information pertaining to earnings is deemed significant by the accounting researchers in accounting literature as it guides the investor's decision process (Schipper and Vincent, 2003). Several accounting researches documented that poor quality of earnings lead to the increase in information asymmetry (risk) and consequently, higher cost of equity (Aboody *et al.*, 2005; Bhattacharya *et al.*, 2007; Francis *et al.*, 2004; Lara *et al.*, 2010; Ng, 2008; Verdi, 2008; Abdul-Latiff and Mohd-Taib, 2011). While on the other hand, reduction in information asymmetry results in decreased cost of equity. Firms that concern about quality of earnings disclose more information pertaining to earnings.

Recently, information concerning the earnings quality has become debatable as a result of several accounting scandals around the world like Worldcom and Enron. Similarly, several firms in Malaysia (Wimems Corp Bhd., Media Holdings Bhd. and Nasioncom Holdings Bhd.) falsified their accounting information in terms of receivables, tangible assets and revenues, and in results collapsed (Zaimee, 2007). These scandals lead to serious concerns about the quality and usefulness of reported earnings that will be used by users of financial information to evaluate their decisions. This requires on the part of the key players in local corporate governance such as Bursa Malaysia, Securities Commission, corporate advisors, auditors, managers and accountants to pave the avenue to prevent the accounting scandals to restore the confidence of the investors.

This discussion signifies the decisive role of earnings information in investment decisions reached by the investors in general. The dearth of literature on the topic pertaining to the Asian firms requires the extent of investigation in Asia to be further extended to assess the investment patterns adopted by the investors in Asia. This study assessed the effect of relevance / conservatism of earnings on cost of equity in Malaysia to provide quality information related to earning disclosed by firms to facilitate investors in the process of decision making, as quality and accuracy of information leads to the reduction in CoE, and the quality and quantity of information influence on CoE (Chan *et al.*, 2009; Francis *et al.*, 2005, 2004; Lara *et al.*, 2010; Pae *et al.*, 2005).

Many studies have been and continue to be conducted in several developed countries to observe the relationship between earnings attributes and Cost of Equity (Francis *et al.*, 2004; Wong, 2008; Petruska, 2008; Chan *et al.*, 2009; Pae *et al.*, 2005; Lara *et al.*, 2010; Li, 2010) still there is a need to re-examine this matter in developing countries in view of the fact that earnings is recognized as significant accounting information for investors to guide them in making rationale and profitable decisions. To have a more clearer picture it can be said that, in an environment where information is already rich, any additional information disclosed by companies may not have much effect on decision-making process on investors and may not significantly affect the CoE. However, Malaysian market is a good platform to investigate disclosure issue where the legal system and capital market are well developed (Mohamad *et al.*, 2007) but the accounting information environment is not rich (Ball *et al.*, 2003). In addition, there is prevalent doubt in literature on the notion where conservatism of earnings leads to reduction of the CoE. Francis *et al.* (2004) reported that there is no association between conservatism of earnings and CoE. While, the findings reported by Lara *et al.* (2010), Li (2010), Petruska (2008) and Wong (2008) advocated that conservatism of earnings has a negative effect on CoE. Therefore, this study makes an attempt to enrich the conservatism of earnings literature, and investigated the relationship between conservatism of earnings and CoE.

Parallel to this debate, which stresses on the significant role of earnings information in guiding the decision environment, economic theorists assert that land, labour and money are three significant resources that contribute to the success of corporate enterprises (Sullivan, 1998). However, the last two decades witnessed the transition as the emphasis has shifted from traditional economic system to knowledge intensive system (Phillips and Phillips, 2002; Amidon, 2003). This change in emphasis created the hype for service industries all over the world. The dominance of service industries in terms of swiping the major share of value creation process has led the world to recognize intellectual capital as another decisive actor of knowledge-based economy, as it plays pivotal role in the firm overall growth. Intellectual capital in recent years has turned a major source of firm competitive advantage (Holland, 2003). Thus, growth patterns in knowledge intensive economy require re-evaluating the key drivers of growth, as traditional accounting practices

