

**THE INFLUENCE OF BOARD OF DIRECTOR'S  
CHARACTERISTICS AND OWNERSHIP STRUCTURE  
ON INTELLECTUAL CAPITAL DISCLOSURE AMONG  
GULF COOPERATION COUNCIL COMPANIES**

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School of Accountancy  
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## ABSTRACT

Intellectual capital (IC) disclosure, recognised as a highly useful element for maintaining competitive advantage, attracting global investment and adding immense value to the interests of key stakeholders has been presented as an international research direction, especially in the Gulf Co-operation Council (GCC) context. As such, this study addresses the key issue of examining voluntary disclosure of IC among top listed firms in the GCC countries. Specifically, it involves a thorough examination of 119 firms' 2011 annual reports. Furthermore, it investigates whether the monitoring mechanisms of an effective board and audit committee, and ownership structures, influence IC disclosure. By using hierarchical regression, this study also estimates the moderating effect of the effectiveness of audit committees on the relationship between ownership (e.g. government, family, institutional) and IC disclosure. The multiple regression findings showed that the board size, board multiple directorships, board meeting, board committees and audit committee independence had a positive and significant relationship with IC disclosure when examined individually. However, when assessed at aggregate level using scores, it was found that the board effectiveness and family ownership had a significant relationship with IC disclosure in the GCC context. Additionally, this study provides evidence related to family and institutional ownership holding a majority of shares having a significant relationship with IC disclosure. Also, the results of this study showed that audit committee effectiveness moderates the relationship between the government ownership and IC disclosure. The result of this study contributes to the body of knowledge in IC-related studies, particularly with regards to monitoring mechanisms affecting IC disclosure. The findings will be beneficial to investors, regulators, policymakers and market participants as well as researchers.

**Keywords:** IC disclosure, board and audit committee, ownership, GCC firms.

## ABSTRAK

Pendedahan modal intelek (IC), diiktiraf sebagai elemen yang sangat berguna untuk mengekalkan kelebihan daya saing untuk, menarik pelaburan global dan menambah nilai yang besar terhadap kepentingan pemegang taruh utama telah dibawa ke arah penyelidikan antarabangsa, terutamanya dalam konteks Majlis Kerjasama Teluk (GCC ). Oleh itu, kajian ini menangani isu utama dalam mengkaji pendedahan sukarela IC di kalangan firma utama yang tersenaraikan di negara-negara GCC. Secara khususnya, ia melibatkan kajian yang menyeluruh ke atas 119 laporan tahunan firma bagi tahun 2011. Kajian ini juga menyelidik sama ada mekanisme pemantauan keberkesanan lembaga pengarah dan jawatankuasa audit, serta struktur pemilikan, mempengaruhi pendedahan IC. Dengan menggunakan regresi hierarki, kajian ini juga menganggarkan kesan penyederhanaan terhadap keberkesanan jawatankuasa audit ke atas hubungan antara pemilikan (seperti kerajaan, keluarga, institusi) dan pendedahan IC. Hasil kajian regresi berganda menunjukkan bahawa saiz lembaga, pelbagai jawatan pengarah lembaga, mesyuarat lembaga, jawatankuasa lembaga dan kebebasan jawatankuasa audit mempunyai hubungan yang positif dan signifikan terhadap pendedahan IC apabila diperiksa secara berasingan. Walau bagaimanapun, apabila dinilai secara agregat menggunakan skor, didapati bahawa keberkesanan lembaga pengarah dan pemilikan keluarga mempunyai hubungan yang signifikan ke atas pendedahan IC dalam konteks GCC. Selain itu, kajian ini memberi bukti bahawa pemilikan keluarga dan pemilikan institusi yang memegang majoriti saham mempunyai hubungan signifikan dengan pendedahan IC. Tambahan pula, hasil kajian ini menunjukkan bahawa keberkesanan jawatankuasa audit menyederhanakan hubungan antara pemilikan kerajaan dan pendedahan IC. Hasil kajian ini menyumbang kepada badan pengetahuan dalam kajian berkaitan IC terutamanya berkaitan mekanisme pemantauan yang melibatkan pendedahan IC. Hasil kajian akan memberi manfaat kepada pelabur, pengawal selia, pembuat dasar, peserta pasaran dan penyelidik.

**Kata kunci:** pendedahan IC, lembaga pengarah dan jawatankuasa audit, pemilikan, firma GCC.

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## LIST OF ABBREVIATIONS

ACCI	Audit Committee Chairman Independence
ACDILI	Audit Committee Diligence
ACE_ Score	Audit Committees' Effectiveness
ACFE	Audit Committee Financial Expertise
ACIND	Audit Committee Independence
ACMD	Audit Committee Multiple Directorship
ACMEET	Audit Committee Meeting
ACSIZ	Audit Committee Size
BoD_Score	Board of Directors' Effectiveness
BODCOM	Board Committee
BODIND	Board Independence
BODMD	Board Multiple Directorship
BODNA	Board Nationality
BODSH	Board Shareholding
BODSIZ	Board Size
FAMOWN	Family Ownership
FASB	Financial Accounting Standards Board
FSIZ	Firm Size
GCC	Gulf Cooperation Council
GLCs	Government-Linked companies
GOVOWN	Government Ownership
FASB	Financial Accounting Standards Board
IC	Intellectual Capital
ICD	Intellectual Capital Disclosure
INSOWN	Institutional Ownership
INTYP	Industry Types
IPOs	Initial Public Offering
KSA	Kingdom of Saudi Arabia
LEVER	Leverage
MODMEET	Board Meeting
OM	Oman
QA	Qatar
ROA	Profitability
UAE	United Arab Emirates
UK	United Kingdom

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of Study

The growth of the knowledge-intensive economy over the last two decades has precipitated considerable interest in the role of intellectual capital (IC) in organizations. Basically IC is the firm's value creating process, which is recognized as being an important ingredient for organizations to maintain their competitive advantage and keep adding value to their shareholders, see for example Holland (2006), Li, Pike and Haniffa (2008), Sonnier, Carson and Carson (2008), and Tayles, Pike and Sofian (2007). Previous literature has suggested a variety of explanations for IC. As a consequence there is no fixed or standard definition for IC; however, a relevant and a comprehensive definition of IC is provided by Starovic and Marr (2003).

*...the possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organizations competitive advantage (Starovic & Marr, 2003, p.2).*

Whilst there is a wide range of definitions, there seems to be broad consensus that IC comprises three major categories: internal capital, external capital and human capital (Abeysekera & Guthrie, 2005; Brennan, 2001; Guthrie & Petty, 2000; Vandemaele, Vergauwen, & Smits, 2005). Human capital is considered to be a significant firm resource and is considered to comprise the relationships and insights of individual managers, intelligence, training, judgment, workers in the firm and their experiences

(Marr & Schiuma, 2001; Marr, Schiuma, & Neely, 2004; Sonnier *et al.*, 2008). In addition, Wright, McMahan, McCormick and Sherman (1997) have debated that human capital is significant as it delivers the resources by which firms improve their competitive position in the market place. Internal capital comprises the processes and structures employees develop and deploy to be operative, innovative and productive (Boedker, Guthrie, & Cuganesan, 2005). This comprises, for example, new product development, organizational culture, information systems and processes, patents, and management philosophy. On the other hand, the external capital captures the knowledge or market customers, industry or government networks and channels, and suppliers' relationship. Therefore, it connects the external stakeholders, such as customers, suppliers and others, with the organization's relationships (Abeysekera & Guthrie, 2005; Marr *et al.*, 2004). This study adopts the methodology of Guthrie and Petty (2000) for the IC framework, which includes internal, external and human capital.

Previous studies have used intellectual capital and intangible assets interchangeably. This comprises process, copyrights, corporate culture, trade secrets, patents, charismatic leadership and the loyalty of customers (Andriessen, 2004; Lev, 2001). In addition, these items have their own exclusive patterns to development, which are internally made (Clulow, Gerstman, & Barry, 2003). Accordingly, IC set of design is difficult for other firms to copy (Barney, 1991; Dierickx & Cool, 1989; Peteraf, 1993). In addition, the legitimate right to the exclusive usage of specific knowledge, such as copyrights, patents and trade secrets, make those intangible assets a precious and unique resource to the firm (Porter, 1980).

The present study focuses on a particular type of voluntary disclosure, which is IC disclosure. IC disclosure is an important dimension of voluntary information for which there is growing demand (Burgman & Roos, 2007; Holland, 2006). This is because the IC is the key driver of the company's competitive advantage, and disclosing it reduces investors' uncertainty about future prospects and facilitates a more precise valuation of the company (Bukh, 2003; Holland, 2006; Li *et al.*, 2012; Li *et al.*, 2008; Sonnier *et al.*, 2008). Furthermore, information asymmetry is critical for IC as it is specific to a particular company and cannot be seen from other companies (Aboody & Lev, 2000). Therefore, if information about IC is not disclosed, opportunities for moral hazard, adverse selection and other opportunistic behaviour of management will be increased (Aboody & Lev, 2000; Holland, 2006).

In addition, there are many recommendations from international accounting standards setters such as (FASB, 2001; IASB, 2000) and academic studies (Lev, 2001; Mouritsen, Larsen, & Bukh, 2001) to encourage companies to improve their business reporting by making extensive voluntary disclosure of information about intangibles (Oliveira, Rodrigues, & Craig, 2006). For example, the International Accounting Standards Board (IASB 2000) considered it essential that narrative reports supplement financial statements to help provide useful information to users of financial reports. Narrative reporting was thought likely to provide additional information about the assets recognized in financial statements, provide explanation of unrecognized assets and help assess business risk. Furthermore, the Financial Accounting Standards Board (FASB 2001) has recommended that organizations improve their business, which is indicated by rivaling the extensive

voluntary disclosure of leading companies. Furthermore, Keenan and Aggestam (2001) informed that accountability for the prudent investment of IC exists with corporate governance, and that, depending on the firm's characteristics and orientation, the governance of publicly owned firms might require developing new processes and structures in annual reports for collaborative information about the value produced for stakeholders through the firm's IC.

Although Intellectual capital (IC) disclosure and its determinants have been receiving an increasing amount of attention among researchers around the world, this area of research is still in its infancy and a major area for further research (Abeysekera, 2006; Hidalgo, García-Meca, & Martínez, 2010; Li *et al.*, 2008; Parker, 2007; Vergauwen, Bollen, & Oirbans, 2007; Yau, Chun, & Balaraman, 2009). In addition, because most of the prior studies were descriptive in nature, little is known about the factors influencing IC disclosure, as well as in developed countries, such as South Africa (April, Bosma, & Deglon, 2003) Hong Kong and Australia (Guthrie, Petty, & Ricceri, 2006), Australia (Guthrie & Petty, 2000; Sujan & Abeysekera, 2007), and New Zealand (Miller & Whiting, 2005).

Other studies that examined factors influencing IC disclosure with firm characteristics, such as firm size, firm age, and industry type, were mainly examined in developed countries (e.g. Bozzolan, Favotto, & Ricceri, 2003; Bozzolan, O'Regan, & Ricceri, 2006), Australia (e.g. Brüggén *et al.*, 2009; Whiting & Woodcock, 2011), and Portugal (e.g. Ferreira, Branco, & Moreira, 2012; Oliveira *et al.*, 2006). With the exception of a few studies that investigated the relationship between IC disclosure, corporate

governance, and ownership structure patterns, this was scarcely researched in the IC disclosure literature (e.g. Azman & Kamaluddin, 2012; Cerbioni & Parbonetti, 2007; Ahmed Haji & Mohd Ghazali, 2013; Li *et al.*, 2012; Li, Pike, & Haniffa, 2007; Li *et al.*, 2008; Taliyang & Jusop, 2011).

Although a few studies have been done in Gulf Cooperation Council (GCC) countries, the culture, economy as well as social life differ from the countries mentioned above (Seleim, Ashour, & Bontis, 2004). Moreover, GCC countries suffer a lack of knowledge and experience concerning corporate voluntary disclosure (Alsaeed, 2006). In addition, the study by Al-Shammari and Al-Sultan (2010) calls for a focus in GCC nations as a result of the reduced level of disclosure, which is voluntary, in those countries.

Board and audit committee characteristics have been identified as important factors in deciding the IC disclosure level (Azman & Kamaluddin, 2012; Cerbioni & Parbonetti, 2007; Gan, Saleh, Abessi, & Huang, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2012; Li *et al.*, 2007; Li *et al.*, 2008; Taliyang & Jusop, 2011) and these studies found somewhat mixed results. Furthermore, most of the previous studies were conducted in developed countries and only focused on a few firm's characteristics, such as independence, size, board committees, audit committee composition, financial expertise and meetings. Furthermore, little attention has been given to other characteristics of the board and audit committee, which are just as important in determining the board and audit committee effectiveness, and affect the amount of voluntary disclosure. Such characteristics that affect IC disclosure include board shareholding, board meetings, board nationality, board multiple directorships, audit

committee chairman, audit committee multiple directorships and meeting attendance. Thus, this study aims to extend prior research on the association between board and audit committee characteristics, and IC disclosure by investigating the relationship between the characteristics of the board and audit committee (e.g. board shareholding, meeting, nationality, multiple directorships, audit committee chairman, multiple directorships and meeting attendance), and IC disclosure.

In addition, the reasons for the mixed results in previous researches that have investigated the relationship between the characteristics of the board and audit committee, and IC disclosure could be due to their examination of the effect of governance mechanisms in isolation from each other (Ward, Brown, & Rodriguez, 2009). According to Ward *et al.* (2009) most of the prior studies neglected the idea that the success of a mechanism depends on additional mechanisms in that they considered each mechanism separately. Agrawal and Knoeber (1996) found that the effectiveness of an individual mechanism might be ambiguous as the effectiveness of the individual mechanism could disappear if a number of mechanisms are combined. Therefore, as the board of directors' effectiveness depends on its characteristics, prior studies show that board composition, size, shareholding, nationality, multiple directorships, meetings and board committees are important governance factors to determine board effectiveness and enhance voluntary disclosure.

For instance, Akhtaruddin, Hossain, Hossain and Yao (2009) found out that board independence, board size, and outside shares are important governance factors for determining board effectiveness and enhancing voluntary disclosure. Similarly,

Chobpichien, Haron and Ibrahim (2008) argue that independence, size and frequency of board meetings, are significant characteristics that regulate the effectiveness of boards to enforce management to disclose more evidence to outside parties. According to Khan (2010) board independence and board nationality are important variables that determine the effectiveness of boards and enhance social responsibility disclosure, and they found a significant positive relationship. Haniffa and Cooke (2002), suggest that there are significant implications for disclosure practices when members of the boards hold cross-directorships as there will be more access to information than one company alone. Finally, Cerbioni and Parbonetti (2007) suggest that board committees and board composition are important corporate mechanisms to enhance board effectiveness, which, in turn, affect the amount and quality of voluntary disclosure. Therefore, boards with a higher score for their effectiveness have more ability to protect the shareholders' interests by increasing the level of voluntary disclosure compared to boards that have a lower score.

Similarly, it can be said that the effectiveness of the audit committee depends on its characteristics, such as audit independence, chairman independence, size, financial expertise, multiple directorships, frequency of meetings and audit diligence. For example Chobpichien *et al.* (2008) argue that audit committee chairman independence, size, financial expertise and frequency of meetings, are the important factors that determine the effectiveness of the audit committee and its effectiveness in monitoring management, and, in turn, increasing voluntary disclosure. Ismail, Iskandar and Rahmat (2008) consider that audit committee independence, multiple directorships, and meetings are the



important factors in determining its effectiveness, and, hence, increasing the quality of reporting. Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings and attendance are also effective in observing management and can possibly enhance the financial reporting quality. According to DeZoort, Hermanson and Archambeault (2002), the audit committee effectiveness framework could increase considerably if the audit committee characteristics are studied together. Thus, the current study is different to previous studies by investigating the influence of the board and audit committee effectiveness as a bundle of mechanisms in protecting shareholders' interests. More particularly, this study aims to investigate the association between board and audit committee effectiveness, and IC disclosure.

The ownership structure in GCC countries is concentrated on a single shareholder or a small group of shareholders including government, family and institutional ownership (Al-Shammari, 2008). Previous studies have shown that ownership structure (e.g. government, family and institutional) is a determinant of IC disclosure (Azman & Kamaluddin, 2012; Ferreira *et al.*, 2012; Firer & Williams, 2003; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2007; Li *et al.*, 2008; Oliveira *et al.*, 2006; White, Lee, & Tower, 2007; Woodcock & Whiting, 2009; Yau *et al.*, 2009). However, most of the previous studies fail to provide conclusive results and have been conducted in developed countries, which have a different economic culture and political condition than those predominant in Arab countries, particularly GCC countries (Seleim *et al.*, 2004). In addition, developed countries have a relatively dispersed corporate ownership structure and transparent legal system. One of the reasons

that may explain the mixed results found in previous studies is that, usually, studies used total ownership structure irrespective of the difference in the structure of such ownership, and ignored the fact that different types of large shareholder have diverse investment, strategic and discrepant monitoring costs, which have a differential impact on voluntary disclosure practices (Jiang & Habib, 2009). In addition, each type of ownership structure has a different impact on managerial disclosure decisions. Thus, it might offer limited information because of the disparity in the monitoring costs acquired and the mismatched monitoring power held by different types of dominant shareholder. Consequently, this study extends prior studies by examining different types of ownership structure (namely government, family, institutional) in relation to IC disclosure.

Several studies that examined the relationship between ownership structure and IC disclosure provide mixed results (e.g. Azman & Kamaluddin, 2012; Cerbioni & Parbonetti, 2007; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2008; White *et al.*, 2007; Yau *et al.*, 2009). The reason for the mixed results found in previous studies for the relationship between the ownership structure with the IC disclosure may be because they did not consider the impact of the role of corporate governance on this relation (Akhtaruddin & Haron, 2010). Audit committee effectiveness has been suggested as being an important instrument that can play a crucial role in moderating the association between the ownership structure and the level of voluntary disclosure (Akhtaruddin & Haron, 2010; Li *et al.*, 2008). In addition, audit committee effectiveness has been recognized as being an important corporate governance system to regulate agency problems and enhance corporate

voluntary disclosure (Akhtaruddin & Haron, 2010; Ho & Wong, 2001; Li *et al.*, 2008). Furthermore, Chung, Ho and Kim (2004) note that the agency theory asserts that an audit committee decreases the asymmetry of information, reduces managerial opportunism, and enhances the quality of disclosure. The effectiveness of the audit committee has been treated as a moderator variable in this study, as Akhtaruddin and Haron (2010) have shown that the negative association between board ownership and the level of corporate voluntary disclosure may be due to weaker audit committee effectiveness in companies, and, conversely, the positive effect with higher audit committee effectiveness. However, this study differs from previous disclosure studies by examining the audit committee effectiveness as a moderator on the government, family and institutional ownership-IC disclosure relationship. Therefore, this study aims to determine the role of audit committee effectiveness as a moderator variable on the relationship between different types of ownership (e.g. government, family and institutional) and the level of IC disclosure.

The study aims to investigate the IC disclosure behavior of the highest market capitalization organizations registered on the stock exchange of GCC countries (e.g. the United Arab Emirates (UAE), the Kingdom of Saudi Arabia (KSA), Qatar, Oman, Bahrain and Kuwait), which share many common characteristics and similarities that far outweigh any differences, and unite them under a common umbrella. The stock exchanges of the GCC countries have been categorized as an Emerging Capital Market (ECM), which is similar to the stock exchanges in developing countries (Al-Shammari *et al.*, 2008). Several common features characterize the GCC economies: large dependency

on the hydrocarbon sector (oil and gas), a dominant public sector with a significant fiscal surplus, a young and rapidly growing national labor force, and large dependency on expatriate labor (Saif, 2009). The GCC countries have been considered as being a very important part of the global economy since they are the major oil and natural gas producing countries. Collectively, GCC countries hold about 40% of the proven global oil reserves and 23.6% of the proven global natural gas reserves (Reiche, 2010).

Specifically, the top firms in the GCC is selected for this investigation based on the following reasons: Firstly, the listed firms in most of the GCC countries, which is the highest contributor to the country's GDP from the oil and gas and financial sector, is generally dominated by the large firms, which is divided into financial and non-financial (Reiche, 2010). In contrast to small firms, the top firms have an incentive to provide IC information, as they are dependent on their stakeholders and enhance their chance of attracting global investments (Mohd Ghazali & Weetman, 2006; Vergauwen *et al.*, 2007). Furthermore, the agency problem in small firms is higher than in top firms as proved evidence from prior studies that bigger firms are more likely to disclose more information than small firms (Abeysekera & Guthrie, 2005). Therefore, voluntary disclosure is more imperative to them than small firms are. This motivates this study to examine the relationship between the levels of IC disclosure in GCC top listed firms to provide the evidence of whether or not the level of IC disclosure in top firms higher than for small firms.

Secondly, Saidi and Kumar (2008) argue that the GCC is facing the same challenges concerning corporate governance as is being faced in other Asian countries. These

include: (i) excessive government intervention; (ii) highly concentrated ownership structure; (iii) weak external discipline in the corporate sector; (iv) weak legal systems and regulatory framework; (v) lack of quality information; (vi) lack of investors' protection; and (vii) lack of a developed capital market, all of which undermine the effectiveness of the corporate governance mechanism employed in Asia. This motivates this study to examine the relationship between the corporate governance mechanism and IC disclosure to provide the evidence of whether or not the challenges that might affect the strength of the corporate governance mechanism GGC.

Thirdly, corporate governance is considered as a new concept in the GCC region, and has emerged within the last 10 years (Koldertsova, 2011). According to Saidi and Kumar (2008), good corporate governance is needed in the GCC due to privatization, liberalization, opening up of financial markets and increased delegation of investment. One of the important aspects, from an investor's perspective, is that there is a visible movement in the right direction that would bring about security and improvement in the GCC's overall corporate governance framework across the region. This will contribute to confidence building among the investors (Saidi, 2011). This gives the current study the motivation to examine the relationship between internal corporate governance mechanisms and IC disclosure to provide evidence under what type of corporate governance mechanisms can protect the minority of shareholders by disclosing more information about IC in the environment where legal protection and law enforcement is low (Al-Shammari *et al.*, 2008).

Finally, In the GCC countries, three shareholder groups typically have substantial equity ownership in listed companies. These groups are the government and its agencies, dominant families, and institutional investors, all of whom may influence the level and quality of disclosure (Al-Shammari *et al.*, 2008). This motivates this study to examine the relationship between three types of ownership structure and IC disclosure as ownership structure on the board create information asymmetry between the management and outside directors who are supposed to protect the interests of the minority (Chen & Nowland, 2010)

## **1.2 Problem Statement**

IC disclosure in the large firms is considered as essential due to top companies have an incentive to provide additional information as they are dependent on their stakeholder and attracting global investments (Mohd Ghazali & Weetman, 2006; Vergauwen *et al.*, 2007). However, to date, the findings of previous studies indicate that the levels of voluntary IC disclosure are low worldwide (Whiting & Woodcock, 2011). The same is expected to be found in the GCC countries due to the fact that the levels of voluntary disclosure in this region are low (Al-Shammari & Al-Sultan, 2010). This may due to there is three types of ownership structure, which is, government, family and institutional. Therefore the information agency problem will be high between majority and minority shareholders (OECD, 2009). For these reasons, GCC firms provide little information in their annual reports (Al-Aqeel & Spear, 2006; OECD, 2009), which leads to a lower level of disclosure in the listed firms and a higher level of information asymmetry in this sector (Chahine, 2007).

Accordingly, internal corporate governance mechanisms, such as board of directors and audit committees effectiveness, are important corporate mechanisms for solving the agency problem by reducing the opportunistic behavior of management and information asymmetry, and, thus, increasing the level of voluntary disclosure (Jensen & Meckling, 1976). It has been suggested that the enhancement of the board of directors in terms of board independence, size, shareholding, nationality, multiple directorships, meetings, and board committees, could improve board effectiveness and its capacity to monitor the management, and, thus, increase the possibility of providing more voluntary information to outside investors (Akhtaruddin *et al.*, 2009; Barako & Brown, 2008; Barros *et al.*, 2013; Cerbioni & Parbonetti, 2007; Chobpichien *et al.*, 2008; Haniffa & Cooke, 2002; Li *et al.*, 2008; Mohd Ghazali, 2007; Singh & Van der Zahn, 2008). The combination of mechanisms is regarded as being better able to reduce the agency cost because a particular mechanisms effectiveness depends on the effectiveness of others (Davis & Useem, 2002). According to Chobpichien *et al.* (2008), Ishak and Al-Ebel (2013), and Singh and Van der Zahn (2008), board of directors characteristics, such as independence, size and meetings are a measurement of its effectiveness. Consequently, this study extends the previous studies by examining the association of board of director's characteristics, both individually and overall (effectiveness), with IC disclosure.

As mentioned earlier, the characteristics of audit committee that can determine audit committee effectiveness such as independence, chairman, size, financial expertise, multiple directorships, meetings and attendance of meetings (Akhtaruddin & Haron, 2010; Haji-Abdullah & Wan-Hussin, 2009; Ismail *et al.*, 2008; Li *et al.*, 2012; Li *et al.*,

2008; Madi, Ishak, & Manaf, 2014; Othman, Ishak, Arif, & Abdul, 2014; Persons, 2009). Therefore, the characteristics of audit committees might affect the effectiveness of the audit committee as well as the role of corporate governance in corporations. In addition, some studies measured the effectiveness of audit committees by their characteristics, such as independence, size, financial expertise and meetings (Akhtaruddin & Haron, 2010; Karamanou & Vafeas, 2005; Mangena & Pike, 2005). However, DeZoort *et al.* (2002) suggest that the effectiveness of audit committee framework may increase considerably if audit committee characteristics are studied together. Thus, this study extends the previous studies by examining the association of audit committee characteristics individually and overall (effectiveness) with IC disclosure.

As highlighted earlier, ownership structure has been identified as an important factor can affect the level of IC disclosure (Azman & Kamaluddin, 2012; Ferreira *et al.*, 2012; Hidalgo *et al.*, 2010; Li *et al.*, 2008; Oliveira *et al.*, 2006; White *et al.*, 2007). As discussed earlier, the GCC listed companies are usually owned by few groups of shareholders such as government, family and institutional ownership . As such, this may not be possible under ownership concentration; large shareholders who have access to corporate information are less motivated to disclose private information to external shareholders. Thus, this study aims to examine the influence of these three types of ownership structure such as (government, family and institutional), on the level of voluntary IC disclosure.

The policy makers in the stock exchange of the GCC emphasize the role of the board of directors and the audit committees to ensure that the annual financial reports of the



companies are reliable and ensure disclosure of information, which would prove beneficial to the users of the financial statements (OECD, 2009; Saidi & Kumar, 2008). The level of agency problem and information asymmetry between majority and minority shareholders depends on the corporate governance effectiveness (Akhtaruddin & Haron, 2010; Chobpichien *et al.*, 2008; Ho & Wong, 2001). For example, in companies that are owned or controlled by large shareholder which have effective audit committee will reduce information asymmetry and agency problem by enforcing the management to disclose more information to outside party (Akhtaruddin & Haron, 2010). In addition, audit committee effectiveness has been suggested as being an important instrument that plays a crucial role in moderating the relationship between ownership structure and voluntary disclosure by reducing information asymmetry, agency problem between majority and minority shareholders (Akhtaruddin & Haron, 2010; Li *et al.*, 2008). As discussed earlier, the GCC listed companies are usually owned by three types of ownership structure (e.g. government, family and institutional). Large shareholders who have access to corporate information are less motivated to disclose private information to external shareholders. Therefore, if the result of the association is positive, it may be caused by the influence of the effectiveness of the audit committee. Conversely, if the result is negative it could also be due to the weak corporate governance. Therefore, this study aims to determine the role of audit committee effectiveness as a moderator variable on the relationship between the different types of ownership structure and the level of IC disclosure. Therefore, this study introduces audit committee effectiveness as the moderator variable to provide some insight into whether or not the audit committee

effectiveness has an effect on the relationship between three types of ownership structure (e.g. government, family and institutional) and IC disclosure.

### **1.3 Research Questions**

This study is designed to answer several questions related to identifying the current level of IC disclosure of the GCC top listed companies and investigate its relationship with board and audit committee characteristics, and ownership structure. In addition, it investigates the influence of audit committee effectiveness in moderating the relationship between ownership structure and IC disclosure. Specifically, the study aims to answer the following questions:

1. What is the level of IC disclosure in the annual reports of GCC listed companies?
2. What is the relationship between the board of directors' characteristics (namely, independence, size, shareholding, nationality, multiple directorships, meetings and board committees) and voluntary IC disclosure in GCC listed companies?
3. What is the relationship between the board of director's effectiveness and IC disclosure in GGC listed companies?
4. What is the relationship between the audit committee characteristics (namely, independence, chairman independence, size, financial expertise, multiple directorships, meetings and attendance of meetings) and voluntary IC disclosure?
5. What is the relationship between the effectiveness of audit committees and voluntary IC disclosure?

6. What is the relationship between different types of ownership structure (namely, government, family, and the institutional ownership) and IC disclosure in GCC listed companies?
7. To what extent does audit committee effectiveness moderate the relationship between each type of ownership structure (namely, government, family, and institutional) and the level of voluntary IC disclosure in GCC listed companies?

#### **1.4 Research Objectives**

This study investigates several objectives related to identifying the current level of IC disclosure of GCC top listed companies and its relationship with board and audit committee characteristics and ownership structure. In addition, it examines the moderating effect of audit committee effectiveness on the relationship between ownership structure and IC disclosure. Specifically, the study aims to achieve the following seven objectives:

1. To identify the level of IC disclosure in the annual reports of GCC listed companies.
2. To examine the relationship between the board of directors' characteristics (namely, independence, size, shareholding, nationality, multiple directorships, meetings and board committees) and voluntary IC disclosure in GCC listed companies.
3. To examine the relationship between the board of directors' effectiveness and IC disclosure in GCC listed companies.

4. To examine the relationship between the audit committee characteristics (namely, independence, chairman's independence, size, financial expertise, multiple directorships, meetings and attendance of meetings) and voluntary IC disclosure.
5. To examine the relationship between the effectiveness of audit committees and voluntary IC disclosure.
6. To examine the relationship between the ownership structure (namely government, family and institutional) and the level of voluntary IC disclosure of GCC listed companies.
7. To examine the moderating effect of audit committee effectiveness on the relationship between each type of ownership structure (namely, government, family, and institutional) and the level of voluntary IC disclosure of GCC listed companies.

### **1.5 Significance of the Study**

There are several significant aspects that encourage the researcher to conduct this study. First, IC disclosure and its determinants have been identified as being an important research area and have attracted empirical researchers. In addition, the study of determinants of IC disclosure is still in its early stages and only a limited number of studies have been conducted in addressing this important issue (i.e. exploring the possible factors contributing to or limiting IC disclosure) (Abeysekera, 2006; Hidalgo *et al.*, 2010; Li *et al.*, 2007; Li *et al.*, 2008; Vergauwen *et al.*, 2007; Yau *et al.*, 2009). Although previous studies provide theoretical explanations and empirical evidence of the association between board and audit committee characteristics, and ownership structure

with IC disclosure, the studies provide limited and inconclusive results (Azman & Kamaluddin, 2012; Cerbioni & Parbonetti, 2007; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Li *et al.*, 2012; Li *et al.*, 2008; White *et al.*, 2007; Whiting & Woodcock, 2011; Yau *et al.*, 2009). Thus, further research is needed to examine the determinants of IC disclosure and to explore the conditions under which these determinants would in fact lead to increase the level of IC disclosure.

Second, most studies in the past have investigated how corporate governance mechanisms and firm-specific variables are related to IC disclosure in developed countries, for example, Australia (Brüggen *et al.*, 2009; White *et al.*, 2007; Whiting & Woodcock, 2011), the UK (Li *et al.*, 2012; Li *et al.*, 2008), Italy (Bozzolan *et al.*, 2003; Bozzolan *et al.*, 2006), the USA (Sonnier *et al.*, 2008), Spain (García-Meca & Martínez, 2005; García-Meca *et al.*, 2005) and Portugal (Oliveira *et al.*, 2006). However, in developing countries, only a few studies have been conducted to examine the association between the mechanisms of corporate governance and IC disclosure, for example, Kenya (Abeysekera, 2010), Mexico (Hidalgo *et al.*, 2010), and Malaysia (e.g. Azman & Kamaluddin, 2012; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Yau *et al.*, 2009). Being aware of the fact that various nations have distinctive levels at which investors are protected, different levels of enforcing legal rights and structures of ownership, the researcher deems it appropriate to recognize these factors when analyzing IC disclosure in various nations that have distinctive social and economic factors (Mohamed, Oyelere, & Aljifri, 2009) to provide a more meaningful IC voluntary disclosure study. For this reason, the current study considers particular nations, such as

the GCC member states to offer good insights into the connection of corporate governance and the voluntary disclosure of IC.

The third motivation is that the previous studies that investigated the association between corporate governance variables and IC disclosure only focused on high-technology companies even though the top companies have an incentive to provide additional information as they are dependent on their stakeholder (Vergauwen *et al.*, 2007). In addition, top companies are most likely to engage in voluntary disclosure practices to enhance their chance of attracting global investments (Mohd Ghazali & Weetman, 2006). Moreover, the annual reports of top firms by market capitalization represent the concerns and interests of firms for being benchmarked for the best practice of corporate governance (Abeysekera & Guthrie, 2005; Yau *et al.*, 2009). This study extends the IC disclosure studies by examining the relationship of the board of directors and audit committee effectiveness and ownership structure with IC disclosure in the top firms in the GCC countries, which have the same culture, socio-economic, and political norms (Al-Khouri, 2011; Al-Muharrami, Matthews, & Khabari, 2006; Arouri, Hossain, & Muttakin, 2011). Therefore, the significance of this study stems from the following aspects:

### **1.5.1 Theoretical Contribution**

As one of the important internal corporate governance mechanisms, this study extends IC disclosure studies by examining the individual relationship of board of directors' characteristics (e.g. board independence, board size, board shareholding, board

nationality, board multiple directorships, board meetings, and board committees) with IC disclosure. Furthermore, this study extends prior studies by examining the combined impact of board characteristics on IC disclosure. Furthermore, this study, by examining the individual relationship of board characteristics (i.e. board independence, board size, board shareholding, board nationality, board multiple directorships, board meetings and board committees) with IC disclosure, extends IC disclosure studies by examining the relationship between the IC disclosure and board nationality, board multiple directorships. Board nationality is considered to be an important variable that determines the effectiveness of the board and enhances voluntary disclosure (Khan, 2010). In addition, Haniffa and Cooke (2002), suggest that multiple directorships held by members of boards have important implications for disclosure practice as there will be greater access to information in more than one company. However, IC disclosure studies, such as Cerbioni and Parbonetti (2007), Gan *et al.* (2013), Ahmed Haji and Mohd Ghazali (2013), Hidalgo *et al.* (2010), Li *et al.* (2008), Moeinfar *et al.* (2013) and Taliyang and Jusop (2011), do not examine the association between board nationality and board multiple directorships with IC disclosure. Therefore, the current study fills the gap in the existing literature by examining the association between board of directors' characteristics and IC disclosure. Additionally, this study examines the relationship between the effectiveness of the board of directors' score and IC disclosure.

This study extends IC disclosure studies by examining the individual relationship of audit committee characteristics, such as audit committee independence, chairman, size, financial expertise, multiple directorships, meetings and attendance of meetings and IC

disclosure. Furthermore, this study extends prior studies by examining the combined impact of audit committee characteristics on IC disclosure. Chobpichien *et al.* (2008) suggest that if the chairman of the audit committee is independent with independent directors it leads to improved audit committee effectiveness and enhanced disclosure quality. Ruzaidah and Takiah (2004) argue that multiple directorships enhance audit committee expertise and enable them to monitor the companies to produce high quality reporting. Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings and participation in meeting are more effective in monitoring management and can potentially enhance the quality of financial reporting. In addition, they also consider the number of meetings and attendance as the main factors that affect audit committee effectiveness. However, prior studies about IC disclosure and audit committee characteristics do not examine the relationship between audit committee chairman, multiple directorships and attendance of meetings with IC disclosure (Azman & Kamaluddin, 2012; Gan *et al.*, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2012; Taliyang & Jusop, 2011). Therefore, the current study fills the gap in the existing literature by examining the association between audit committee characteristics and IC disclosure. Additionally, this study examines the relationship between the score of audit committee effectiveness and IC disclosure.

Ownership structure has been identified as a central determinant of IC disclosure (e.g. Azman & Kamaluddin, 2012; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2008; Oliveira *et al.*, 2006; White *et al.*, 2007; Yau *et al.*, 2009). However, empirical studies that investigate the association of



the ownership structure with IC disclosure within the domain of an emerging country are limited. Little attention has been given to the association of the structure of ownership with voluntary disclosure, particularly in respect of the disclosure of IC in GCC member states. Furthermore, many studies have been examined the relationship between IC disclosure and ownership structure provide mixed results because finer categorizations of variables influencing ownership have not been made (Jiang & Habib, 2009). Therefore, the current study attempts to extend the present literature by examining the relationship between ownership structure (e.g. government, family and institutional) and IC disclosure, by paying attention to the business environs of the GCC member countries and the particular type of ownership structure.

Most corporate governance research focuses on a universal link between the ownership structure and voluntary of IC disclosure (Azman & Kamaluddin, 2012; Cerbioni & Parbonetti, 2007; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2008; White *et al.*, 2007; Yau *et al.*, 2009). As a result, such studies provide unclear results. Akhtaruddin and Haron (2010) suggested investigating the interaction between the audit committee effectiveness and ownership structure to shed new light on the contradictory empirical results of past research because agency problem and information asymmetry between majority and minority shareholders are influenced by level of audit committee effectiveness. This study contributes to the literature of IC disclosure through examining the effectiveness of audit committee, as a moderator on the relationship between different types of ownership and IC disclosure, unlike previous studies that considered audit committee effectiveness as an independent

variable that influences the level of voluntary disclosure. In this study, the effectiveness of audit committee as a moderator variable is investigated and as independent variable. The effectiveness of audit committees has been treated as a moderator variable in this study, as Akhtaruddin and Haron (2010) have shown that the negative relationship between board ownership and corporate voluntary disclosure, may be due to the weaker audit committee effectiveness in companies, and, conversely, the positive effect with the higher effectiveness of the audit committee. However, this study differs from that study by examining the effectiveness of audit committees as a moderator on the three types of ownership structure and IC disclosure relationship. Furthermore, this study differs from previous disclosure studies by examining the audit committee effectiveness as a moderator on the government, family and institutional ownership-IC disclosure relationship, which, according to the knowledge of the researcher, no study has previously examined.

Overall, this study contributes to IC disclosure and corporate governance literature by examining the relationship of internal corporate mechanisms, such as board of directors and audit committee effectiveness in top listed companies in GCC countries. Therefore, selected top firms as a sample for this study due to top firms can create IC disclosure and they an incentive to provide voluntary information, as they are dependent on their stakeholder. In addition, since little is known of disclosure practices in the annual reports of GCC listed firms, by examining the moderating effect of audit committee effectiveness between ownership structure and IC disclosure, tries to provide support for agency theory arguments that say that audit committee effectiveness can reduce the agency problem and

information asymmetry between majority and minority shareholders. Thus, the level of IC disclosure will increase in the company have high level of audit committee effectiveness. In doing so, this study constitutes a further contribution to disclosure studies and narrows the gap in the accounting literature.

### **1.5.2 Practical Contribution**

In many ways, this research makes a practical contribution with reference to the relationship between the board and audit committee characteristics, ownership structure and IC disclosure.