have failed to recognize in full the knowledge elements as assets of the firms in financial reporting system. Therefore, the non-recognition of intellectual capital resulted in increasing the gap between market and book values of firms (Amir and Lev, 1996; Brennan, 2001; Holland, 2003; Lev, 2001). Moreover, Generally Accepted Accounting Principles (GAAPs) and accounting standards, which discourage the recognition of many intangible assets, make financial information less relevant (Collins *et al.*, 1997; Francis and Schipper, 1999; Lev and Zarowin, 1999). It is recently contended by the researchers that conservatism has an essential role in recognizing intellectual capital (intangible asset), and stands as a premier source of gap between market value and book value and also diminishes the relevance of accounting information over time (Beaver and Ryan, 2005). Furthermore, recognition of intellectual capital decreases the information asymmetries between companies and the users of financial reports (Byrnes and Derhovanessian, 2002; McNamee, 2001; Reed *et al.*, 2002; Cormier *et al.*, 2009; Wyatt and Frick, 2010) and consequently, diminishes the cost of equity (Mangena *et al.*, 2010; Orens *et al.*, 2009).

Aligned with the development of intellectual capital and the knowledge-based economy, Malaysian business regulatory agencies started to promote the development of knowledge-driven economy in the early 2000s. Knowledge Economy Master Plan, which was published in 2000, consisted of strategies, which aimed at transforming Malaysia from an input-driven to a knowledge-driven economy. As Mahathir Mohamad (former Prime Minister of Malaysia) in his keynote address during Global Knowledge Conference II, 2000 stated:

Vision 2020 emphasizes that in the information age which we have entered – our society must be information rich. There was a time when land was the most fundamental basis for prosperity and wealth, then came the second wave, the age of industrialisation. Now, increasingly knowledge will not only be the basis of power but also prosperity...Through the shift to k-economy, where the knowledge content and the knowledge contribution will see a quantum leap in every area, the Malaysian economy and Malaysia's society will not be quite the same again.

(Mohamad, 2000)

Although, Hassan and Mohd-Saleh (2010) revealed that earnings and book value were relevant during 1999, 2000, 2002 and 2003, in Malaysian context the disclosure of information still seems to be at low or minimal level (Ball *et al.*, 2003; Mohd Ghazali and Weetman, 2006). In addition, in regard with the role of intellectual capital in knowledge-based economy particularly in order to achieve the Malaysian's national mission (Master Plan was published in 2000), and also to increase the disclosure of information, this study contributed to the larger body of knowledge (Goodwin and Ahmed, 2006; Vafaei *et al.*, 2011) by determining: the impact of intellectual capital on the relationship between accounting earnings and book value (individually and aggregate) on market price.

Moreover, it is a general observation that many firms disclose considerable sets of information for some reasons like attracting a large number of investors in capital market particularly in Malaysian capital market since the information environment is not affluent (Ball *et al.*, 2003), another reason could be recognition of intellectual capital which leads to decrease the information asymmetries (Byrnes and Derhovanesian, 2002; McNamee, 2001; Reed *et al.*, 2002; Cormier *et al.*, 2009; Wyatt and Frick, 2010) and consequently, diminishes the cost of equity (Mangena *et al.*, 2010; Orens *et al.*, 2009). Hence this study examined: the effect of intellectual capital on the relationship between relevance of earnings and cost of equity. In line with the discussion, statement of problem is discussed in the subsequent section.

1.2 Statement of the Problem

Capital market structure contributed significantly to the development and growth of world economy, while on the other hand, investment stands as a significant indicator of economic development in capital market structure. This signifies that information based guided decisions in optimum capital structure plays a substantial role in reducing uncertainty and risk attached to investor's decision criteria (Diamond, 1985; Diamond and Verrecchia, 1991; Embong *et al.*, 2012).

Contemporary research contends that information asymmetry is reduced through disclosure of information by the firms in the capital market structure. Therefore, enhancement and improvement in the quality of information pertaining to earnings and recognition of intellectual capital lead to the reduction in information asymmetry (information risk), and concurrently increase the investor's willingness to invest, and consequently reduces cost of equity (Diamond and Verrecchia, 1991; Easley and O'Hara, 2004; Glosten and Milgrom, 1985). Aligned with this discussion, this study examined whether: (i) earnings quality attributes (relevance of earnings and conservatism of earnings) have an effect on cost of equity; (ii) intellectual capital and its components (human capital and structural capital) influence the relationship between earnings and book value with market price; and (iii) intellectual capital and its components (human capital and structural capital) influence the association between relevance of earnings and cost of equity.

Earnings is a significant accounting information and impacts largely on stock price behaviour and its profitability (Bhattacharya *et al.*, 2007; Dechow and Shrand, 2004; Financial Accounting Standard Board (FASB), 1980; Kim and Kross, 2005; Lipe, 1990; Penman, 2003; Richardson *et al.*, 2005; Schipper and Vincent, 2003; Warfield and Wild, 1992). Empirical researches illustrate that investors relied more on earnings' information than any other information including dividend earnings and cash flows (Bhattacharya *et al.*, 2007; Dechow and Shrand, 2004; Dimitropoulos *et al.*, 2010; Financial Accounting Standard Board (FASB), 1980; Penman, 2003; Schipper and Vincent, 2003). As noted by Francis *et al.* (2004) managers consider earnings as a key standard for investors' decision criteria.

Similarly, cost of capital is another fundamental concept of financial accounting literature. It is commonly used in corporate business models to assess the company valuation and shaping the corporate strategy. Cost of capital shapes the world by determining the parallel between investment, economic growth and consumption at both macroeconomic and microeconomic level (Ogier *et al.*, 2004). Discussions in literature suggest the significant role of earnings and cost of capital especially cost of equity in capital market to guide investors in their decision making process (Aboody *et al.*, 2005; Bhattacharya *et al.*, 2007; Francis *et al.*, 2004; Lara *et al.*, 2010; Ng, 2008; Verdi, 2008; Abdul-Latiff and Mohd-Taib, 2011). This signifies that the amount and preciseness of information influence cost of capital; as high

quality information causes more coordination among managers and investors in investment decisions. Contrary to that, if information asymmetry between managers and investors increases, investors claim more cost of capital because of the associated risk. Levitt (1997) stated that the quality of accounting standards improves liquidity and reduces the cost of capital and Financial Accounting Standard Board (FASB) in 2001 echoed similar sentiments. On the other hand literature demonstrates that poor quality of earnings lead to increase in information asymmetry and consequently higher cost of equity (Aboody *et al.*, 2005; Bhattacharya *et al.*, 2007; Francis *et al.*, 2004; Lara *et al.*, 2010; Ng, 2008; Verdi, 2008; Abdul-Latiff and Mohd-Taib, 2011).

This study accordingly posits that high and low level of cost of equity depend on the information's quality, which is related to earnings. Therefore, this study addresses the gaps in literature by extending the understanding on the relationship between earnings attributes and cost of equity, and aims to reduce the issue pertaining to information asymmetry, which complicates the decision environment for investors by hypothesizing the relationship between accounting earning attributes (relevance of earnings and conservatism of earnings) and cost of equity. Relevance of earnings and conservatism of earnings were the selected attributes of earnings in this study because of following reasons;