Firstly, the practical significance of this study is that it will assist the GCC top listed companies to understand the level of IC disclosure. The determining factors are board and audit committee characteristics, and ownership structure that affect the extent of IC disclosure. The GCC stock exchange can then monitor the features of the board and audit committee that influence the extent of the voluntary disclosure of IC in its quest to improve the transparency and accountability of the corporate yearly reports of the list of companies in the GCC member states.

Secondly, the study examines the different areas of the system of corporate governance with the various forms of ownership structure, features of audit committee, and features of board of directors by examining them to the level of voluntary disclosure of IC. The results obtained from this examination will serve as a guide to investors in assessing how quality is the information of finance. It will also give insights into the function of the different systems or methods of corporate governance as a means of reconciling the

disagreement arising from the different interests among the major and minor shareholders, as well as the managers to improve the financial reporting quality and make it reliable. Therefore, in the area of accounting knowledge as well as in the increasingly empirical literature in this field, the contribution of this current work cannot be ignored. In addition, it motivates future studies concerning the relations of corporate governance and the disclosure of IC.

Thirdly, corporate governance has been known in the Arab world for ten years now (Saidi, 2011), and, through the examination of the relationship of the systems of corporate governance to the disclosure of IC, the current research will give an understanding and indication concerning whether the guidelines placed on all firms are followed as expected. In addition, the results obtained from this research will also provide a guide to the regulators in deciding policies with respect to corporate governance issues, which, in turn, will decide the trend of governance policies for GCC listed companies in the future.

### **1.6 Scope of the Study**

This study focuses on the top companies listed on the GCC Stock Exchange at the end of 2011. This year was selected due to the implementation of the corporate governance policy in GCC countries, which started from 2001 to 2010. The data were collected from published annual reports in the financial year of 2011. However, this study aims to investigate the influence of the board of directors, audit committee characteristics, and ownership structure on the level of IC disclosure. Furthermore, it aims to examine the

relationship between board and audit committee effectiveness with IC disclosure. Finally, this study aims to examine the effectiveness of audit committee as a moderator for the relationship between three types of ownership structure (e.g. government, family and instructional) and IC disclosure.

### **1.7 Organization of the Study**

This thesis is organized into six chapters. Chapter One provides a background of the study, problem statement, questions and research objectives, significance of the study, and organization of the study. Chapter Two reviews the prior literature concerning the theories and discusses empirical findings on board and audit committee effectiveness, ownership structure and IC disclosure. Chapter Three explains the theoretical framework and the development of the hypotheses. Chapter Four outlines the sampling method, data collection process, definition of variables, and the models used to test the hypotheses. Chapter Five presents the descriptive results of the variables and results from the multivariate testing procedures. Chapter Six concludes the study by offering a summary, implications and limitations, and recommendations for future research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter captures the concept of identified variables and critically reviews them one by one. In addition, the theoretical aspects are also discussed in detail in this chapter. However, the other sections of the chapter are organized as follows: Section 2.2 provides a description of the intellectual capital (IC) disclosure while section 2.3 sheds light on the classification of IC. A review of some empirical literature on IC disclosure is provided in Section 2.4 and a brief overview of corporate governance practices in the GCC is provided in Section 2.5. Section 2.6 reviews the theoretical IC disclosure framework. A brief overview of the role of board characteristics to IC disclosure is provided in Section 2.7. Section 2.8 discusses audit committee effectiveness and IC disclosure. Section 2.9 discusses ownership structure and IC disclosure. Section 2.10 examines the moderating effect of audit committee effectiveness. The chapter ends up with section 2.11, which provides a summary of the chapter.

#### **2.2 Definition of Intellectual Capital**

The literature offers an extensive range of definitions for IC that differ in their focus, ranging from personal to organizational attributes (Mouritsen, 1998), to knowledge that can be utilized for value creation (Stewart & Ruckdeschel, 1998). According to Stewart and Ruckdeschel (1998), IC is the aggregation of everything that resides in the company

that brings about market competitive advantage. However, the following are definitions by various researchers:

Table 2.1  
*Definitions of Intellectual Capital*

<b>Authors</b>	<b>Definitions of intellectual capital</b>
Klein & Prusak (1994)	IC is intellectual material that has been formalized, captured and leveraged to produce higher value assets.
Hall (1992)	IC refers to assets and skills, in which assets are formalized and capture intellectual capital, such as patents, trademarks, copyrights, databases and contracts; and skills or competencies refer to tacit knowledge, such as expertise of employees, suppliers and distributors.
Brooking, (1996)	IC is the term given to the combined intangible assets of the market, intellectual property, human-centered assets and infrastructure, which enable the company to function.
Stewart (1997)	IC is intellectual material that is knowledge, information, intellectual property, and experience that can be put to use to create wealth.
OECD (1999)	IC is defined as "the economic value of two categories of intangible assets of a company", that is, organizational and human capital. Organizational capital refers to proprietary software systems, distribution networks and supply chains and human capital refers to human resources within the organization and resources external to the organization, namely, customers and suppliers.
Marr & Schiuma (2001)	The group of knowledge assets that are attributed to an organization and most significantly contribute to an improved competitive position of this organization by adding value to defined key stakeholders
Starovic & Marr (2003)	The possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organizations competitive advantage
Bukh <i>et al.</i> (2005)	IC is knowledge resources, in the form of employees, customers, processes or technology, which the company can mobilize in its value creation process.

According to above Table 2.1, the most detailed definition for IC is that given by Starovic and Marr (2003). In the creation of wealth, intellectual material must be combined, namely: first, there must be knowledge; second, it entails information, third, is the intellectual property, and fourth is that of experience. Knowledge has been considered very significant as it drives the development of an organization. Companies bring about new development in terms of innovation without relying on their assets in terms of plant

and machinery but depend on skills and technologies as well as knowledge acquired by the employees.

According to Starovic and Marr (2003), IC is often mistakenly used synonymously with intellectual property, such as patents, trademarks and copyrights, which is only one aspect of it. IC can be the end result of a knowledge transformation process, the knowledge itself that is transformed into the intellectual property or the intellectual assets of a company. On the other hand, intellectual assets are knowledge-based items that a company possesses that produce a stream of future benefits. For this study, the IC of a company refers to its possession of the knowledge, applied experience, organizational technology, customer relationships and professional skills that provides it with a competitive edge in the market (Starovic & Marr, 2003).

### **2.3 Classification of Intellectual Capital**

Even though there is no consensus on a particular definition of IC, there seems to be a wider agreement that IC consists of three main groups which are, one, structural (internal) capital; two, human capital; and three, relational (external) capital (Abeysekera, 2006; Bozzolan *et al.*, 2003; Cerbioni & Parbonetti, 2007; Li *et al.*, 2007; Li *et al.*, 2008; Oliveira *et al.*, 2006; Whiting & Woodcock, 2011; Yau *et al.*, 2009). Some studies categorized IC disclosure into human resources, IC tactical statements, information technology, research and development, customers, and processes (Bukh *et al.*, 2005; Cordazzo, 2007; García-Meca *et al.*, 2005; Rimmel, Nielsen, & Yosano, 2009). Recently,



Abeysekera (2010) categorized IC disclosure into resources that are strategic or tactical, which includes human capital, external capital, and internal capital.

### **2.3.1 Human Capital**

Human capital is considered to be a form of skill gathered by the employee for a specific type of work either by training or by means of experience, which enhances the value of the employee in the labor market (Maddocks & Beaney, 2002). Human capital is the combination of the ability of human beings in an organization for dealing with the problems associated with the business. Human capital is inbuilt in human beings, and which can hardly be owned by the organization. For this reason, human capital forgoes the organization as people forgo it. In addition, human capital entails the way human resources are being used effectively with respect to the level of innovation and creativity (Amiri, Jandaghi, & Ramezan, 2011). The various forms of disclosure of IC on human capital is acknowledged as a significant resource of the firm, which includes the training of employees, the employee's experience, level of judgment, the degree of intelligence, the level of associations and the know-how of managers and employees in the firm (Marr & Schiuma, 2001; Marr *et al.*, 2004; Sonnier *et al.*, 2008). It therefore covers the knowledge of the employees, skills of the profession, the employees' experience and their level of innovation in the organization. Human capital is also significant as it provides different ways that a firm can enhance its competitive edge in the market (Wright *et al.*, 1997).

### **2.3.2 Internal Capital**

The organization's complementary amenities processes and the organized set of data stored that makes the human capital perform is known as structural capital (Maddocks & Beaney, 2002). The composition of structural capital includes such items as processes, buildings, software, hardware, trademarks and patents. Furthermore, it consists of other items, such as the image of the organization, the system of information, organization, and an organized set of etiquette data stored. Given that structural capital has many wider contents, it may be grouped into organization capital, process capital, and innovative capital. Among these, the one that contains the ideas or principles of the organization as well as the mechanisms for influencing the capability of the organization is known as organizational capital. The guidelines, methods, and programs that execute and improve the offering of goods as well as services are contained in process capital. Lastly, the innovation capital consist of the properties considered to be intellectual as well as assets that are not tangible (Edvinsson & Malone, 1997). The properties considered to be intellectual involve the guarded commercial rights in terms of rights to copy and the trademarks. The assets that are considered as not being tangible involve talents and the theory upon which the organization is operated.

### **2.3.3 External Capital**

Relational capital comprises items that can readily be recognized, such as marks on trade that are popularly known as trademarks, the permits given to carry out an action otherwise known as licenses, and the right to possess or act, which is also known as franchises. It also contains others that are less defined like the associations with

customers and the interactions of customers. The idea that both human and structural capital are separated from customer capital shows its fundamental significance to the value of the organization (Skyrme, 1998). For this reason, it connects to the associations of the organization with either the customers or the suppliers or others, which are the external shareholders (Guthrie *et al.*, 2006; Marr *et al.*, 2004).

## **2.4 The Importance of Intellectual Capital Disclosure**

A number of explanations have been provided in the previous studies to explain why companies may voluntarily measure and disclose IC. IC disclosure can provide an opportunity to the companies to benefit in relation to the external environment that impacts the company. Also, measuring and reporting IC is said to benefit the company through the increasingly efficient mode of operation, enhancement of the spirit of employees as well as their motivation, and the efficient and best allocation of resources within the company (Flamholtz & Main, 1999; Guthrie, Petty, Ferrier, & Wells, 1999). In the context of the external environment, the overriding incentive for firms to embark upon voluntary IC disclosure is to make the unknown known for use by the external information users (Beattie & Thomson, 2007; Cooper & Sherer, 1984; Roos & Roos, 1997). IC disclosure gives room for the companies to benefit from growing transparency to capital markets, to build trust with the shareholders and use a worthy instrument of marketing (Van der Meer-Kooistra & Zijlstra, 2001).

The creation of assets that are not tangible occurs by improving reputation and the external view of reputation is affected by disclosure, thus making the IC information

disclosure continuous with respect to the maintenance and improvement of the worth of the IC (Guthrie *et al.*, 2006; Toms, 2002). Nonetheless, unwillingness to account for IC information could happen due to the fear of losing the benefits of competition as well as fear of legal charges. IC information could be disclosed by companies in such a way as to look like a legitimate one thereby preventing the costs that might be incurred as a result of illegitimacy. The choice of disclosure of different organizations can determine how the legitimacy will look. The disclosure of IC could be in response to the shareholders' requests, which are very significant for keeping the company alive (Beattie & Thomson, 2007; Deegan & Unerman, 2006). Moreover, the disclosure of IC decreases the asymmetry of information associated with IC information flowing from the managers to investors. As a result, the level of disclosure and the richness of information passed via public routes should be enhanced by the managers to give investors a clear picture of the business of the firm and make the shareholders realize the creation of value (White *et al.*, 2007). According to Healy and Palepu (2001), decreasing the asymmetry of information between managers and investors lessens the costs of information that the investors may incur, which further brings gains to the firm with respect to reduced capital cost, multiplication of greater value, growth of liquidity stock as well as the improvement of institutional investors' interest. Providing an account of IC, further brings about gains by reducing the asymmetry of information in the capital markets, which reduces the capital cost (Aboody & Lev, 2000; Lev, 2001). In taking decisions, information regarding the disclosure of IC plays a significant role for stakeholders (Li *et al.*, 2008).

## 2.5 Empirical Studies of Intellectual Capital Disclosure

The increasing importance of intellectual capital for business enterprises in fostering competitive advantage and value, coupled with the perceived limited value-relevance of traditional financial reports has led to increased calls from different constituents for improved IC reporting by firms in order to support investors' decision-making processes (Holland, 2006; Wallman, 1995). Wallman (1995), for instance, states that:

*.....We cannot have financial reporting and disclosure constraints that slow the pace of progress in capital markets, decrease the rate of reduction in the cost of capital, or limit innovation. (p. 89)*

In order to buttress the assertion by Wallman (1995), a call was made to firms by Beattie (1999) to publicly give account of the measure of IC and its management. In a similar way, Beattie and Thomson (2004) contend that the model of reporting business should be made larger than the traditional model of financial reporting so as to tolerate IC and fulfil the capital market requirements. The suggestions made by the setters of international accounting standards as well as authors in this field of research enjoin companies to enhance the report of their business through the broad and voluntary disclosure of information with respect to intangibles (Oliveira *et al.*, 2006). The International Accounting Standards Board (IASB) (2000), for instance, viewed it as important in that descriptive reports add to the statements of finance in offering reasonable information to the users of financial reports. Descriptive reports are believed to add more information with respect to the assets identified in the financial statements, give analysis of unidentified assets and assist in evaluating the risk involved in business. In addition, the

Financial Accounting Standards Board, FASB, (2001) has persuaded business organizations to enhance the report of their business by giving broader voluntary disclosure in a similar way to the top business organizations.

As a result of the fact that the traditional model of accounting does not give the necessary or reasonable information with respect to the IC of a firm, voluntary disclosure serves as the only source to indicate the prevalence and importance of these resources to both the lenders and investors (Sonnier *et al.*, 2008). In addition, prior studies (i.e. Abdel-khalik, 2003; Rylander, Jacobsen, & Roos, 2000) recommend the extension of the balance sheet to include complementary balance sheets or similar elements to acknowledge various categories of capital that are difficult to gauge via financial terms, and to include IC in the financial reports. Furthermore, Cañibano, Garcia-Ayuso and Sánchez (2000) state that the cost linked to the fundamental variation of the accounting system, which enables it to be necessarily valuable is not affordable, and that a reasonable way to improve the statements of finance is to encourage the voluntary disclosure of IC. This contention is supported by Beattie and Thomson (2007), who contend that there is room for reporting IC using a descriptive approach, as made available in the yearly corporate reports.

In answer to the increasing urge for enhanced IC disclosure, the degree to which IC information is relayed in annual reports has been addressed by several studies in the past ten years. Generally, such studies focus on the degree of IC disclosure either per geographical region, per time-horizon, per industry (i.e. traditional versus new economy companies), or a combination of the above. Often, the level of IC disclosure is researched for the three different categories of IC, as indicated by Sveiby (1997). He groups IC

disclosure into three; namely, human capital, external capital, and internal capital. Next, each study will be discussed (sample, methodology, and findings). Although there are three types of study in the literature review about IC disclosure, most of them are on developed countries.

### **2.5.1 Empirical Studies on the Level of IC Disclosure**

The first stream of researchers is descriptive work concentrating on the presence or level of IC disclosure and its composition. These include studies dedicated to examining the disclosure content provided by firms with the aim of providing an overview of IC disclosure activities conducted on an annual basis (Abdolmohammadi, 2005; Abeysekera, 2008; Abeysekera & Guthrie, 2005; Beaulieu, Williams, & Wright, 2001; Bontis, 2003; Brennan, 2001; Guthrie & Petty, 2000; Guthrie *et al.*, 1999; Guthrie *et al.*, 2006; Miller & Whiting, 2005; Sujan & Abeysekera, 2007; Vandemaele *et al.*, 2005; Williams, 2001). Such studies are summarized in Table 2.3.

Guthrie *et al.* (1999), and Guthrie and Petty (2000) made the first attempt to contain IC reporting. In their single year research on 20 large Australian companies, they use a system for coding the items in the report on a 4-point scale, with 0 if the report contains no information on the IC item, 1 if the report features qualitative information on the item, 2 if the report contains quantitative information, and 3 if the report contains a monetary amount. This leads to the conclusion that there is no reporting framework in place, neither for distinguishing between the different components of IC, nor in general, and that few companies report on IC. Guthrie *et al.* (1999) find that the majority of IC

information reported was on capital from outside (40%), rather than about internal capital (30%) and human capital (30%).

Brennan (2001) conducted a similar study on technology and people-oriented firms of Ireland by examining the yearly reports of 11 knowledge-based Irish listed firms. She adopts the same model as Guthrie and Petty (2000), but uses a different coding system. The time horizon of the research is also one year. The system only uses a 0 for no information on IC disclosure, and 1 for information. Brennan (2001) argues that since the information in reports is almost always case qualitative, it is not necessary to use a different coding. However, she finds a low level of IC disclosure and that when IC is mentioned, it is mostly in qualitative terms. She argues that this is because firms are not really interested in IC. Finally, she finds that Irish firms hardly ever measure their IC.

While in the previous studies the time horizon is only one year, Williams (2001) provides a longitudinal examination of disclosure of IC in the yearly report over five years from 1995 to 1999. He argues that, during this period, interest in IC expanded dramatically, and, therefore, it is probable that the annual reports show more IC disclosure. He measures 31 listed FTSE companies in the UK and uses the same coding as Brennan (2001). His findings include the fact that after every measurement year a significant increase in the level of disclosure of IC was found. Finally, he suggests that there is a variation in IC disclosure between the observable companies.

In their research, April *et al.* (2003) investigate the level of disclosure of IC in the mining industry of South-Africa. They carried out a content analysis on the yearly reports of the



twenty listed companies that have a highest market capitalization, and interviewed senior representatives of the 7 mining companies that were among the sample of 20 companies. The same coding was used for the content analysis as employed by Brennan (2001) and Williams (2001). Their content analysis shows that the level of disclosure of IC in the mining companies was lower than the other companies in the sample. April *et al.* (2003) indicate that either mining firms have a lower awareness of IC, or are more reluctant to account for IC compared to the other companies. Furthermore, their result that South-African firms report more on external capital (40%), than on internal capital (30%), and that human capital (30%) was similar to that of Guthrie and Petty (2000).

Following the study of Williams (2001), Abdolmohammadi (2005) is the second to research IC disclosure for multiple years. His study includes 58 companies from the USA, randomly chosen from the Fortune 500 list for the years 1993-1997. These companies are randomly picked in order to determine whether market capitalization (size) is a determinant of IC disclosure. He divides this sample of 58 firms into 23 new economy and 35 traditional companies. He codes information as 1 for information on IC and 0 for no information. He concludes that size is indeed a determinant for IC disclosure: Abdolmohammadi's result shows that market capitalization has a positive relationship with the disclosure of IC and the level of significance is very high. Furthermore, he finds that in 6 out of 10 IC categories, IC disclosure between the old and new economy companies is insignificant. However, his findings show that the extent to which old economy firms significantly disclose brands as well as the partnerships was greater than that of new economy firms, and that the extent of disclosure with respect to

intellectual property and information technology of the latter (new economy) is greater than the former (old economy). This may show that the firms either have more IC in those particular fields, or are willing to disclose more. Finally, he notes that the disclosure of IC only increases for 2 out of 10 groups.

Abeysekera and Guthrie (2005) also measure IC disclosure for multiple years; their Sri Lankan study covers 30 listed firms (with the highest market capitalization) for the years 1998-2000. They use a different coding system. In this system, -1 means intellectual liabilities, 1 means intellectual assets, and 0 means no intellectual item. They indicate that this way they find the net frequency of IC. Their conclusions are twofold: first, they find that IC items are reported, but they never refer to IC as a whole. Thus, the annual reports lack a consistent approach or framework. Second, they find that the report for outside capital is the most in IC. They argue that this is strange since most firms declare human capital to be the most important category of IC disclosure.