- The most important usefulness reason of accounting system is providing relevant information, which is standing as a utility guide for investors in decision making process (FASB No. 2, 1980). In addition, earnings is deemed significant by the accounting researchers in accounting literature as it guides the investor's decision process (Schipper and Vincent, 2003). However, the earnings literature posits that the relevance of earnings has diminished (Collins *et al.*, 1997; Francis and Schipper, 1999; Lev and Zarowin, 1999). Therefore, based on the important role of relevance of earnings among accounting information for investors in decision making, this study selected relevance of earnings to examine whether the relevance of earnings is increased or decreased and also investigated whether recognition of intellectual capital can effect on the relevance of earnings.
- Accounting conservatism literature illustrates two types of conservatism: (1) ex post conservatism (earnings conservatism); and (2) ex ante conservatism (balance

sheet conservatism) (Beaver and Ryan, 2005; Chan *et al.*, 2009). The ex post conservatism is associated to more timely recognition of bad news than of good news while ex ante conservatism develops from the application of Generally Accepted Accounting Principles (GAAPs) and accounting standards, which reduces the book value of net assets (primarily due to unrecognized intangible assets). Since this study claimed that ex ante conservatism has essential role in the recognition of IC (intangible asset), and it generates gap between market value and book value and that it diminishes the relevance of earnings over time, therefore, to clarify the differences and better understanding of these two types of conservatism this study chose to examine conservatism of earnings as one of attributes of earnings.

Analogous to the above arguments, financial accounting literature illustrates that contemporary competitive business environment requires organizations to explore new patterns of knowledge to acquire competitive edge over competitors. Unfortunately, traditional accounting practices fail to accord new patterns of knowledge in financial reporting and consequently limit the access of accurate information to users (Byrnes and Derhovanessian, 2002; McNamee, 2001; Reed *et al.*, 2002; Cormier *et al.*, 2009; Wyatt and Frick, 2010). This issue has been debated over and over again that non-recognition of new-knowledge (intellectual capital) causes a gap between market value and book value of the company (Amir and Lev, 1996; Brennan, 2001; Holland, 2003). In addition to that it is concurrently argued that the value relevance of traditional financial information has decreased because conventional financial reporting system merely presents an underestimated company value (Collins *et al.*, 1997; Francis and Schipper, 1999; Lev and Zarowin, 1999), where, the estimation of true market value requires re-evaluation of the key intellectual factors on the part of the firms, which eventually contribute to the overall growth of the firm.

Non-recognition of intellectual capital increases information asymmetry between firms and external users of financial reports (Byrnes and Derhovanessian, 2002; McNamee, 2001; Reed *et al.*, 2002; Cormier *et al.*, 2009; Wyatt and Frick, 2010). Empirical studies on this subject area have pointed to the problem pertaining to the lack in reporting of knowledge based information in financial reports and

proposed new patterns to overcome the deficiencies of traditional financial reporting systems by disclosing ample accounting information (Blair and Wallman, 2000; Bose and Oh, 2004; Gelb, 2002; Lev, 2001). Brooking (1996) argued that intellectual capital represents 62% of overall firm value. To pave the avenue to encourage firms and recognize the significance of intellectual capital in financial reporting for the purpose of decreasing the information asymmetry in capital market, it is timely and significant for accounting researchers to resolve this issue through exemplified empirical research. Correspondingly, this study evaluated the effect of intellectual capital and its components (human capital and structural capital) on the relationship between earnings and book value (individually and aggregate) and market price. This study also examined the effect of intellectual capital and its components (human capital and structural capital) on relevance of earnings and cost of equity to address this longstanding gap in accounting research.

In relation to the above, this study employed value added intellectual capital for measuring intellectual capital which categorizes in three components: (i) human capital efficiency; (ii) structural capital efficiency; and (iii) capital employed efficiency. On the other hand, this study utilized price based model (Ohlson, 1995) to assess the value relevance of accounting information which consists of two main components: book value (the net value of investment) and earnings (the present value of the period benefits). Therefore, to examine the effect of intellectual capital on the relationship between earnings and book value (individually and aggregate) and market price, this study ignored capital employed as a component of value added intellectual capital since it was included in price based model.

Cultivating from above discussion, this study determined:

- Whether there is any relationship between earnings attributes (relevance of earnings and conservatism of earnings) and cost of equity.
- Whether intellectual capital and its components (human capital and structural capital) influence the relationship between earnings and book value (individually and aggregate) and market price.

- Whether intellectual capital and its components (human capital and structural capital) influence the association between relevance of earnings and cost of equity.