Vergauwen and van Alem (2005) conducted the same research as that of Bontis (2003) to determine the levels of disclosure by using the same list of search terms. However, this study is the first study addressing a number of countries: France, Germany and the Netherlands. Furthermore, this research investigates the annual reports for 2000 and 2001. The study finds that the level of disclosure is the highest in France, with Germany on a comparable level, and the Netherlands scoring significantly lower than France. In addition, in all cases, they find that the disclosure of the three countries is higher than that of Canada in the study by Bontis. As a final note, they indicate that the most important factor in reporting IC is legislation made by standard setting bodies.

Miller and Whiting (2005) investigate the disclosure of IC in New Zealand in 2003. Their study constitutes 70 firms, 35 of which are traditional companies, and the other 35 are high technology firms. They indicate that earlier research includes a much smaller sample, which poses limitations for statistical analysis. As this study contains a larger sample, this problem is less severe. Miller and Whiting use the same coding as Bozzolan *et al.* (2003), with 0 representing no information, 1 stands for qualitative information, and 2 stands for quantitative information. Similarly, Brennan (2001) uses hidden value as a proxy for IC, which conforms to other studies, such as Guthrie and Petty (2000), and Brennan (2001). They find that external structure (47%) is the most reported component of IC. Contradictory to other studies, where human capital and internal capital have the same frequency of disclosure, they find that human capital disclosures amount to 33%, and internal capital to 21%. Furthermore, they find that 71% of the firms show a positive hidden value, ranging from 7% to 109%. However, they only find a significant correlation between hidden value and IC disclosure when the total amount of IC is considered, and not when the hidden value is linked to the components of IC. Thus, Miller and Whiting challenged how valid the statement is that concealing value can be a functional substitute for the IC level.

Similar to the study by Vergauwen and van Alem (2005), the study by Vandemaele *et al.* (2005) incorporates both a multiple year setting (1998-2002), and a multiple geographical region setting (Netherlands, Sweden and the United Kingdom). In the test period, they use measuring points in 1998, 2000, and 2002. For their coding, they apply the same model as Bozzolan *et al.* (2003), as well as that of Miller and Whiting (2005) using the

coding of sentences with 0 representing no information, 1 standing for qualitative information, and 2 representing quantitative information. They found that Sweden recorded the highest disclosure level, while the Netherlands and the United Kingdom came second and third, respectively. In addition, they find that the level of disclosure increases over time. For Sweden, they find a small decrease in disclosure between 2000 and 2002. They argue that the decrease in disclosure may be due to the fact that disclosure can go along with costs (Depoers, 2000).

The study by Sujan and Abeysekera (2007) can be seen as a follow-up to the research conducted by Guthrie *et al.* (1999), and Guthrie and Petty (2000). This study investigates 20 firms listed as having the highest market capitalization in Australia in 2004. Their samples do not include the same firms as the research carried out by Guthrie and Petty (2000). However, a similar methodology and coding were employed by them. They find that despite the unavailability of a unanimously accepted IC framework, IC disclosure in Australia has increased significantly. Furthermore, they signal differences in IC disclosure between industries. They argue that this can denote different methods for managing, measuring, and reporting IC.

Guthrie *et al.* (2006) also make a comparison to the Guthrie and Petty (2000) research. They investigate IC disclosure in Australia and in Hong Kong in 2002. Their sample includes 50 listed (highest market capitalization) Australian firms and 100 listed Hong Kong firms (including firms of different size). They use the same methodology and coding as Guthrie and Petty (2000). As shown by the results of Guthrie *et al.* for both the Australian and Hong Kong samples, external capital discloses more among the

categorization of IC, with 49% and 37% respectively for each country. However, the other elements differ: whereas in Hong Kong human capital amounts to 35% – and thus approximates the disclosure of external capital the most of all studies – it amounts to 10% in Australia, which is the lowest percentage for this component compared to earlier studies. Internal capital in Australia amounts to 41%, while in Hong Kong it amounts to 28%. In addition, they find that Hong Kong companies disclosed more in 2002 with respect to IC than disclosed by Australian companies in 1998 with the value of 48%. Companies in Australia disclosed more with respect to IC in 2002 than was disclosed by the same companies in the previous year 1998 (255%), and more than companies in Hong Kong in the year 2002 (139%). Finally, they find that disclosure of IC in nearly every case entails qualitative instead of quantitative terms.

Yi and Davey (2010) examine the extent and quality of IC disclosure of Chinese (mainland) companies that have dual listed A and H shares. Using a sample of 49 dual-listed companies in mainland China. Their results consistent with previous research, the current level of IC disclosure by mainland Chinese companies is not high. In addition, most of the reported IC attributes are expressed in discursive rather than numerical or monetary terms. However, the average number of items disclosed is high enough to suggest that there is a clear awareness of the significance of IC disclosure. While the disclosure quality is not considered strong, it does suggest that the companies have a modest commitment in communicating their IC information to an external audience.

From the above literature on IC disclosure level, most of the previous studies categorized the disclosure of IC into human capital, external capital (relational), and internal capital

(structural); the disclosure of each group is measured using the index of disclosure developed by, for example, Abeysekera and Guthrie, (2005), Abeysekera (2008), Guthrie *et al.* (1999), Guthrie and Petty (2000), Sujan and Abeysekera (2007), and Sveiby (1997). In addition, some studies categorized IC disclosure into strategic statements of IC, human capital, processes, customers, research and development, such as Bukh *et al.* (2005), Cordazzo (2007), García-Meca *et al.* (2005), and Rimmel *et al.* (2009). The more recent study of Abeysekera (2010), categorizes IC disclosure into a strategic disclosure concerning internal capital, external capital, or human resource or capital. Moreover, most of the previous studies addressed the disclosure content of the firms in order to provide a detailed summary of disclosure practices of IC in its yearly report in developing countries. However, only a few descriptive studies concentrate on the presence or level of IC disclosure and its composition in developing countries. Therefore, it is important to examine the level of IC disclosure in the annual reports of GCC listed companies.

### **2.5.2 Empirical Studies on Levels of ICD and Firm-Specific Variables**

The second stream of research development in the literature of IC disclosure is the inclusion of reasoning theory as well as examination of the particular factors for a firm to analyze the reason for the voluntary disclosure of a company's IC (e.g. Bozzolan *et al.*, 2003; Brügger, Vergauwen, & Dao, 2009; Bukh *et al.*, 2005; Dewi, Young, & Sundari, 2014; Ferreira *et al.*, 2012; García-Meca *et al.*, 2005; Liao, Low, & Davey, 2013; Oliveira *et al.*, 2006; Rimmel *et al.*, 2009; Sonnier *et al.*, 2008; White, Lee, & Tower, 2007; Whiting & Woodcock, 2011; Yau *et al.*, 2009). Prior research examines the

relationship of the features of the firm to the disclosure of IC, as summarized in Table 2.4.

By employing the framework used by Guthrie and Petty (2000), the voluntary account given of IC by 30 non-financial firms in Italy listed in the yearly reports since 2001 was examined by Bozzolan *et al.* (2003). These companies consist of 10 high profile companies and 20 low profile companies, with high profile companies being new economy companies, and low profile companies being old economy companies. They employ a different coding system. In this system, 0 means no information, 1 indicates that the sentence contains qualitative data, and 2 indicates that the sentence contains quantitative data. They argue that using more coding reduces the value of the results. Furthermore, they only consider information once; if the same information is given again they code this as 0. Bozzolan *et al.* (2003) find that reporting mainly focuses on external structure, which conforms to the earlier research (Brennan, 2001; Guthrie & Petty, 2000). Furthermore, it is found that neither the size or the industry play a significant role in disclosure and that the difference between the high and the low profile companies is insignificant with respect to disclosure.

In a longitudinal study of the information documents of initial public offering (IPO), a study was conducted by Bukh *et al.* (2005) to investigate the Danish IPOs prospectuses for the years 1990-2001 as opposed to annual reports. They reveal a considerable increase in the IC information disclosure direction over the period of study. Furthermore, they find that managerial ownership influences the quantity of voluntary disclosure of IC before

the type of IPOs and industry, but that the size of company as well as its age never influence disclosure.

Using a sample of Portuguese firms, Oliveira *et al.* (2006) examine how the features of firms relate to the voluntary disclosure of intangible information. They adopt the same model and coding system as Bozzolan *et al.* (2003) and Guthrie and Petty (2000). However, their findings indicate that industry, listing status, concentration of ownership, size, and auditor type have a significant relationship with the voluntary disclosure of intangible information.

In their single year research on 96 large biotechnology companies, White *et al.* (2007) examine the driving factors and the extent to which biotechnology companies voluntarily disclose yearly reports. The study focuses solely on biotechnology firms. It employs a stratified random sample consisting of 70 displayed lists of firms in Australia of various size to examine the degree and what the voluntary IC disclosure was made up of, and determine whether particular features of industrial firms, concentration of ownership, listing age, leverage and type of auditor influence the extent of voluntary disclosure of IC. Independence of board, leverage, firm age and size are found to have a significant association with the disclosure of IC.

In a recent study by Whiting and Woodcock (2011), the existence of voluntary disclosure of IC in the reports given by companies in Australia is investigated. It is found that company features, such as the type of industry, concentration of ownership, age listing, leverage and type of auditor, affect the disclosure of IC. Their sample includes 35



companies with high technology as well as 35 companies with low technology; they use the same methodology and coding as Bozzolan *et al.* (2003) and Guthrie *et al.* (2006). Their findings indicate that companies with large Big Four auditing firms show more extensive IC disclosure than those in other industries and without Big Four auditors. Furthermore, the concentration of ownership, leverage, and listing age have no effect on the disclosure of IC.

However, only a few previous studies examine the relation of firm features to the disclosure of IC within the developing countries context. In Malaysia, Yau *et al.* (2009) use a sample of 30 top companies and 30 bottom companies selected from the 100 largest capitalizations listed at the end of 2003 to examine IC disclosure and its relationship to firm-specific characteristics. For their coding, they apply the same model as Abeysekera (2008), García-Meca *et al.* (2005) and Guthrie and Petty (2000); the coding of words with 0 representing no information, 1 standing for narrative information and 2 representing numerical information, and 3 standing for monetary information. They find that the majority of the reported information relating to IC had to do with structural capital (57 %) followed by relational capital (30%) and human capital (13%). Finally, they find that firm size and Government-linked companies (GLCs) have more extensive IC disclosure than non-government linked companies.

Using the data for 72 selected Portuguese firms for 2004, 2006 and 2008, Castelo Branco *et al.* (2010) examined the relationship between IC disclosure and firms variables. By using content analysis, Non-parametric statistical methods are used to test size and industry effects on disclosure, the effects of the level of disclosure on the growth of a

company and to determine the significance of the differences in disclosure between the years under analysis. The analysis showed that firm size is significant in explaining IC disclosure. In addition, the results also indicated that industrial affiliation is only partially a factor explaining IC disclosure. It was not possible to confirm neither an increase in IC disclosure over time, nor the relationship between IC disclosure and growth.

White *et al.* (2010) compare the nature and extent of IC disclosure between UK and Australian biotechnology companies. By using a Danish disclosure index to evaluate voluntary disclosures by 156 companies about customers, employees, IT, strategy, R&D and processes (78-items scored for each company). Their results shows significant leverage effect was demonstrated in relation to the “nature” of IC disclosure by UK and Australian biotechnology companies. Interestingly, mean customer IC disclosure were higher in annual reports from high-leveraged compared to low-leveraged Australian firms. In contrast, UK firms showed higher mean R&D IC disclosure for low-leveraged firms than high-leveraged firms. Concerning the “extent” of IC disclosure measured, the study demonstrated a significant country effect.

Lately, using 226 service companies listed on the Indonesia stock exchange from 2008 to 2012, Dewi *et al.* (2014) investigate the relationship between firm size, firm age, type of industry, listing status and managerial ownership and IC disclosure. The results of the analysis show that firm size, firm age, and listing status significantly affect IC disclosure, while the type of industry and managerial ownership do not significantly affect IC disclosure. Based on the discussion it can be concluded the most of previous the

empirical results from prior studies are mixed and inconsistent. Moreover, most of these are concluded in developed countries such as Australia, Italy, and Portuguese.

### **2.5.3 Empirical Studies on Levels of ICD and Corporate Governance Variables**

The third stream of researchers' developmental work in the growing literature on IC disclosure is the inclusion of the reasoning theory and the examination of systems of corporate governance to analyze the reasons for the voluntarily disclosure of IC by the companies. In this area, studies have been conducted in the UK (Li *et al.*, 2012; Li *et al.*, 2007; Li *et al.*, 2008), European countries (Cerbioni & Parbonetti, 2007), Kenya (Abeysekera, 2010), Malaysia (Azman & Kamaluddin, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Taliyang & Jusop, 2011), and Mexico (Hidalgo *et al.*, 2010). Prior studies focused on the relationship of corporate governance variables' with the disclosure of IC, as summarized in Table 2.5 page number 155.

In their research, Cerbioni and Parbonetti (2007) make the first attempt to investigate the association of the variables of corporate governance with the voluntary disclosure of IC using 54 firms of European biotechnology as samples from ten countries for three years, namely, France, Germany, Switzerland, Denmark, Ireland, the Netherlands, Belgium, Austria, the United Kingdom, and Sweden. For the content analysis, they use the same coding as Bozzolan *et al.* (2003). In this system, 0 means no information, 1 indicates qualitative data, and 2 indicates quantitative data. However, their results suggest that the variables of corporate governance (size of board, component of board, duality of CEO and structure of the Board) strongly influence the voluntarily IC disclosure.

Using a sample comprising 100 UK listed knowledge-rich firms, Li *et al.* (2007) investigate the association of market variables, variables of corporate governance, and IC disclosure. For their coding, they use three different indices: a disclosure index (text/graphical/pictorial, and numerical/non-numerical) measures the variety of IC disclosure, a word count measures the volume of IC disclosure, and a word count percentage (words containing IC/total number of words) measures the focus of the yearly report. However, their results show that corporate governance variables (directors' holdings of shares, size of committee of audit, concentration of ownership) are related to the disclosure of IC.

By using 100 listed UK firms as a study sample, Li *et al.* (2008) conducted the same study in the UK but in different sectors to examine how the structure of corporate governance affects the disclosure of IC. Their findings indicate that variables of the corporate governance such as the components of the board, structure of ownership, size of audit committee and frequency of meetings of audit committee, as well as the duality of function of the CEO have a significant association with IC disclosure.

Based on the resource dependency theory, Abeysekera (2010) investigates the effect of board size on IC disclosure by using data from 26 Kenyan listed firms. The results of logistic regression indicate that board size, independent directors of audit committee have a positive significant correlation with IC disclosure. However, Based on the agency theory, Hidalgo *et al.* (2010) conducted a study on 100 Mexican listed companies to investigate the association between corporate governance and IC disclosure. The findings show that the size of board and audit committee has a significant positive relationship with IC disclosure. Nonetheless, there is a negative relationship with institutional

ownership. While board independence, CEO duality, manager ownership, family ownership, shareholding concentration have an insignificant relationship.

Using a sample of 150 companies listed on Bursa Malaysia, Taliyang and Jusop (2011) examine the level of the IC disclosure and the association between IC disclosure and corporate variables. The independent variables tested in this study comprise various forms of corporate governance structure, such as board composition, role duality, size of audit committee and frequency of audit committee meetings. However, the results indicate that only the frequency of audit committee meeting has a positive significant relationship in terms of influencing the level of IC disclosure.

See and Rashid (2011) investigates several variables that may contribute to the relatively low level of IC disclosures in the IPO prospectus using the maximum likelihood (ML) and Bayesian of the Tobit regression models. Using a sample of 112 randomly selected companies seeking a listing in the Bursa Malaysia between 2004 and 2008. The results indicate that board size, board independence, leverage and listing board significantly affect the extent of non-disclosure of IC information in a company's IPO prospectus. Conversely, no significant association with board diversity, age, size, underwriter and auditor type.

Based on the agency theory and using data from 78 Malaysian GLCs listed on the Kuala Lumpur composite index, Azman and Kamaluddin (2012) find that concentration is significant as companies that hold more on share concentration will report more on IC items. In addition, the cross-directorship of the chairman indicates a significant positive

relationship with IC disclosure. While, audit committee meetings show a significant positive relationship with IC disclosure.

Li *et al.* (2012) investigate the association between characteristics of audit committee characteristics and IC disclosure by using a sample of 100 UK intensive sector companies in 2005. Their results indicate that there is a significant relationship between size and frequency meeting of audit committee with IC disclosure, but that audit committee directors' shareholding has a negative relationship with IC disclosure. However, there is no association between independence and financial expertise of audit committee with the level of IC disclosure.

Using panel data of 100 Malaysian companies based on their market capitalization for the years 2006 – 2008, Gan *et al.* (2013) examine the relationship between the board size, board composition, board leadership, board diversity, audit committee size, audit committee meeting, audit committee financial expertise, family-controlled, government ownership, diffused ownership and IC disclosure in the annual report. The results of the analysis show that audit committee size, audit committee expertise, government ownership, diffused ownership, and family ownership affect IC disclosure significantly, while board size, board composition, board leadership, board diversity, and audit committee meeting do not significantly affect IC disclosure.

Using a sample of Iranian firms and content analysis of the annual reports of 80 companies listed on the Tehran stock exchange from 2008 to 2011, Moeinfar *et al.* (2013) examine the relationship between corporate governance mechanisms and the level of IC

disclosure. The corporate governance mechanisms used in the study include board size, board independence and ownership concentration. However, their findings indicate that board size has a significant relationship with IC disclosure but is insignificant with board independent variable and ownership concentration.

Recently, Ahmed Haji and Mohd Ghazali (2013) examine the relationship between IC disclosure and corporate governance attributes in the annual report of the top companies listed on Bursa Malaysia from 2008 to 2010. The results of regression analysis reveal that all corporate governance attributes, namely, independent directors, board size, board effectiveness and CEO duality (except family members on the board) have a positive significant relationship with IC disclosure in the expected direction while director ownership is found to be consistent in negatively relating to both the extent and quality of IC disclosure. However, government ownership is slightly significant in determining the level of IC disclosure.

Based on the literature review, corporate governance mechanisms have been identified as important factors in determining the IC disclosure level. However, most of the previous studies were conducted in developed countries, which is a strong link between corporate governance and IC disclosure. As these few studies were mainly conducted in the economically developed countries, empirical evidence on the relationship between IC disclosure and corporate governance of firms in other contexts (e.g. Middle East ) was called for (Al-Shammari & Al-Sultan, 2010). Hence, our main motivation to undertake this study is the scarcity of studies that examine the relationship between IC disclosure and corporate governance mechanisms in cross sectional in the developing countries.

This study aims to examine the relationship between IC disclosure and corporate governance mechanisms in GCC countries because corporate governance is a relatively new concept in these countries.

## **2.6 Corporate Governance Practices in the GCC**

The main purpose of this section is to provide a brief review of corporate governance in the GCC region. This section is divided into two sections. In the first section, a brief review of the GCC countries is provided. The second section focuses on the corporate governance practices in the GCC region and the main challenges for applying the best corporate governance practices and promotion of the governance culture in that important area of the world.

### **2.6.1 Institutional Framework**

The GCC countries was established in 1981 to serve as a regional cooperative system as a response to the challenges imposed by contemporary circumstances (Khamis, Hasan, Kumah, Prasad, & Sensenbrenner, 2010). The GCC is drawn from six Arab countries: the United Arab Emirates (UAE), the Kingdom of Saudi Arabia (KSA), Qatar, Oman, Bahrain and Kuwait, which share many common characteristics and similarities that far outweigh any differences and unite them under a common umbrella. For this reason, previous studies looked at the GCC countries as a single block (i.e. one country) such as Al-Khoury (2011), Al-Muharrami *et al.* (2006), Al-Musalli and Ku Ismail (2012a), (2012b), Arouri *et al.* (2011), and Chahine (2007).



Several common features characterize the GCC economies: large dependency on the hydrocarbon sector (oil and gas), a dominant public sector with a significant fiscal surplus, a young and rapidly growing national labor force, and large dependency on expatriate labor (Saif, 2009). The GCC countries have been considered as being a very important part of the global economy since they are the major oil and natural gas producing countries. Collectively, GCC countries hold about 40% of the proven global oil reserves and 23.6% of the proven global natural gas reserves (Reiche, 2010).

Despite the clear outperformance of the GCC stock markets over their peers in other countries of the Middle-East and the North-African (MENA) region in terms of regulation and supervision, the development of the financial sector, as well as financial openness (Chahine, 2007; Jbili, Galbis, & Biset, 1997), the GCC stock markets remain under-developed with insufficient protection to minority investors, and relatively small when compared with developed and emerging stock markets in South East Asia and Latin America (Chahine & Tohmé, 2009; Marashdeh & Shrestha, 2010).

### **2.6.2 Corporate Governance Practices in the GCC**

Corporate governance is considered as a new concept in the GCC region, and has emerged within the last 10 years (Koldertsova, 2011). According to Saidi and Kumar (2008), good corporate governance is needed in the GCC due to privatization, liberalization, opening up of financial markets and increased delegation of investment. One of the important aspects, from an investor's perspective, is that there is a visible movement in the right direction that would bring about security and improvement in the

GCC's overall corporate governance framework across the region. This will contribute to confidence building among the investors (Saidi, 2011b). In other words, corporate governance best practice should play an important role in respect of the attractiveness of foreign capital to be invested in the GCC stock exchange markets since corporate governance might be, to a large extent, an illustration of the stock exchange markets' credibility and efficiency.

According to Saidi (2011a), the recent global financial crisis has put corporate governance back on the policy agenda in the GCC region. Except for Kuwait, all GCC countries have incorporated their own corporate governance system either through code or law. Oman was the first country in the GCC region that took the initiative to issue a Code of Corporate Governance in 2002, and, in 2010, Bahrain became the latest GCC country to draft a code. Although Kuwait remains the only GCC country without a corporate governance code, it has taken a significant step to monitor and regulate capital activities by issuing a law establishing a capital markets authority in 2011 (Saidi, 2011b).

Table 2.2 shows the board and audit committee structure based on the Code of Corporate Governance of each country. Table 2.2 implies that in GCC countries the board and audit committee structure are largely similar. There are four important determinants of the strict enforcement of the practices of the corporate governance code in the context of the GCC countries: capital market regulators, public pressure of intervention owing to the prior pressure of widespread public contribution in IPOs; GCC capital market authorities; and increased corporate activity of GCC corporations in the international platform, which contribute to enhancing the standards of the private sector in line with international

standards. However, efforts to develop good corporate governance practices in GCC companies encounter many barriers and significant challenges that stem from a combination of facts, such as the concentrated ownership structure of GCC companies, the relatively under-developed capital markets, weak external discipline, weak legal and regulatory framework, and lack of investors' protection (Chahine, 2007; Chahine & Tohmé, 2009; OECD, 2009).

Saidi and Kumar (2008) argue that the GCC is facing the same challenges concerning corporate governance as is being faced in other Asian countries. These include: (i) excessive government intervention; (ii) highly concentrated ownership structure; (iii) weak external discipline in the corporate sector; (iv) weak legal systems and regulatory framework; (v) lack of quality information; (vi) lack of investors' protection; and (vii) lack of a developed capital market, all of which undermine the effectiveness of the corporate governance mechanism employed in Asia. The next Table 2.2 shows the board of directors and audit committee structure based on the Code of Corporate Governance for GCC countries

Table 2.2

*Board and Audit Structure in GCC Based on Code of Corporate Governance*

	<b>Bahrain</b>	<b>Oman</b>	<b>Qatar</b>	<b>Saudi Arabia</b>	<b>UAE</b>
<b>Non-executive Directors</b>	At least 50% of the board should be non-executive	The majority of board members should be non-executive directors	The majority of board members should be non-executive directors	The majority of board members should be non-executive directors	The majority of board members should be non-executive directors
<b>Board Independence</b>	At least three Independent directors. One-third should be independent in controlled companies	One third Independent	One third Independent	One third independent (or 2 members, whichever is greater)	One third Independent
<b>Board size</b>	No more than 15 Members	—	—	Not less than 3 not more than 11	—
<b>The roles of the Chairman and CEO</b>	Should be separate	Should be separate	Should be separate	Should be separate	Should be separate
<b>Meeting Frequency</b>	4 times	4 times	6 times		4 times
<b>Board committees</b>	Audit Nomination Remuneration Corporate Governance	Audit committee	Audit Nomination Remuneration	Audit Nomination Remuneration	Audit Nomination Remuneration
<b>AC Independence</b>	Majority Independent	Majority Independent	Majority Independent	Majority Independent	Majority Independence
<b>AC chair</b>	An independent	An independent	An independent if the Committee is not Fully independent	—	An independent
<b>AC size</b>	At least 3 members	At least 3 independents	At least 3 independents	At least 3 independents	At least 3 independents.
<b>AC financial Expert</b>	Majority should be financial experts	At least one financial Expert	At least one financial Expert	At least one financial Expert	At least one financial Expert
<b>AC meeting</b>	At least 4 meetings	At least 4 meetings	At least 4 meetings	—	—

Source: Hawkamah institute for corporate governance (2010)

The concentrated ownership of GCC companies represents one of the most important barriers of the prevailing governance culture in the region, as it places control of the GCC firms in the hands of the major shareholders, which, most commonly, are an individual shareholder, a family, or the government (OECD, 2009). Saidi and Kumar (2008) claim that family ownership is one of the key reasons behind the lack of development of corporate governance in the GCC, stating that family-owned firms are reluctant to change their traditional ways of doing business due to their fear of loss of control by the family, the fear of transparency and disclosure, the fear of change and lack of understanding of corporate governance practices.

Thus, because of the concentration of ownership, the important issue of corporate governance in the GCC is the conflict of interest between the large and small shareholders. Contrary to the conflict of interest between outside shareholders and managers in a diffused ownership structure, such as that commonly found in the UK and the US, the conflict in the GCC is between large and small shareholders (Chahine & Tohmé, 2009).

The Gulf's family-owned businesses, which account for some 90% of commerce in the region, often shy away from disclosing details of their business affairs. This lack of transparency, in addition to the concentration of ownership in the hands of family members, weak external discipline and lack of investors' protection, creates several issues that might affect the strength of the corporate governance mechanism, as follows. First, the involvement of major shareholders in the board's decision making process is viewed by many GCC directors as a major barrier to defining roles and accountabilities

of the board clearly (GCC Board Directors Institute, 2011). For instance, the significant influence of major shareholders in the nomination and election of board directors raises questions of whether the independent directors are truly independent and whether they can truly and adequately fulfil their monitoring duties over the major shareholders (OECD, 2009).

In addition, the concentration of ownership and involvement of shareholders on the board create information asymmetry between the management and outside directors who are supposed to protect the interests of the minority (Chen & Nowland, 2010). In addition, in the 2011 survey carried out among GCC board members, few board members agree that they get the right information to plan ahead for meetings (although, more than half do agree that they do receive appropriate information). These findings from a survey of the GCC board members may either indicate that board members have receded on these fronts or that the majority of board members have recognized the need for instituting more effective board meetings (GCC Board Directors Institute, 2011).

Second, while good corporate governance practices encourage shareholders' protection through the full and fair disclosure of the financial standing of the firm and enable counter parties and the financial community to exercise market discipline, the related-party relationships and transactions are often not easily identifiable, because ownership structures and interests of both owners and board members may not be comprehensively disclosed (Rocha, Arvai, & Farazi, 2011). This may reflect a desire of the controlling owners to protect proprietary information related to rent seeking activities (Claessens & Fan, 2002).

## **2.7 Theoretical Disclosure Framework**

Both the agency theory and resource dependency theories are used in the present study to explain the relationship between the study factors, namely, board of directors, audit committee characteristics, ownership structure and IC disclosure.

### **2.7.1 Agency Theory**

The agency relationship is defined as a contract under which one party (the principal) engages another party (the agent) to perform some service on their behalf (Jensen & Meckling, 1976). Thus, the agency theory deals with the relationship between the principal and the agent. In the context of a firm, the agent (manager) acts on behalf of the principal (shareholder). This theory argues, that, for the purpose of maximizing their utility, agents (managers) may exploit their positions to engage in activities for their personal interests forsaking the principal's interest. In this regard, Jensen and Meckling (1976) modeled this situation as the agency relationship where the principal is unable to directly oversee the agent's action, which could result in moral hazard, and, in turn, increased agency cost. Along with the conflict between the manager and the shareholder, agency theorists also underline the conflict between majority and minority shareholders, which is prevalent in the GCC region owing to the highly concentrated ownership structure. This shows that the controlling shareholders (managers included), forsake the minority shareholders' interests for their own interests (Fan & Wong, 2002).

Agency theorists argue that, ultimately, the ownership structure of a firm will determine the level of information released. Prior research has shown that one of the consequences

of the majority shareholders-minority shareholders conflict is the issue of asymmetry of information or discrepancy in information between the majority shareholders and minority shareholders (Gilson, 2006; Liao *et al.*, 2013). Large shareholders have greater information access, and, in turn, more knowledge for making decisions (Shleifer & Vishny, 1986). In such situations, major shareholders make use of information access by keeping them away from minority shareholders, maximizing their own advantage by taking part in self-dealing transactions regardless of the minority owners interests (Hendry, 2012; Wan-Hussin, 2009). Owing to the effective control of large owners on the firm and owing to their oversight of the financial reporting policies (Fan & Wong, 2002), they have the power to, and often times leave out expropriation from the financial reports. Jiang *et al.* (2010) affirm that ownership concentration, especially management controlled ownership structure, significantly contributes to information asymmetry. As a result, minority shareholders and potential investors have insufficient information regarding business and are uncertain as to the way the majority shareholders contribute to successful business (Jaggi & Leung, 2007).

Under the agency theory, the board of directors is useful in monitoring majority shareholders as well as management, and to safeguard the interests of shareholders (Fama & Jensen, 1983). It has been recommended that the board of directors could assist in reducing agency costs as it has majority control over management despite the fact that some decision-making functions are left in the hands of top management. Agency theorists assert the central role that the audit committee of the board of directors can play



in corporate governance and reducing asymmetry information since it is responsible for monitoring the process of financial statements reporting and disclosure level.

### **2.7.2 Resource Dependence Theory**

The resource dependence theory posits that organizations are dependent on their external surroundings, and, as such, organizational effectiveness does not merely lie in the ability of the firm to manage their resources but its ability to obtain them from their surroundings (Pfeffer & Salancik, 1978). The resource dependency theory is the theoretical underpinning of the provision of resources function of the board. Under the resource dependency theory, boards are useful in that directors provide access to critical firm resources through linkages with the external environment (Abeysekera, 2010; Hillman, Cannella, & Paetzold, 2000; Hillman & Dalziel, 2003). Resource dependency theory assert that four primary benefits can be provided by boards: (1) advice and counsel, (2) legitimacy (3) channels for communicating information between external organizations and the firm, and (4) preferential access to commitments or support from important elements outside the firm (Hillman & Dalziel, 2003).

The resource dependency theory is used as the theoretical underpinning for the relationship between the board of directors as a provider of resources (e.g. legitimacy, advice, counsel, and links to other firm), and the transparency and the quality of financial reporting (Hillman & Dalziel, 2003). This theory assumes that directors are both human capital (experience, expertise and reputation) and social capital (networks of ties to other firms and external contingencies). Directors with multiple directorships, with business

and industry knowledge, and a larger number of directors have been attributed with the job of facilitating advice and counsel as they possess expertise, experience and know-how (Hillman & Dalziel, 2003). When the directors' capital level increases, they become more resource providers, and, hence, more effective in performing their duties. Accordingly, an audit committee with a resource-dependent focus evinced through industry expertise, experience, reputation, and networking of the members may positively enhance audit committee effectiveness (Cohen, Krishnamoorthy, & Wright, 2008). Resources resulting from expertise would provide the audit committee members with greater access to information and the benefit of information sharing in more than one firm as well as an additional control mechanism. Moreover, the resource dependency theory indicates that industry expertise and knowledge of audit committee members would provide them with a superior capability to understand, examine and assess the quality of financial reporting (Cohen *et al.*, 2008). A large board is considered to be a valuable resource because it provides diversity that would help firms secure a pool of expertise, better networking and effective oversight duties. Industry expertise implied by the resource dependency perspective suggests that audit committee members would have sufficient knowledge to evaluate and oversee the financial reporting process.

They add that boards have an additional role in the organization. They link the firm to its external environment in order to secure external resources. Ruigrok, Peck and Tacheva (2007) state that outside directors' networks, contacts, and connections confer access to necessary strategic resources and information, which are crucial for their ability to perform the role of boundary spanners in securing for their firms. Moreover, the resource

dependency theory indicates that the industry expertise and knowledge of audit committee members would provide them with a superior capability to understand, examine and analyze the financial reporting quality (Cohen *et al.*, 2008).

## **2.8 Board of Directors' Characteristics**

The board of directors is one of the most important elements in the internal corporate governance mechanisms. According to Akhtaruddin *et al.* (2009); Chobpichien *et al.* (2008); Ahmed Haji and Mohd Ghazali, (2013); Khodadadi, Khazami and Aflatooni (2010), and Singh and Van der Zahn (2008) the board of directors is a central institution in the internal governance of a company, which provides a key monitoring function in dealing with agency problems.

Definition of effectiveness is the degree to which objectives are achieved and the extent to which targeted problems are solved (Wadhwa, 2014). Previous studies showed that board of directors effectiveness essentially depend on board of director's characteristics, as the important factor that determine the effectiveness of board that forces management to disclose more information to outside parties. Following Brown and Caylor (2006), Chobpichien *et al.* (2008), DeFond *et al.* (2005), and Singh and Van der Zahn's (2008) studies, board of director's effectiveness is defined in this study by its characteristics. In other words, the enhancement of the board of directors in terms of independence, size, shareholding, nationality, multiple directorship, meeting and board committees could improve board effectiveness and its capacity to monitor the management, and, thus, increase the possibility of providing more voluntary information to outside investors

(Akhtaruddin *et al.*, 2009; Barros *et al.*, 2013; Chakroun & Matoussi, 2012; Chobpichien, 2008; Ahmed Haji & Mohd Ghazali, 2013; Khodadadi *et al.*, 2010; Taliyang & Jusop, 2011). Akhtaruddin *et al.* (2009) argues that large board, independence, and outside shares are important governance factors to determine board effectiveness and enhance disclosure. Similarly, Chen and Jaggi (2000) argue that a greater number of directors on the board and higher proportion of independent non-executive directors are important variables to determine board effectiveness by reducing the likelihood of information asymmetry. Chobpichien (2008) argues that independence, size and frequency of board meetings, are the important factors that determine the effectiveness of boards that forces management to disclose more information to outside parties.

According to Khan (2010), board independence and board nationality are important variables that determine the effectiveness of the board and enhance social responsibility disclosure, and they found a significant positive relationship. Haniffa and Cooke (2002), suggest that members cross-directorships have significant implications for the practice of disclosure as there will be ample access to the required information in several companies. Cerbioni and Parbonetti (2007) suggest that board committee and board independence are important corporate mechanisms to enhance board effectiveness and, consequently, influence the level and quality of voluntary disclosure. These elements, if present, would enhance the monitoring role of the board of directors. This study examines the relationship among a firm's board independence, size, shareholding, nationality, multiple directorship, meeting, and board committees on the voluntary disclosure of IC.

### **2.8.1 Board Independence**

The extent of independence of the board is significantly dependent on its structure. As the non-executive directors grow in number, the board is considered to be positively more independent. The composition of the board is given as the rate of external directors to all the directors of a company, which is regarded as a proxy for board independence (Lim, Matolcsy, & Chow, 2007; Shamser & Annuar, 1993), thus differentiating executive directors from non-executive (or external) directors. The issues are looked at from the perspectives of two proponents: on the one hand, from the proponents of boards consisting of more non-executive directors, and on the other hand, from the proponents of more executive directors. The argument of the proponents of the board consisting of more non-executive directors is based on the agency theory as well as the resource dependency theory (Haniffa & Cooke, 2002).

From the agency theory perspective of monitoring, Fama and Jensen (1983) point out that the composition of boards with a large percentage of independent external directors strongly controls the decisions taken at the managerial level since independent directors possess motivation to execute control on decisions in order to sustain their capital reputation. Moreover, external directors serve as a watchdog with the purpose of making sure that the board, in supervising the decisions of managers, guard the interests of the shareholders (Fama, 1980). Thus, companies with outsider directors on the board are expected to voluntarily disclose more information (Md Nor, Mohd Saleh, Jaffar, & Abdul Shukor, 2010).

In addition, independent directors, based on the agency theory and resource dependency theory can play the role of a power separation system in enhancing the board's effectiveness because they are independent in nature. Independent directors are valued due to their breadth of experience and knowledge, their relationship with other different companies and industries, their independence, as well as their interaction with other management teams (Williams & Shapiro, 1979). According to the resource dependency theory, Haniffa and Cooke (2005) note that when the board comprises of a large number of non-executive directors on the board it has a greater tendency of influencing the degree of disclosure since they can offer broader expertise, respect or status and contacts to the advantage of the company.

Furthermore, Li *et al.* (2008) point out that broader expertise with the experience of the directors, who are not executives on the board tends to motivate the management to disclose more in a way that exceeds the prescription of the norms to a greater position of proactivity showing the necessary worth of IC to stakeholders. In addition, Haniffa and Cooke (2002) demonstrate that the existence of non-executive directors is more desirable as they have the capacity to supervise and regulate the act of executive directors who have opportunistic behavior. In a similar way, White *et al.* (2007) contend that the ability of the board to supervise is dependent on the ability of its personal members to stand up for the shareholders by evaluating the activities of the firm and regulating the behavior of the managers of the organization. In another sense, a company with a higher number of independent non-executive directors is anticipated to disclose greater information with respect to the disclosure of IC. Having discussed the advantages of having the

independent directors, there are also disadvantages of having a high proportion of board independence in a company. For example Nahar Abdullah (2004) claims that the theory of managerial hegemony posits that the capability of external auditors to meet their responsibility for regulating and supervising in a situation where there is domination and control of management over the board of directors is challenged. According to the author, directors from outside are not capable of giving independent judgment and cause concern about the quality of independent directors.

Furthermore, Goodstein, Gautam and Boeker (1994) contend that the independence of the board could likely hinder the companies as they could suppress the tactical action of the company. Baysinger and Butler (1985) also note that the independence of the board could very strongly affect the company due to over supervision and could render the business knowledge ineffective (Patton & Baker, 1987). The independence of the board could likely suffer from real independence as observed by other authors (Demb & Neubauer, 1992). Moreover, as pointed out by Ho and Wong (2001), directors from outside could be chosen through election by blockholders to stand up for their interests and could be able to gather information straightforwardly, instead of acquiring it via the disclosure by the public. It has also been contended by others that the independence of the board could serve as an alternative for supervising via disclosure by the public. This implies that the percentage of directors from outside is negatively associated with voluntary disclosure (Eng & Mak, 2003). Also, the addition of directors from outside who are never involved in the corporate activities and exposed to the daily activities of the firm could hamper the external directors from being effective in supervising the firm's operation (Petra, 2005).

Many researchers have looked at the independence of the composition of the board as a likely factor affecting the degree of voluntary disclosure. Accordingly, some research has been conducted on the issues of voluntary disclosure (Alhazaimeh, Palaniappan, & Almsafir, 2014; Al-Shammari & Al-Sultan, 2010; Barros *et al.*, 2013; Chakroun & Matoussi, 2012; Chen & Jaggi, 2000; Chenga & Courtenay, 2006; Dhouibi & Mamoghli, 2013; Eng & Mak, 2003; Haniffa & Cooke, 2005; Ho & Wong, 2001; Huafang & Jianguo, 2007; Jaffar, Mardinah, & Ahmed, 2013; Khodadadi *et al.*, 2010; Lim *et al.*, 2007; Saha & Akter, 2013; Samaha & Dahawy, 2011; Samaha, Dahawy, Hussainey, & Stapleton, 2012; Sartawi, Hindawi, Bsoul, & Ali, 2014; Uyar, Kilic, & Bayyurt, 2014; Yanesari, Gerayli, Ma'atoofi, & Abadi, 2012) and others have also examined that of IC disclosure (Cerbioni & Parbonetti, 2007; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Li *et al.*, 2007; Li *et al.*, 2008; Md Nor *et al.*, 2010; Moeinfar *et al.*, 2013; Taliyang & Jusop, 2011).