1.3 Purpose of the Study

The aim of this study was to assess the relationships between; Accounting earnings quality attributes (relevance of earnings and conservatism of earnings) and cost of equity; Role of intellectual capital and its components (human capital and structural capital) in connection to its effect as moderator on the relationship between earnings and book value (individually and aggregate) and market price; and The effect of intellectual capital and its components (human capital and structural capital) on relationship between relevance of earnings and cost of equity.

1.4 Objectives of the Study

The research problem examined in this study was designed with the objectives listed below:

- To assess whether earning attributes (relevance of earnings and conservatism of earnings) have a significant and negative effect on cost of equity.
- To examine whether intellectual capital and its components (human capital and structural capital) as moderators have an effect on the relationship between earnings and book value (individually and aggregate) and market price.

- To determine whether the intellectual capital and its components (human capital and structural capital) have an effect on the relationship between relevance of earnings and cost of equity.

1.5 Significance of the Study

This study contributes to the body of knowledge by responding to the gaps in accounting literature through assessing the association between earnings attributes (relevance of earnings and conservatism of earnings) and cost of equity in Malaysia since to the best of the author's knowledge, no research has reported the association between earnings attributes (relevance of earnings and conservatism of earnings) and CoE in the context of Malaysian firms. This study is considered significant in several ways: first, the issue pertaining to the reduction in quality of accounting information is frequently highlighted in literature (Brown *et al.*, 1999; Chang, 1998; Collins *et al.*, 1997; Francis and Schipper, 1999; Lev and Zarowin, 1999). However, lack of empirical research based on intellectual capital and accounting information makes it decisive to expand the horizon of research and seek answers to the questions that relate to the direct and indirect impact of intellectual capital on accounting information (Ahmed and Falk, 2006; Reinita, 2007). Second, this study contributes potentially by suggesting to the accounting standard setting authorities to modify the traditional accounting standards and conventional accounting practices to standardize the stipulations of modern and competitive business era, and pave the avenue for the recognition of IC as an asset to the firm and motivating researchers to expand the horizon of research and seek solution to the underlying questions (non-recognition of intellectual capital). Lastly, this study is a pioneer study, which assesses the effect of intellectual capital on the relevance of earnings and cost of equity, unlike previous studies which emphasised more on the examination of the effect of intellectual capital on firm performance only (Chan, 2009; F-Jardo ´n and Martos, 2009; Gan and Saleh, 2008; Ghosh and Mondal, 2009; Goh, 2005; Ismail, 2005; Kamath, 2007;

Marimuthu *et al.*, 2009; Sofian, 2005; Ting and Lean, 2009; Ze'ghal and Maaloul, 2010).

1.6 Scope of the Study

This study being empirical, evaluated the relationship between accounting earning attributes (relevance of earnings and conservatism of earnings) and cost of equity. Subsequently, it examined the moderation effect of intellectual capital and its components (human capital and structural capital) on the relationship between accounting earnings and book value (individually and aggregate) on market price, and finally, determined the moderation effect of intellectual capital and its components (human capital and structural capital) on the relationship between relevance of earnings and cost of equity. In line with the study objectives, this research was carried out in high intangible intensive listed companies of Bursa Malaysia (Technology industry, Trading and Services industry, Consumer Products industry and Hotel industry) covering the period from 2006 to 2010. The data needed for this study were obtained from 1999 to 2010, to construct firm-year observations from 2006 to 2010.

1.7 Outline of the Thesis

This research consists of seven chapters. Chapter 1 discusses the research problem, aims and objectives of the study, Chapter 2 reviews the literature on the relationship between earnings attributes and cost of equity. This chapter also explicates the evidences related to earning attributes, quality of earnings and cost of equity. Chapter 3 discusses intellectual capital in connection to how and why companies intend to recognize intellectual capital as an asset and measurement of

valuation models of intellectual capital. Chapter 4 delineates the research framework and hypotheses, while Chapter 5 discusses the research methodology in connection to the testing of the study hypotheses. Chapter 6 presents the results and discusses the findings of the study, and Chapter 7 presents the conclusion of the study after discussing the findings and contribution of the study. This is followed by description and limitations of the study and possible avenues for further research.

1.8 Terminologies

Following specific terminologies use in this study and define as bellow:

- **Conservatism of Balance Sheet / Ex ante / Unconditional Conservatism:** Ex ante conservatism stems from the application of Generally Accepted Accounting Principles (GAAPs) and accounting standards, this reflects reduced book value of net assets (primarily due to unrecognized intangible assets) (Pae *et al.* 2005).
- **Conservative of Earning / Ex post / Conditional Conservatism:** Ex post conservatism is also called conditional conservatism, marked-based, and news-dependent conservatism and is associated to more timely recognition of bad news than of good news. The effect of this kind of conservatism on earnings streams is less predictable and persistent (Pae *et al.*, 2005).
- **Cost of Equity:** Shareholders have a claim on the value of the company when firms issue shares and this claim has been repaid after debt. Therefore, shareholders receive two benefits from the firm i.e. dividend and increase in the value of shares (Ross *et al.*, 2010).
- **Earnings Quality:** Financial Accounting Standard Board (FASB) No. 2 (1980) defined high quality earnings as “representational faithfulness” that refers to the correspondence or agreement between a

measure/description and the phenomenon it purports to represent (para.63).

- Human Capital: Represent the skills, experiences, and firm' know-how at the collective level, and also at the individual level, capacity of employees, suppliers to solve the problems of customer (Sullivan, 1999).
- Human Capital Efficiency: The value which is created by one unit of investment in the employees is called human capital efficiency. Human capital efficiency is measured from value added divided by human capital (Pulic, 1998).
- Information Asymmetry: Information asymmetry is the gap information between manager and investors. This signifies that when information asymmetry between managers and investors increases, investors claim more cost of capital because of the associated risk (Diamond and Verrecchia, 1991).
- Intellectual Capital: Malaysian Financial Reporting Standards No. 138 defines intangible asset or intellectual capital as, "An intangible asset is an identifiable non-monetary asset without physical substance" (Malaysian Financial Reporting Standards No. 138, para. 8).
- Intellectual Capital Efficiency: It shows how efficiently intellectual capital has created value. Intellectual capital efficiency (ICE) is measured by adding up the human capital efficiency and structural capital efficiency (Pulic, 1998).
- Relevance of Earning: According to Financial Accounting Standard Board (FASB) No. 2 (1980) "relevance and reliability are two primary criteria to improve the quality of accounting information", which help stakeholders in decision process. This defines relevance as "accounting information capable of making a difference in a decision" (para. 51). For the information to be relevant, it should have: (a) predictive or feedback value; and (2) presented timely.

- **Structural Capital:** Structure capital is direct support and indirect support of the human capital. Direct support which touch the human capital such as computer, computer software and information system. Indirect support includes electricity, payroll system that does not touch the human capital directly (Sullivan, 1999).
- **Structural Capital Efficiency:** Structural capital efficiency shows the value added efficiency of structural capital. Structural capital efficiency is measured from structural capital divided by value added (Pulic, 2004).

1.9 Summary

This chapter has discussed the issues raised in the study, its significance and comprised of three main objectives: first, this study examined the relation between earnings attributes (relevance of earnings and conservatism of earnings) and cost of equity; second, this study investigated the effect of intellectual capital and its components (human capital and structural capital) on the relationship between accounting earnings and book value (individually and aggregate) and market price; lastly, this study assessed the effect of intellectual capital and its components (human capital and structural capital) on relevance of earnings and cost of equity. Staying in line with the study objectives, this study was carried out in high intangible intensive listed companies of Bursa Malaysia (Technology industry, Trading and Services industry, Consumer Products industry and Hotel industry) covering the period from 2006 to 2010.