Previous research also examined the association of the board of directors' structure with voluntary disclosure. For example, Chen and Jaggi (2001) conducted a test on the proposition of the agency theory, that with a greater proportion of directors from outside the effectiveness of the board will increase, and provided proof that they also take charge of management. Therefore, there is expectation that companies that possess external directors on the board disclose greater voluntary information. The findings of their study reveal that the percentage of independent non-executive directors is positively associated with the degree of financial disclosure. The association is not strong for family regulated firms. This result supports the result of Adams and Hossain (1998) whose result confirms



that voluntary disclosure has a significant positive relation with the percentage of independent directors on the board.

Cheng and Courtenay (2006) also conducted a study to investigate how board supervision is related to the degree of voluntary disclosure. One hundred and four firms listed on the Stock Exchange of Singapore in 2000 were used as the sample. The findings suggest that firms having boards containing a majority of autonomous directors possess a greater degree of voluntary disclosure in comparison to their counterparts that lack independent directors. In addition, the extent of the effect of the regulatory regime over supervision of the board and voluntary disclosure were investigated (Cheng & Courtenay, 2006). The results indicate that the percentage of independent directors is positively and significantly linked to voluntary disclosure and that the level of significance was twice or thrice stronger under the regime of disclosure-based regulation compared to a regime of merit-based regulation.

In addition, Huafang and Jianguo (2007) investigate the effect of the structure of ownership and composition of the board on the voluntary disclosure of companies listed in China using 559 companies listed on the SSE in 2002 as the sample. The relationship between the structure of ownership, composition of the board and the extent of voluntary disclosure was examined (Huafang & Jianguo, 2007). The results reveal that ownership of large blockholders and the ownership of international listing is associated with greater disclosure. While independent directors enable greater corporate disclosure, the duality of the CEO reduces the corporate disclosure. It has also been shown that larger firms disclose more voluntary information but that firms having the room to grow are not

willing to disclose voluntarily. This result supports recent studies that confirmed that voluntary disclosure has a significant positive relation with the percentage of independent directors on the board, such as in Jordan Alhazaimeh *et al.* (2014), in France Barros *et al.* (2013), in Indonesia Jaffar *et al.* (2013), in Turkey Uyar *et al.* (2014), and in Iran Yanesari *et al.* (2012).

In terms of IC disclosure, Li *et al.* (2008) carried out a research on the complete list of UK companies on the stock exchange in London using 319 companies as the sample. It was found that the composition of the board has a significant association with all the IC disclosure measures. Furthermore, Cerbioni and Parbonetti (2007) investigate the disclosure of IC of biotechnology firms in Europe. Both quantity and quality are investigated (using sign of economic, orientation of outlook, and information content as measurement) of IC. The empirical results of their study reveal that the percentage of independent non-executive directors is positively linked to voluntary IC disclosure (internal structure). Currently, in Malaysia, Ahmed Haji and Mohd Ghazali (2013) find a significant positive relationship between IC disclosure and board independence.

Huafang and Jianguo (2007) investigate the effect of the structure of ownership and composition of the board on voluntary disclosure of companies listed in China using 559 companies listed on the SSE in 2002 as the sample. The relationship between the structure of ownership, composition of the board and the extent of voluntary disclosure is examined (Huafang & Jianguo, 2007). The results reveal that the ownership of large blockholders and the ownership of international listing is associated with greater disclosure. While independent directors enable greater corporate disclosure, the duality of

the CEO reduces the corporate disclosure. It is also shown that larger firms disclose more information but that firms having the room to grow are not willing to voluntarily disclose.

Another study was carried out by Lim *et al.* (2007) to determine how the composition of the board is linked to voluntary disclosure. The findings confirm that all voluntary disclosure is connected with the structure of voluntary disclosure, forward looking, tactical, disclosure devoid of finance, and financial disclosure that is historical, and the structure of the board. A total of 67 self-collected items from an Australian yearly report is used to examine the sub-dices and the entire index of voluntary disclosure (Lim *et al.*, 2007) The study employed two-stage multivariate analyses with the result showing that the composition of the board is positively linked to voluntary disclosure in yearly reports. In addition, it is found that independent boards give greater voluntary disclosure of information regarding future planning and tactical information.

On the other hand, Eng and Mak (2003) carried out a study on Singapore to look into any corporate governance-voluntary disclosure relationship. Particularly, the effect of the structure of ownership (government ownership, blockholder ownership, and managerial ownership) and the structure of the board (independent directors) on voluntary disclosure is investigated using a sample of 158 listed firms in Singapore. The findings reveal that an inverse association of the outside directors (in terms of number) to the extent of disclosure in the firms in Singapore.

In the work of Li *et al.* (2007), concerning the knowledge rich firms in the United Kingdom using a sample of 100 firms listed on the Stock Exchange in London, the

findings indicate that board composition bears no significant association with the disclosure of IC. The results of another study in the United Kingdom by Brammer and Pavelin (2006) using a sample of 450 large companies from various sectors, show that the composition of the board bears no association with the voluntary disclosure of the environment. Ho and Wong (2001) examine the association of the structure of corporate governance with the degree of voluntary disclosure in the yearly reports in Hong Kong. These studies conclude that since the voluntary disclosure might affect the competitive advantage of the company, the board independence works as substitutive for it.

### **2.8.2 Board Size**

The size of the board is one of the significant elements of the board of directors that could influence voluntary disclosure. The results of empirical studies indicate that the size of the board determines board effectiveness and voluntary disclosure (Akhtaruddin & Haron, 2010; Allegrini & Greco, 2011; Cerbioni & Parbonetti, 2007), because the size of the board can provide greater or lesser expert knowledge and greater capacity in supervising and distributing the work to be done (Larmou & Vafeas, 2010).

Based on prior research, two opposing perspectives with respect to the effect of the size of the board on the effectiveness of the board are the agency theory perspective, and the resource dependence theory perspective on whether a larger number or a small number of directors on a board is better. Larger boards have a few advantages or benefits. For example, Goodstein *et al.* (1994) argue that companies have a tendency of benefitting from larger boards because they give variety and suggestions that could assist the

companies to obtain the essential resources and lessen uncertainty in the environment. In addition, Halebian and Finkelstein (1993) state that the main benefit of having more directors on a board is that it has more problem solving capabilities. This implies that the greater the increase in the number of the board the greater the capacity of the board for supervision. However, the gain could be less than the cost increase associated with unsound communication and the making of decisions with a large number of groups. These considerations have been developed by Lipton and Lorsch (1992), and Jensen (1993).

In addition, Akhtaruddin *et al.* (2009) argue that a larger board of directors is likely to increase its ability to regulate and encourage activities that will create value. Also, as the number of directors increases the total skills and experience of the board increases, and, consequently, the greater the necessity for disclosure of information. Furthermore, Allegrini and Greco (2011) claim that companies with a greater number of board members are associated with the effectiveness of the board and the greater will be the voluntary disclosure. For this reason, boards with a large number of members are likely to be effective in taking charge of their responsibility compared with boards with fewer members. Also, large boards have the tendency to provide more skills and knowledge, and have greater capacity for supervision and the distribution of work to be done (Larmou & Vafeas, 2010). Akhtaruddin *et al.* (2009) also provide evidence that a larger number of directors on the board has a association with a greater degree of voluntary disclosure. This implies that a larger board has greater opportunities for benefitting from the knowledge and skills of the board members.

On the other hand, another section of the literature supports the view that larger boards are not as effective as boards with fewer members in making agency conflicts less severe or serious. Based on the previous literature discussed, there are two key factors pertaining to size that affect the board's effectiveness: firstly, the communication difficulty as well as the problem of coordination, both of which are caused by the board size, and, secondly, the capability of the board to regulate management as well as the agency problem arising from the management being separated from control (Jensen, 1993; Yermack, 1996). From an agency perspective, Jensen (1993) points out that larger boards are less effective due to coordination and processing problems. He notes that the benefit of increased monitoring by larger boards may be outweighed by poorer decision-making in a larger group. Thus, small boards of directors will be more responsible for monitoring the operations of a corporation than a large board of directors (Vafeas, 2000).

Furthermore, Jensen (1993) points out that as more directors are added, the board of directors could no longer undertake their activities as easily and would find making decisions more difficult; it is expected to be easier for the CEO to be able to control the board of directors. In addition, it becomes difficult for directors to be frank and to express disapproval of one member or another, thus making decision-making more inefficient. The number of board members has even been suggested by several researchers. For example, Jensen (1993) suggests that the optimal board size is between seven and eight members. Furthermore, Lipton and Lorsch (1992) recommend that the size of the board should be around eight or nine members.

On the effect of the size of the board on voluntary disclosure, mixed evidence from empirical studies has been provided. For instance, Allegrini and Greco (2011) investigate the association between corporate boards, audit committee and the voluntary disclosure within the agency context in terms of the ownership concentration as well as larger representation of internal shareholders as characteristics. The study uses a sample of 177 companies listed in Italy in 2007. The results show that the size of the board is positively associated with voluntary disclosure. It was put forward that large boards might give a broader representation of ownership, and, as such, be transparent in the information disclosed of the tactical objectives and also be transparent in disclosing such information to stakeholders from their wider distance.

In a similar way, Akhtaruddin *et al.* (2009) examined the association of corporate governance on the voluntary disclosure by using companies listed in Malaysia as a sample. The findings reveal that the number of directors on the board has a positive association with voluntary information. This implies that with a larger number of directors on the board, directors will be more able to exercise control and encourage activities that could create value. In addition, if there are a larger number of directors, the board will improve its whole experience and skill, and thus enhance voluntary information. Consistent with Akhtaruddin *et al.* (2009), Nandi and Ghosh (2013), and Samaha *et al.* (2012) find the same direction between board size and voluntary disclosure level in India and Egypt. On the other hand, the recent studies by Alhazaimah *et al.* (2014), Cheng and Courtenay, (2006), Saha and Akter (2013) Uyar *et al.* (2014) find that the size of the board is not related to the degree of voluntary disclosure in Jordan,

Singapore, Bangladesh or Turkey, respectively. However, other studies found a negative relationship, such as Dhouibi and Mamoghli (2013) in Tunisia.

In terms of IC disclosure studies, there are mixed results between the IC disclosure level and board size; for example, Abeysekera (2010), Ahmed Haji and Mohd Ghazali (2013), Hidalgo *et al.* (2010), and Moeinfar *et al.* (2013) reported a positive significant relationship between board size and IC disclosure level in Kenya, Malaysia, Mexico and Iran, respectively. On the other hand, in the study by Cerbioni and Parbonetti (2007) it was found that the size of the board has a negative association with IC disclosure. However, the study undertaken by Gan *et al.* (2013), found that board size is not related to IC disclosure in firms listed in Malaysia.

### **2.8.3 Board Shareholding**

Board shareholding refers to the board having stock in the company. Thus, boards are encouraged to have their own portion of ownership in the corporation. In addition, the rationale to invite the board of directors, especially non-executive directors, to have a small portion of ownership in the corporation to reduce the gap between the board's interest and the interest of the shareholders, as well as the corporation (Jensen & Meckling, 1976). Therefore, the interest of the board and shareholders can be aligned. Byrd and Hickman (1992) suggest that the small proportion of stock should be held from the bidding share of a firm by independent boards due to benefits that can be gained by the shareholder. Jensen and Meckling (1976) argue that board equity ownership creates a more powerful board to be able to monitor management. In addition, Monks and Minow



(1995) state that the board of directors should become effective, not just because they are not economically connected to the company, apart from being a board members, but because they are significant shareholders.

There are two contending beliefs in the reviewed literature with respect to the association of board or management ownership with the financial reporting quality: managerial entrenchment and agency theory (Akhtaruddin & Haron, 2010; Morck, Shleifer, & Vishny, 1988). Those who argue in support of the proposition relating to managerial entrenchment assert that managers could possess motivation to use their given freedom in accounting reports. Thus, supervision and exercising discipline become a problem to directors having ownership in the firm (Morck *et al.*, 1988). In addition, Morck *et al.* (1988) add that higher board ownership would cause the moral hazard and asymmetric problem between management or directors and investors. Therefore, board ownership may also negatively affect the financial reporting quality with the consequence of affecting the degree of voluntary disclosure.

Conversely, proponents of the agency theory argue that managers who have low ownership will have an incentive to change the accounting figures in their favor to alleviate the limitations put by compunction contract on the basis of accounting (Jensen & Meckling, 1976). Furthermore, Jensen (1989) states that external directors holding less stock can be effective in supervising and checking on the managers. Therefore, there is a positive relationship between board ownership and the quality of financial reporting, and, therefore, it is related to the voluntary disclosure level.

Jensen (1993) found that outside board shareholding has a negative relationship with the degree of the internal control problem. It means that the internal control problem arises when outside directors have little stock ownership. He added that the internal control would be more effective if directors own substantial stock. Most firms use the stock option compensation to increase the director's equity holding. With board ownership, it will reduce the opportunistic behavior and therefore reduce the agency costs.

Focusing on voluntary disclosure, Akhtaruddin and Haron (2010) report that board ownership is negatively related to the voluntary corporate disclosure of 124 public firms listed in Malaysia in 2003, supporting the managerial entrenchment hypothesis by Morck *et al.* (1988). They indicate that the agency costs increase with board ownership due to the asymmetries of information from the management firm to the external investors and vice versa. Nonetheless, with the greater degree of internal ownership there is the tendency of entrenching the managers, and, consequently, causing ownership to be negatively associated with voluntary disclosure.

Karamanou and Vafeas (2005) conducted a study to determine the relationship of corporate boards and audit committees with the practice of voluntary disclosure of finance (forecasts of management earnings used as proxy) by using 500 firms as a sample over the period 1995 to 2000. It was found that insider ownership has a significant negative relationship with the quality of financial disclosure and that firms with less managerial ownership have a strong need for a board and audit committee that are very effective. In line with the result of Karamanou and Vafeas (2005), the result of the study conducted by Ghazali (2007) indicates that, in Malaysia, internal ownership has a

significant negative relationship with corporate social disclosure, thus buttressing the contention that in closely held firms, giving account to the public never poses a problem to the owner. Furthermore, Ruland, Tung and George (1990) indicate that managerial ownership has a negative association with disclosure. Moreover, the recent studies by Barros *et al.* (2013), Khan, Muttakin and Siddiqui (2013), and Sartawi *et al.* (2014) find that managerial ownership is not related to the degree of voluntary disclosure in France, Bangladesh or Jordan, respectively. A negative relationship in terms of IC disclosure is also confirmed (Ahmed Haji & Mohd Ghazali, 2013).

Conversely, a greater degree of managerial ownership has the tendency of adjusting to relate the managers' interests to the preferred external holders of shares disclosed, since the managers who are holding a larger share gain more from the stock market with good disclosure. The study by Jiang and Habib (2009) reports results based on non-financial companies listed on the New Zealand Stock Exchange from 2001 to 2005. They show that firm-year observations characterized by the ownership structure of management control have more substantial scores for voluntary disclosure than their counterparts with low concentration, thereby suggesting a positive monitoring effect of such ownerships. Similarly, Warfield, Wild and Wild (1995) report that the correlation for the firms having a greater degree of managerial ownership is higher with respect to their earnings-return. This implies that the disclosure of the content of accounting information becomes larger with the degree of managerial ownership.

Nagar, Nanda and Wysocki (2003) contend that information requested by the investors is allowed to be known by managers and investors are not willing to spread it to the public

except when they are given the right motivation (share-based compensation, for example). Nasir and Abdullah (2004) find that the shareholding by executive directors in Malaysia positively affects the degree of voluntary disclosure. Recently, a study by Chakroun and Matoussi (2012) reports a significant positive relationship between managerial ownership and voluntary disclosure for firms listed in Tunisia. On the other hand, empirical evidence in developed nations did not find a relationship between managerial ownership and voluntary disclosure; for example, Dewi *et al.* (2014), Jaffar *et al.* (2013), Samaha *et al.* (2012) and Yanesari *et al.* (2012) report an insignificant relationship between managerial ownership and voluntary disclosure in Indonesia, Egypt, Iran and Iran respectively. Based on the above discussion, non-executive directors with ownership help reduce asymmetry information associated with agency problems because they have greater power and incentive to oversee financial reporting process. Thus, outside director ownership in a firm increase disclosure practices in financial reporting. The shareholdings held by board directors is considered to be a key component to ensuring adequate oversight of management's' disclosure practices and enhancing the level of voluntary disclosure.

#### **2.8.4 Board Nationality**

The structure of corporate governance has consisted of essential board nationality for some years (Barako & Brown, 2008). Furthermore, according to Carter, Simkins and Simpson (2003), in support of board nationality, board nationality will enhance the independence of the board since members can ask different questions from those that may come from directors who have a more traditional background due to gender,

ethnicity, as well as a distinct cultural background. In addition, Ayuso and Argandoña (2007) note that foreign directors are often presumed to have significant responsibility to increase the voluntary level of corporate social disclosure. Previous studies have shown that board nationality, as determined by the existence of foreign nationals, has a relationship to stronger orientation with respect to voluntary disclosure (Ibrahim & Angelidis, 1994; Siciliano, 1996). The relationship of the percentage of foreign nationals to the disclosure as indicated in the previous literature suggests causality as an issue. Fields and Keys (2003) view the causality of board nationality and report that the performance of a company is affected by the heterogeneity of ideas, innovations as well as experiences brought by individuals.

However, two opposing perspectives with respect to the association of the diversity of board nationality with voluntary disclosure have been pronounced in the literature. From the first perspective, it is argued that board diversity will enhance the independence of the board since members could ask different questions from those of directors who have a more traditional background due to gender and ethnicity as well as a distinct cultural background (Carter *et al.*, 2003). Moreover, board cultural diversity is believed to have given the firm better skills as well as flexibility to make decisions in adopting products or services to satisfy the needs of the market in order to fulfill the variation in the needs of the customers (Richard, 2000; Williams, 2001). The second perspective was of the opinion that the foreign nationals on the board always stand for foreign owners' interest. Therefore, their existence on the board could serve as a replacement for improved disclosure (Barako & Brown, 2008).

The results of the studies concerning voluntary disclosure that have viewed the diversity of board nationality as a potential factor in deciding voluntary disclosure have been mixed. For instance, the empirical results by Barako and Brown (2008) indicate that the presence of foreign nationals on the board with respect to banks has an insignificant relation to the degree of voluntary disclosure, and point out that foreign nationals present on the board of banks always stand for the foreign owners' interests. Therefore, their existence on the board could serve as a substitute to improve disclosure. Similarly, Wallace and Naser (1996) also find an insignificant association in the levels of disclosure with boards dominated by directors of non-Chinese background.

Conversely, in Bangladesh, Khan (2010) employs a sample of all the private banks listed on the Stock Exchange of Dhaka over the period 2007 to 2008. His results show that the representation of foreign nationals on the board is positively related to the reporting practices of bank corporate social responsibility. Similarly, Haniffa and Cooke (2005) empirically show that culture factors, such as race, determined by the percentage of Malay directors on the board, is positively related to the level of voluntary disclosure of Malaysian companies.

Furthermore, it has been pointed out that ethnic orientation influences the corporate reporting practices of the firm when there are two different ethnic groups, such as Malay and Chinese. Also, in South Africa, van der Zahn (2004) investigate the association of board diversity in terms of gender as well as ethnicity on the boards of directors with the performance of IC. It has been reported that the proportion of non-white directors present on the board is significantly and positively associated with the performance of IC. In the

context of GCC, Al-Musalli and Ku Ismail (2012) examine the association between the board of directors' characteristics and IC performance using a sample of 147 banks for the period 2008-2010. The results show that board nationality has an insignificant relationship with the IC performance of GCC listed banks. However, over 200 nationalities live in the GCC countries making it among the most diverse workforces in the world with foreigners comprising 60 to 90 percent of the labor workforce (Al-Khoury, 2010). Therefore, the diversity of nationality among the members of the board including foreign members is anticipated to influence the IC disclosure of the company.

However, it can conclude that board nationality can enhance the independence of the board since members could ask different questions from those of directors who have a more traditional background due to gender and ethnicity as well as a distinct cultural background. Moreover, board nationality is believed to have given the firm better skills as well as flexibility to make decisions in adopting products or services to satisfy the needs of the market in order to fulfill the variation in the needs of the customers. The past empirical studies only pay attention to the association of board nationality with the voluntary disclosure concerning the disclosure of social responsibility, and empirical evidence concerning the association of board nationality with the disclosure of IC is lacking.

#### **2.8.5 Board Multiple Directorships**

Board of directors multiple directorships or board interlocking is one of the board characteristics that has been the topic of discussion among academics. Multiple

directorships is described as the number of director positions occupied by the board members (Al-Musalli & Ku Ismail, 2012b; Haniffa & Hudaib, 2006). According to Haniffa and Cooke (2002) multiple directorships held by board members have significant implications for the practice of disclosure as greater access to information is possible in more than a single firm. As a result, firms may become more transparent and confidentiality will be minimized. In the context of the GCC nations, there is widespread existence of multiple directorships among listed companies although their influence on disclosure practice is still undetermined.

There are two opposing views in the literature regarding the relationship between boards of directors' multiple directorships and the quality of financial reporting. Under the resource dependency perspective, multiple directorships secure and provide vital resources to the firm (Haniffa & Cooke, 2002). Directors having multiple directorships on the audit committee may acquire additional contextual background, skills, experience, and knowledge to conduct their oversight responsibilities, which may affect corporate disclosure (Shepardson, 2011). To this end, Fama and Jensen (1983), and Fama (1980) explain that external directorships contribute an important source of incentives for external directors to build their reputation as expert monitoring individuals. According to Mace (1986), external directors are considered to be invaluable as they provide prestigious, visible and well-connected executives. They also display themselves as experts in decision control who are aware of the significance of independent decision control and experts in the system of decision control.



In contrast, Dahya, Lonie and Power (1996) explain that multiple directorships assist in bringing about transparent information allowing comparisons to be made among the knowledge of organizations. Others however related that this will be a disadvantage to the company as the independence of the executive directors will be compromised, making them less independent and more sympathetic to others like them (Davis, 1993). In the same line of argument, Shivdasani (1993), and Song and Windram (2000) claim that multiple directorships may lead to board members' limitations in terms of time and commitment, and, thus, in terms of effective performance. In other words, a member of the board who holds positions in several companies will have limited time to carry out their responsibilities (Core, Holthausen, & Larcker, 1999; Lipton & Lorsch, 1992).

Empirically, studies that have examined the relationship between multiple directorships of boards and voluntary disclosure are still few and far between; for example, in Malaysia Haniffa and Cooke (2002) indicate an insignificant relationship between board multiple directorships and voluntary disclosure provided in the annual reports of Malaysian firms. Along a similar line of study, Haniffa and Hudaib (2006) find that board interlocking has no effect on the accounting performance of 347 Malaysian listed firms between 1996 and 2001, whereas it is negatively associated with market performance. Recently, Azman and Kamaluddin (2012) investigate the relationship between corporate governance mechanisms and IC disclosure in Malaysia on the Kuala Lumpur Composite Index (KLCI). The results indicate that cross-directorships or the interlocking of chairman is positively related to IC disclosure.

Thus, it can be concluded that board multiple directorships may contribute to its effective functionality as they may bring more experience gained through director positions in other companies. Furthermore, directorship held by the members of board have important implications for the practice of disclosure as there will be greater access to information in more than one company. Further, board members' with multiple directorships will be motivated and better able to monitor management and disclosure practices more carefully. Consequently, companies may become more transparent and preferences for confidentiality may diminish, which, in turn, increase effectiveness of the board of directors.

#### **2.8.6 Board Meetings**

Board meetings is another characteristic of the board of directors measured by the number of meetings that the board of directors hold during the accounting year (Barros *et al.*, 2013). Board meeting frequency has been identified as an important dimension of board operations. One way to evaluate whether the board members play their role in representing the shareholders is by observing the activities of the board. The activities of the board reflect the board's commitment in discharging its role as an agent in the company (Jensen & Meckling, 1976).

In this regard, Carcello, Hermanson, Neal and Riley (2002) contended that board diligence covers factors, such as the meeting frequency and the individual board members behavior when it comes to preparation for the meetings, attentiveness, and participation, as well as the post-meeting follow-ups. Only the number of meetings

among the factors is notable. Overall, the frequency of the meetings of the board of directors is likely to contribute to the effectiveness of its oversight function, particularly in matters concerning the financial reporting process, resulting in improved transparency in the annual report. Conger, Finegold and Lawler (1998) provide support that boards of directors that meet frequently are more likely to discharge their duties well. This indicates a good internal control mechanism. A board of directors in a company that has more frequent meetings would allow the board members to discuss identified problems, which leads to superior performance of the company (Evans & Weir, 1995).

Several studies have been dedicated to examining the board meeting-financial reporting quality relationship. In terms of timeliness of the annual report, Tauringana, Kyeyune and Opio, (2009) examine whether board meetings have an effect on the timeliness of annual reports. They documented that there is a significant negative relationship between the frequency of board meetings and the timeliness of annual reports for companies listed on the Nairobi Stock Exchange (NSE) in Kenya. This indicates that companies that hold meetings frequently publish their annual reports earlier, increase the company's performance, and, is evidence of an effective corporate governance mechanism. In terms of audit report lag, Hashim and Abdul Rahman (2011) examine the effect of board meetings on the audit report lag among 288 companies listed on Bursa Malaysia from 2007 to 2009. They demonstrate that there is a significant negative relationship between board meetings and audit report lag. This means that the number of meetings held by the board of directors in a company is able to reduce audit report lag. In terms of firm performance, Vafeas (2000) reveals that the frequency of the board meetings (over 11

times) is negatively related to the value of the firm indicating that the board activity, as gauged by board meeting frequency, is a crucial board operation dimension.

In terms of voluntary disclosure, Barros *et al.*(2013) examine the effect of corporate governance on the voluntary disclosure among 206 non-financial French listed firms during the period 2006 – 2009. They demonstrate that there is a significant positive relationship between board meeting and voluntary disclosure. This means that the number of meetings held by the board of directors in a firm is able to increase voluntary disclosure. However, Alhazaimeh *et al.* (2014) investigate the association between corporate governance and ownership structure on voluntary disclosure in annual reports among listed Jordanian companies. Using a content analysis of annual reports of the 72 companies listed on the Amman stock exchange for the year 2002-201, the results indicate that board activity is not related to the voluntary disclosure level.

Consequently, the more frequently that the board of directors hold meetings, the more superior will be the financial reporting quality as the directors are able to monitor management activities in an effective manner. An increase in board meetings leads to the discussion of any problems identified, which leads to improved management disclosure.

#### **2.8.7 Board Committees**

Board committees are divided into three; namely, audit committee, nomination committee and remuneration committee (Fauzi & Locke, 2012). Such committees are measured via a dummy variable, with the value of 1 given if firms have all three

committees – audit, nomination and compensation – and zero otherwise (Cerbioni & Parbonetti, 2007).

The board of directors delegates some of its duties to various subcommittees in order to carry out its role, which is, according to agency theory, monitoring the management and protecting the interests of the shareholders (Engel, Hayes, & Wang, 2010; Hoitash, Hoitash, & Bedard, 2009). The existence of audit committees within public corporate entities positively impacts on the minimization of agency cost when measured by cost to revenue (Reddy, Locke, & Scrimgeour, 2010). Moreover, an effective-working nomination committee is responsible for ensuring the appointment of non-executive directors whose interests are similar to the shareholders in order to minimize agency problems (Fauzi & Locke, 2012).

In addition, Vafeas (2000) argues that board committees can reflect the effectiveness of monitoring activities when it comes to information asymmetry. Therefore, in order to improve board of directors' effectiveness, the corporate governance codes in the GCC (2011) mandate that firms have committees (audit, compensation and nomination) to monitor the financial statements auditing and to establish remuneration packages for the executives and directors. The audit committee is responsible for reviewing the financial reports and reporting process to improve internal systems. The remuneration committee performs the difficult task of deciding the compensation of executives, as there is an important incentive to align the interests of managers and shareholders. Adopting a nomination committee is essential to achieve good governance, since the task of selecting qualified directors can be performed in greater depth.

The existence of audit committees could lead to an improved decision control process, and, in turn, reinforce the oversight over top management and influence the level and quality of voluntary disclosure. In addition, by offering transparent compensation remuneration packages, a compensation committee director is more able to align top management and shareholders' interests. Therefore, their presence on the compensation committee can effectively oversee top management activities. Board structure analysis also provides an insight into the inner workings of the company and brings about transparency of the process of decision control. This contention is supported by Alves (2013) who notes that firms with audit committees reduce earnings management.

In addition, in Kuwait, Al-Shammari and Al-Sultan (2010) report that the existence of an audit committee is considered as being an important factor to improve voluntary disclosure and their results indicate that companies with audit committees are likely to have more voluntary disclosure. Jiamsagul (2007) shows that the existence of remuneration and/or nomination committees is correlated with the firm's high performance as it reduces agency problems and increases transparency. This finding is attributable to the reduction of information asymmetry due to increased transparency and disclosure; and because good board characteristics could reduce agency problems. However, Cerbioni and Parbonetti (2007) argue that the board of directors should have three committees – audit, nominating and compensation – in order to be more effective, and, in turn, affect the amount and quality of voluntary disclosure.

In terms of firm value, Fauzi and Locke (2012) studied a sample of 79 firms listed in New Zealand to determine the effect of three factors – the structure of the board,

ownership structure and firm performance – in the context of New Zealand listed-firms. Their results indicate that board committees positively and significantly affect the performance of the firm. Contrary to their expectations, Cerbioni and Parbonetti (2007), who investigate the relationship between corporate variables and voluntary IC disclosure in European biotechnology companies, find a negative relationship between board structure comprising of audit committee, nomination committee and compensation committee, and voluntary disclosure quality for companies listed on a European stock market. According to them, directors who have a hand in the board's activities, limit the disclosed information. In addition, when management possesses positive news, the expertise of the audit committee is crucial to the decision as to whether or not to disclose the information. Therefore, in order to enhance the effectiveness of the board of directors, corporate governance codes in GCC countries has recommend the adoption of board committees, in particular, audit, compensation and nomination committees.

To sum up, many studies have examined the relationship between the board of director's characteristics and voluntary disclosure. The findings of these studies remain inconclusive. One of the reasons that might explain this outcome is the different institutional settings. Yuen *et al.* (2009) suggests that the presence of regulatory environment enhances the strength of the association between the proportion of independent directors and the level of voluntary disclosure. García-Meca and Sánchez-Ballesta (2010) argue that the relationship between corporate governance and voluntary disclosure depend on the legal and institutional setting.

The other reason that might explain the mixed results due to their examination of the effect of board of directors characteristics in isolation from each other (Ward *et al.*, 2009). According to Ward *et al.* (2009) most of the prior studies neglected the idea that the success of a mechanism depends on additional mechanisms in that they considered each mechanism separately. In addition, Agrawal and Knoeber (1996) found that the effectiveness of an individual mechanism might be ambiguous as the effectiveness of the individual mechanism could disappear if a number of mechanisms are combined.

Based on the above discussion, the motivation for this study to examine the relationship between the board of directors and IC disclosure are twofold. First, this study examines this relationship between the board of directors and voluntary disclosure of IC in the top firms, which have an incentive to provide additional information, as they are dependent on their stakeholders than small firms. Second, this study examines the influence of the board of directors' effectiveness and IC disclosure as a bundle of mechanisms in protecting shareholders' interests.

## **2.9 Audit Committee Characteristics**

Board monitoring not only depends on the board's structure and composition but also depends on the subcommittees of the board in which significant processes are supervised and where significant decisions are made (Cotter & Silvester, 2003). The responsibilities of audit committees have advanced for some time now in order to face the complexity of the socio-economic and business environments (Li *et al.*, 2008) The audit committee started by overseeing, supervising, and giving advice to the management and the external



auditor in dealing with the statement of finance, carrying out audits, and executing the system of internal accounting control (Liu & Sun, 2010). According to Felo, Krishnamurthy and Solieri (2003), an effective audit committee play a significant role in making sure that the financial report of a firm is of acceptable quality and may assist the firm in lessening its capital cost.

As stated earlier, the definition of effectiveness is the degree to which objectives are achieved and the extent to which targeted problems are solved (Wadhwa, 2014). Previous literature has established the notion that audit committee independence, chairman independence, size, financial expertise, multiple directorships, meetings and attendance of meetings audit committee enhance the effectiveness of audit committee monitoring processes and improve the quality of financial reporting. Following DeFond *et al.*, (2005) and Kiatapiwat (2010) audit committee effectiveness is defined based on its characteristics. Prior research has indicated that audit committee effectiveness essentially functions on audit committee characteristics; therefore, knowing the characteristics is essential to understanding the conditions of audit committee effectiveness.

The enhancement of the audit committee in terms of audit committee independence, chairman, size, financial expertise, multiple directorships, meetings and attendance of meetings could improve audit committee effectiveness and its capacity to monitor the management, and, thus, the voluntary disclosure of information (Akhtaruddin & Haron, 2010; Chobpichien *et al.*, 2008; Haji-Abdullah & Wan-Hussin, 2009; Ismail *et al.*, 2008; Li *et al.*, 2012; Li *et al.*, 2008; Mustafa & Youssef, 2010). Chobpichien *et al.* (2008) suggests that if the chairman of the audit committee is independent with independent

directors it improves audit committee effectiveness and enhances the quality of disclosure. Akhtaruddin and Haron (2010) consider that the effectiveness of audit committees is embedded in the independence and expertise of its members. Similarly, Mustafa and Youssef (2010) argue that audit committee independence is not effective unless the members are financial experts. Ismail *et al.* (2008) argue that multiple directorships of audit committee members add enrichment to the committee as the members have differing experience and knowledge management as well as various business backgrounds.

The results of Li *et al.* (2012, 2008) indicate that audit committee meeting frequency is a crucial factor when it comes to improving IC disclosure for the purpose of decreasing asymmetry in information. However, Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings and attendance is more effective in monitoring management and can potentially enhance the quality of financial reporting. In addition, they also consider the number of meetings and attendance as being the main factors affecting audit committee effectiveness. These elements, if present, would enhance the monitoring role of the audit committee, thus, this study examines the relationship among a firm's audit committee independence, chairman, size, financial expertise, multiple directorships, meetings and audit committee meeting attendance, and IC disclosure.

### **2.9.1 Audit Committee Independence**

The independence of the audit committee has been generally recognized in several previous studies to be one of the main features related to audit committee effectiveness. The independence of the audit committee refers to individual members having no self or financial association with the company or with the top executives (Persons, 2009). Two opposing views with respect to the effectiveness of the independence of members of audit committees are those of the agency theory, otherwise known as resource dependency theory, and the view of the managerial hegemony theory.

The view of the agency theory of monitoring, posits that audit committees consisting of a higher percentage of independent outside directors will be motivated to supervise and regulate the acts of the executive directors because of their behavior in gaining an unfair self-advantage (Collier & Gregory, 2000). Furthermore, Akhtaruddin and Haron (2010) suggest that an audit committee with more independent members indicates not much interruption from the management to implement their independence and enhance the effectiveness of the audit committee. Thus, leading to better quality financial reporting and reducing agency costs. This argument is supported by Md Nor *et al.* (2010) who state that the proportion of independent directors in companies can affect the voluntary disclosure of R&D information.

From the resource dependency perspective, it has been argued that the existence of independent directors could contribute to companies through their external relationships, experience, prestige, and expertise (Haniffa & Cooke, 2005). In addition, Li *et al.* (2008) argue that independent directors who possess expert skills and knowledge may prompt

the recognition of the board of the significance of disclosure of IC. Thus, it motivates the management to disclose more than the traditional disclosure showing the necessary worth of IC to stakeholders with the effect of abating agency costs and guarding the wealth of shareholders. Extending the argument of Li *et al.* (2008) to audit committees Nekhili Cheffi and Hubert (2010) claim that the independence of audit committees appears to be the most important corporate governance mechanism that leads firms to disclose R&D related information. They also claim that independence of the audit committee encourages IC related information such as R&D information. Furthermore, studies, such as Klein (2002b), similar to other studies have often used the percentage of independent members of the audit committee to determine the audit committee quality. It has been suggested by some studies that audit committees have greater effectiveness when they comprise many outside directors.

The theory of managerial hegemony posits that the ability of the outside directors to meet their responsibility of supervision with the domination and control of the management on the board of directors is challenged (Nahar Abdullah, 2004). It has been argued that as a result of the dominant responsibility executed by CEOs in the process of selecting directors, outside directors could not give independent judgment, which causes concern with respect to the quality of independent directors. When all the members are independent directors, the audit committee would not be able to access the records of accounting as easy as when the CEO of the firm or when the director of finance sits on the audit committee. Therefore, it may hinder the effectiveness of the audit committee and cause more asymmetry of information (Nasir & Abdullah, 2004). The external

directors' effectiveness in supervising the activity of the firm may be hampered by the addition of outside directors who never had experience of the corporate activities and who lack exposure to the firm's routine activities (Petra, 2005). Moreover, with the reliance of outside directors on management and the CEO for obtaining information regarding business operations, there is a likelihood of mediation by the management on the effectiveness of the outside directors in supervision (Nowak & McCabe, 2003).

To test the monitoring incentives of independent audit committees and voluntary disclosure, Akhtaruddin and Haron (2010) investigate the association among audit committee effectiveness, board ownership, as well as the corporate voluntary disclosure, to examine the proposition of the agency theory, that posits that a greater proportion of independent members increases the effectiveness of audit committees. They provide proof that by increasing the percentage of independent audit committee members encourages management to take better charge of their role, which, consequently, reduces the likelihood of agency problems between managers and outside investors. Similarly, Persons (2009) reports similar findings that earlier voluntary disclosure of ethics by firms makes such firms more likely to have a more independent audit committee (determined by the proportion of independent directors on the audit committee), and not be involved in fraudulent financial reporting .

Furthermore, Nekhili *et al.* (2010) use 85 French firms during the period covering 2000 to 2004. The results of this empirical study indicate that the greater the investment of French companies in R&D, the greater is the likelihood of disclosing associated information in R&D. In addition, the independence of the audit committee is significantly

and positively related to the voluntary disclosure of R&D. This is consistent with the prior studies of Barros *et al.* (2013) and Madi *et al.* (2014) who report similar findings that the independence of audit committees has a significant positive relationship with voluntary disclosure in companies listed in France and Malaysia, respectively.

In Malaysia, Nasir and Abdullah (2004) examine the association between voluntary disclosure and corporate governance among firms over the period 2000 to 2001. The result of their study shows that the audit committee's independence is not related to the degree of voluntary disclosure. They contend that when all the members are independent directors, the audit committee does not have the ability to get in touch with the records of accounting as easy as when the CEO of the firm or when the director of finance sits on the audit committee. In addition, Taliyang and Jusop (2011) report an insignificant relationship between IC disclosure and audit committee independence. Lately, Othman *et al.* (2014) confirm the prior result that audit committee independence does not affect voluntary disclosure.