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LIST OF ABBREVIATIONS

AICPA	-	American Institute of Certified Public Accountants
BV	-	Book Value of Equity
BVPSHCE	-	Interaction of Book Value Per Share and Human Capital Efficiency
BVPSSCE	-	Interaction of Book Value Per Share and Structural Capital Efficiency
BVPSICE	-	Interaction of Book Value Per Share and Intellectual Capital Efficiency
B/M	-	Book Value of Equity to Market Value of Equity
BSC	-	Balanced Scorecard
$\beta^{BN(P)}$	-	Sensitivity of Earnings to Bad News
$\beta^{GN(P)}$	-	Sensitivity of Earnings to Good News
CAPM	-	Capital Asset Pricing Model
CoE	-	Cost of Equity
CEE	-	Capital Employed Efficiency
CE	-	Capital Employed
CIV	-	Calculated Intangible Value
CONS	-	Conservatism of Earnings
CFOs	-	Chief Executive Officers
DDM	-	Dividend Discount Model
DICM	-	Direct Intellectual Capital Methods
DPS	-	Dividend Per Share
E	-	Earnings of the Firm
EARN	-	Earnings before Extraordinary Items
$\Delta EARN$	-	Earnings before Extraordinary Items in year t Minus Its Annual Earnings in year t -1

EPS	-	Earnings Per Share
EPSHCE	-	Interaction of Earning Per Share and Human Capital Efficiency
EPSSCE	-	Interaction of Earning Per Share and Structural Capital Efficiency
EPSICE	-	Interaction of Earning Per Share and Intellectual Capital Efficiency
ERC	-	Earnings Response Coefficient
EVA	-	Economic Value Added
ERM	-	Enterprise Risk Management
FASB	-	Financial Accounting Standard Board
FCFE	-	Free Cash Flow to Equity
GDP	-	Gross Domestic Product
GLS	-	General Least Squares
GMM	-	Gordon Growth Model
GNP	-	Gross National Product
GAAP	-	General Accepted Accounting Principles
g	-	Growth Rate
HC	-	Human Capital
HCE	-	Human Capital Efficiency
IC	-	Intellectual Capital
ICE	-	Intellectual Capital Efficiency
IFRS	-	International Financial Reporting Standards
IPOs	-	Initial Public Offerings
ICAEW	-	Institute of Chartered Accountants in England and Wales
IAM	-	Intangible Asset Monitor
IT	-	Information Technology
KLCI	-	Kuala Lumpur Composite Index
KLSE	-	Kuala Lumpur Stock Exchange
KSE	-	Kuwait Stock Exchange
LCM	-	Lower-of-Cost-or-Market
MCM	-	Market Capitalization Methods
MASB	-	Malaysian Accounting Standards Board
MFRS	-	Malaysian Financial Reporting Standards

OECD	-	Organisation for Economic Co-operation and Development
OLS	-	Ordinary Least Squares
P	-	Price Per Share
PEG	-	Price-Earnings Growth
P/E	-	Price-Earnings Ratio
R	-	Return of Firm
r_e, R_e	-	Rate of Return (Cost of Equity)
R_d	-	Cost of Debt
R_p	-	Cost of Preferred Stock
R&D	-	Research and Development Expenditures
R_f	-	Risk-Free of Return
R_m	-	Market Return
r	-	Pearson Correlation Coefficient
REL	-	Relevance of Earnings
RELHCE	-	Interaction of Relevance of Earnings and Human Capital Efficiency
RELSCE	-	Interaction of Relevance of Earnings and Structural Capital Efficiency
RELICE	-	Interaction of Relevance of Earnings and Intellectual Capital Efficiency
RP	-	Risk Premia
ROA	-	Return on Assets
RIV	-	Residual Income Valuation
ROE	-	Return on Equity
SC	-	Structural Capital
SCE	-	Structural Capital Efficiency
SCM	-	Scorecard Methods
SEC	-	Securities Exchange Commission
SFAS	-	Statement of Financial Accounting Standards
VAIC	-	Value Added Intellectual Capital
VIF	-	Variance Inflation Factor
WACC	-	Weighted Average Cost of Capital

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