Mangena and Pike (2005) use 262 samples of listed companies in the United Kingdom to examine the relationship of the shareholding of members of the audit committee to voluntary interim disclosure. The findings show that the shareholding of members of the audit committee (determined by the independent of audit committee) has a significant negative relationship with voluntary interim disclosure. Furthermore, Haniffa and Cooke (2005) reveal that the non-executive directors percentage is significantly and negatively related to the disclosure level of corporate social responsibility. This result implies that it

could be as a result of inexperience and lack of knowledge on the part of the non-executive directors, whose societal concerns are indifferent.

Studies on the issues of fraudulent financial reporting have also been documented. Abbott, Park and Parker (2000), for example, report that companies with an independent audit committee have less tendency of being sanctioned by the SEC because of fraudulent (or misleading) financial reporting. In a similar way, Beasley, Carcello, Hermanson and Lapides (2000) also reports that companies that engage in fraud do not have a more independent audit committee than their counterparts that never engage in fraud. Also, McMullen and Raghunandan (1996) note that companies that have problems with reporting have little likelihood of an independent audit committee. In the study conducted by Persons (2005), independence of the audit committee is found to have a negative relationship with the probable restatement of financial reporting and fraud in financial reporting. Similarly, Klein (2002b) reports that independence of the audit committee and abnormal accruals are negatively related and that less independence of the audit committee is related to an increase in abnormal accruals.

Studies have also documented the issue of earnings management. Bedard, Chtourou and Courteau (2004), for example, examine the relationship of various features of audit committees to earnings management. The findings show that aggressive earnings management and independence of the audit committee are negatively related. Felo *et al.* (2003) provide an analysis of the association of the composition of the audit committee with the quality of financial reporting; no evidence is reported concerning the

independence of the audit committee being associated with the quality of financial reporting.

### **2.9.2 Audit Committee Chairman Independence**

Independent audit committee chairman has been measured by dummy variables. The company is coded as 1 if the chairman of the audit committee was independent and 0 otherwise. This measurement is similar to that used in previous studies (Chobpichien *et al.*, 2008). It is important for the board to provide committees, particularly the audit committee to assist it in examining issues in detail and screening the workload based on specific situations. It should also provide a policy and framework concerning the members' qualities, job responsibilities, conduct of meetings and board reporting (Chobpichien *et al.*, 2008). All or most members of the committees should be non-executive directors while the chairman of the committees should be independent non-executive directors. However, the Code of Corporate Governance of the GCC countries requires listed companies to have independent chairman of the audit committee.

With regards to the independence of the audit committee chairman, Spangler and Braiotta (1990) find a positive audit committee effectiveness-transformational leadership relationship along with some transactional leadership characteristics. In the context of Malaysia, Haniffa and Cooke (2002) report that the chairperson's position should play a role in the effectiveness of the board. In terms of audit committee effectiveness, Chobpichien *et al.*, (2008) find that having an independent chairman of the audit



committee is considered to be crucial to enhance the effectiveness of the audit committee and that it leads to enhanced voluntary disclosure.

However, in terms of company performance, prior studies by Berg and Smith (1978), Donaldson and Davis (1991), and Rechner and Dalton (1991) show that independent non-executive directors do help in enhancing the performance of the company. They propose a positive relationship between non-executive directors and the level of voluntary disclosure of information. Their findings reveal that non-executive directors are negatively related with the level of voluntary disclosure with the highest regression coefficient indicating that a non-executive director, as an agent, makes greater use of confidential information. In addition, according to Liu (2004), audit committees consisting of independent non-executive directors improve the quality of disclosure. Therefore, it can be argued that having an independent chairman of the committee can enhance the effectiveness of the audit committee and increase IC disclosure.

### **2.9.3 Audit Committee Size**

Another essential feature to determine the effectiveness of the audit committee arises from the examination of the effect of audit committee size on the quality of financial reporting. The size of the audit committee is significant in increasing effective monitoring, and, thus improving corporate governance disclosure (Mangena & Pike, 2005). It is important that audit committees have enough resources and authority to execute their functions effectively, and, thus, at least three non-executive directors as membership has been recommended (Smith, 2003). Furthermore, The Blue Ribbon

Committee (1999) shows that with the complicated nature of accounting and financial issues, the audit committee deserves important director resources in the sense of the number of directors so as to fulfill its role effectively. In addition, in the GCC countries, as stated in their Code, an audit committee should have a minimum of three members with most of them being independent.

However, two opposite perspectives on the effect of the size of the audit committee on audit committee effectiveness have been documented (Karamanou & Vafeas, 2005). According to the agency theory and the theory of resource dependency, as the resources earmarked for the functioning of the internal audit become large, the efficiency of the committee to supervise necessary valuable information disclosures becomes high, which may then reduce the agency costs (Li *et al.*, 2007). In addition, it is argued that when audit committees become large, their effectiveness is commonly expected to be more in respect of monitoring due to their larger knowledge base and expertise, and an increased diversity of views that could enhance monitoring (Bedard *et al.*, 2004; Karamanou & Vafeas, 2005; Mangena & Pike, 2005). Furthermore, Bedard *et al.* (2004) argue that when the audit committee becomes larger there is a high probability that the problems that are likely to develop in the process of financial reporting will unfold and be settled. This is likely the case when a larger size of committee increases the available resources, such as diversity of expertise to the committee of the audit and improves the quality of what it takes charge of. On the other hand, too many members can cause problems because of a decrease in the effectiveness in communication and decision-making as well as a diffusion of responsibility (Bedard *et al.*, 2004; Karamanou & Vafeas, 2005).

The findings of empirical studies conducted in the past concerning the impact of audit committee size on voluntary disclosure have been mixed. The study by Li *et al.* (2007,2008, 2012) find that the size of audit committee and the level of disclosure of IC are positively associated. They suggest that large audit committees are a significant factor that decides the effectiveness of supervision of the audit committee since they have the role of supervising documents such as operating review and financial review, which are strongly related to IC.

On the other hand, Gan *et al.* (2013) and Hidalgo *et al.* (2010) report that audit committee size is significantly and positively associated with the disclosure of IC in Malaysia and Mexico. Similarly, Persons (2009) examines particular features of an audit committee that may be related to the possibility of earlier voluntary disclosure of ethics, and finds that the size of the audit committee is positively associated with earlier ethics disclosure. They pointed out that firms give comprehensive voluntary ethics disclosure in their earlier disclosure when they have never engaged in fraudulent financial reporting, and as such have a larger audit committee. Similarly, Felo *et al.* (2003) report a significant positive association of audit committee size and financial reporting quality. They suggest that committing more directorial resources to the audit committee could improve the firm's reporting quality. Recently, Madi *et al.* (2014) report the same result in Malaysia.

However, Mangena and Pike (2005) report that audit committee size and the voluntary disclosure level in financial reports bear no significant association. Their results support the argument that a larger audit committee would lack the ability to contribute significantly to the quality of financial reporting more than a smaller one. Similarly,

Othman *et al.* (2014) find an insignificant relationship between the size of audit committee and voluntary disclosure, as do Taliyang and Jusop (2011) with IC disclosure.

#### **2.9.4 Audit Committee Financial Expertise**

Audit committee financial expertise is also a unique feature that has been connected to the effectiveness of the audit committee and has received considerable attention in prior literature. Because the key responsibility of the audit committee is to oversee the process of financial reporting and controls, financial expertise is essential to the effectiveness of the audit committee (PricewaterhouseCoopers, 2005; Blue Ribbon Committee, 1999). A lack of knowledge or understanding of complex technical financial problems may lead to ineffective judgments and performance of the audit committee (DeZoort, 1998).

Mangena and Pike (2005) address the issue of accounting and financial management expertise improving the effectiveness of the audit committee. They recommend that members of the audit committee should come from management accounting as well as from financial management so as to make sure that they carry out their responsibility in a more effective way and motivate the management to disclose a greater degree of information. Furthermore, the BRC (1999) and the Smith Committee (2003) suggest that for members of the audit committee to carry out their responsibility in an effective way, they ought to be knowledgeable about the business environment, and must have an expert in accounting or in a related field of financial management among them to be able to read and have insight into basic finance statements. A past or present job in finance or

accounting and/or professional body membership in these fields by at least one member of the committee demonstrates this expertise (Smith, 2003).

The resource dependency theory posits that the resource responsibility of the directors, which serves as means of advice and counseling for the CEO, is significant to firms as added value resources (Daily, Dalton, & Cannella, 2003). The organizational theory also posits that outside directors who have experience are essential to the firms as they supervise boards effectively and motivate corporate voluntary disclosure (Akhtaruddin & Haron, 2010). According to Felo *et al.* (2003), the audit committee is considered to perform the role of supervising the quality of financial reporting. For this reason, the presence of expertise in accounting or financial management in the audit committee serves to ensure that the financial disclosure of the firm gives dependable information.

Vafeas (2005) contends that in order to have effective members of the committee, they ought to have the necessary skills to correctly comprehend and interpret information relating to finance, and to make sure that a better quality financial report is given to shareholders. With the better knowledge of the audit committee, members stand the chance of getting the auditor judgments clear and recognizing the significance of rifts between the external auditors and management. In addition, the effectiveness of the audit committee will be enhanced to recognize and ask questions that probe the management and auditor (Levitt, 2000). Therefore, for more effective responsibility in supervising the board and enhancing corporate voluntary disclosure, there is need for the members of the audit committee to give way for the resources (such as accounting and financial management expertise) required by the firms (Bedard *et al.*, 2004).

Furthermore, for effective dealing with the issues associated with the quality of financial reporting, the audit committee members ought to have sound accounting or related financial management expertise in order to have the ability to read and understand the basic financial statement (Felo *et al.*, 2003). The members of the audit committee ought to be knowledgeable of the business environment and possess expertise in accounting and financial management to better understand, and correctly interpret and improve corporate voluntary disclosure. Vafeas (2005) contends that in order to have effective members on the committee, they ought to have the necessary skills to correctly comprehend and interpret information relating to finance, and to make sure that a better quality financial report is given to shareholders. The accounting and financial management expertise is essential for the members of the audit committee to effectively discharge their duties.

Members of the audit committee with an accounting and financial management foundation could be an essential factor in deciding the effectiveness of their supervision since they have better insight into the quality of the annual report (Mangena & Pike, 2005). Thus having members of the audit committee who have technical know-how or skills is essential for them to execute their responsibilities in a more effective and efficient way, particularly on issues concerning corporate voluntary disclosure. McDaniel, Martin and Maines (2002) note that the existence of financial experts among the audit committee members raises the likelihood of enriching the whole quality of reporting and enhances the regularity of evaluating the whole quality of reporting. Furthermore, Nekhili *et al.* (2010) show that there is more awareness of the need to have

accounting experts among the audit committee members to improve the functioning of the audit committee. Consequently, it enhances corporate voluntary disclosure.

Empirical research suggests that accounting and financial management improves audit committee effectiveness. Felo *et al.* (2003) report that the proportion of members of the audit committee with skills or knowledge in accounting or financial management has a positive association with the quality of financial reporting. It has been pointed out that making it compulsory to have members with skills and knowledge on the audit committee instead of just asking for at least one expert on the audit committee could bring more benefit to the investors. Similarly, the study carried out by Mangena and Pike (2005), finds that audit committee members having accounting as well as financial management skills are positively linked to the voluntary disclosure level and suggests that members of the audit committee with accounting or financial management skills/knowledge are an important determinant of audit committee effectiveness as they can read and understand the fundamentals of the financial statement.

In addition, in terms of the assessment of financial reporting quality, McDaniel *et al.* (2002) carried out a study to investigate the effect of expertise on the evaluation of quality of financial reporting by making use of managers of audit firms as well as executive MBA graduates. It is found that experts perform better in evaluating the quality of financial reporting as distinguished from non-experts. The remark was that efforts to improve audit committee financial expertise have the tendency to affect the evaluation by audit committees of the quality of financial reporting.

Conversely, Gul and Leung (2004) studied 385 companies in Hong Kong as a sample in 1996 to determine how board leadership and outsider directors' expertise are related to voluntary corporate disclosure. Their results support the assertion that the larger the percentage of experts from outside directors on the board will lead to a lower degree of voluntary disclosure. Persons (2009) studied the characteristics of the audit committee and earlier voluntary disclosure of ethics, his results indicate that the accounting and financial expertise of audit committee members is not significantly related to earlier ethics voluntary disclosure. He argues that firms that have an audit committee whose members have accounting expertise or financial expertise is very low. Recently, the results of Madi *et al.* (2014) and Othman *et al.* (2014) indicate that there is no relationship between the financial expertise of the audit committee and voluntary disclosure in Malaysian listed companies. In terms of IC disclosure Gan *et al.* (2013) and Li *et al.* (2012) report an insignificant relationship in Malaysia and the UK.

Recently, Aboagye-Otchere *et al.* (2012) investigate the relationship between corporate governance variables and corporate disclosure. Using a sample 20 listed companies on the Ghana Stock Exchange covering a period from 2003-2007. Their results indicate that as the number of accounting/finance experts on the audit committee increases the level of disclosure increases. They justify their results based on the idea that people with an accounting/finance background are able to understand and interpret the reports prepared by financial managers. Thus, the non-disclosure of items that are pertinent and helpful to stakeholders will be readily recognized and their disclosure in the annual reports ensured.



Based on the literature, it can be argued that audit committee members with a higher percentage of financial expertise are anticipated to supervise boards more effectively as they are able to understand and interpret the reports prepared by financial managers. Furthermore, they are able to understand the capital market implications of providing quality IC disclosures. Such understanding by the audit committee should lead to improvement in IC disclosure in order to communicate information on firms' value-creating processes.

### **2.9.5 Audit Committee Multiple Directorships**

Audit committee multiple directorships are among the audit committee characteristics that have recently acquired a great deal of interest. Multiple directorships are considered to be the number of director positions that audit committee members hold (Haniffa & Hudaib, 2006). There are two opposing views in the literature regarding the relationship between audit committee multiple directorships and the quality of financial reporting. Under the resource dependency perspective, multiple directorships secure and provide vital resources to the firm (Haniffa & Cooke, 2002). Directors having multiple directorships on the audit committee may acquire additional contextual background, skills, experience, and knowledge to conduct their oversight responsibilities, which may affect corporate disclosure (Shepardson, 2011).

In addition, Fama and Jensen (1983), and Fama (1980) argue that the market for outside directorships serves as an important source of incentives for outside directors to develop reputation as monitoring specialists. Mace (1986) suggests that outside directorships are

perceived to be valuable because they provide executives with prestige, visibility, and commercial contacts. Accordingly, they signal to the market that they are expert in decision control, are aware of the importance of separate decision control, and are capable of working in the decision control system. In addition, some studies reveal the potential of multiple directorships to improve the audit committee members' contribution toward the effective discharge of their duties. For instance, audit committees with multiple directorships request for a thorough audit to protect their reputation (Boo & Sharma, 2008), and, thus, add to the quality of financial reporting.

In contrast, from the agency theory perspective, other studies like Shivdasani (1993), and Song and Windram (2000) note that multiple directorships may lead to time and commitment limitations for audit committee members when it comes to effective performance. Added to this, members of the committee holding director positions of several firms may have limited time to carry out their responsibilities (Core *et al.*, 1999; Lipton & Lorsch, 1992). On the other hand, Dahya *et al.* (1996) claim that cross-directorships will assist in bringing about transparency of information owing to the opportunity to compare organizational knowledge. Nevertheless, other studies continue to argue that the company will be placed in a comprising position as the existence of executive directors on more than one board will make them less independent and they will be highly sympathetic towards others like them (Davis, 1993).

Some studies have included multiple directorships among the audit committees characteristics when examining the linkage between such characteristics and the effectiveness of the committee; for instance, Carcello & Neal (2003) show an adverse

relationship between the average multiple directorships of the audit committee and the potential of dismissing an auditor after a going concern opinion. In relation to this, Yang and Krishnan (2005), who chose a random sample of 250 US public companies from the pre-SOX years, find that audit committee directors' experience on other boards (measured by number of directorships) is significantly associated with lower quarterly discretionary accruals.

Kiel and Nicholson (2003) reveal that multiple directorships are positively related to market capitalization and performance, in the context of Australian firms while Zheng (2008) examines the impact of audit committee's multiple directors on the financial reporting quality. He collected data from S&P 500 firms in the period spanning from 1997 to 2005 and reveals that audit committee members multiple directorships positively relate to the financial reporting quality of the firm. Recently, Pomboa and Gutiérrez (2011) argue that the market values directors with high cross-directorships, because they have management experience and specific knowledge. Their argument is based on empirical evidence that directors with at least two directorships in different firms are more likely to increase the firm performance.

In addition, Ismail *et al.* (2008) claim that the corporate reporting quality is significantly and positively linked to multiple directorships of the audit committee members. This contention is supported by Haniffa and Cooke (2005) who state that multiple directorships of the audit committee are significantly and positively related to corporate social reporting norms. Also, Persons (2009) examines the relationship of audit committee characteristics and earlier voluntary ethics disclosure among fraud and no-

fraud firms prior to 1999 to see the impact of these characteristics on earlier voluntary ethics disclosure. He fails to find a significant relationship between audit committee multiple directorships and voluntary disclosure.

Based on above discussion, it could be conclude that two views determine the important of the multiple directorship. The first view suggest that directors with additional directorships might contribute to their effective function as he or she might bring more experience and it has stronger incentives to monitor because of higher reputational capital stake. The second view suggest that, As the additional directorships on other firms' board increase, demands on the individual board member's time decrease the amount available for the director to effectively fulfil monitoring responsibilities at a particular firm. Based on the first view, it could be said that more additional directorships an audit committee member has, the more effective he / she will be, and the more likely it is that he / she will ask the firm to make IC disclosure.

#### **2.9.6 Frequency of Audit Committee Meeting**

The frequency of meetings of the audit committee is always used as a proxy for diligence of the audit committee. Audit committee diligence in performing its function has also been connected to the effectiveness of the audit committee. In the literature, various proxies have been employed for the diligence of the audit committee. The proxy that has been employed most is the number of meetings held annually by the audit committee.

The management is not likely to be supervised effectively by the inactive audit committees and enough time for meetings ought to be created for the deliberation of

fundamental issues (Olson, 1998). Furthermore, Price Waterhouse (1993) suggested that audit committees ought to meet at least three or four times yearly, and also arrange special meetings as the need arises. In the GCC countries, as stated in their Code, audit committees are required to meet a minimum of four times annually with the presence of independent directors in the majority.

However, there are two opposite views with respect to the effect of frequent meetings on audit committee effectiveness. The initial view states that frequent meetings of the audit committee is an important internal control to supervise management behavior with a view to lessening the asymmetry of information through the disclosure of IC (Li *et al.*, 2008). In addition, Felo *et al.* (2003) note that the audit committees that frequently have more meetings are more effective at overseeing the financial reporting process than the audit committees that meet less frequently. However, although audit committee meeting frequency serves as an indicator of the audit committee's effectiveness in monitoring financial reporting effectively, it can also be argued that audit committees that hold fewer meetings than the minimum of two per year are less likely to pursue their duties diligently because the effectiveness of the audit committee is a function of the ability and desirability to perform audit committee duties. In addition, the ability to supervise management effectively depends on the independence of the directors, while the desirability to perform the role of the audit committee effectively is also dependent on the number of meetings held by the audit committee (Abbott *et al.*, 2000).

Empirical studies investigating the association between audit committee meeting frequency and financial reporting quality have shown controversial results. The study by

Li *et al.* (2008) find that the level of IC disclosure and frequency of audit committee meetings are positively and significantly related. It has been pointed out that the activity of the audit committee acts as a significant factor in supervising the behavior of management with respect to lessening the asymmetry of information via disclosure of IC. Similarly Azman and Kamaluddin (2012), and Taliyang and Jusop (2011) report a significant positive relationship between audit committee meetings and IC disclosure. Allegrini and Greco (2011) use a sample of all non-financial listed companies on the Italian Stock Exchange in 2007, and note that the activity of the audit committee (determined by number of meetings held by the audit committee in 2007) and the level of information voluntarily disclosed are significantly and positively associated.

Similarly, O'Sullivan, Percy and Stewart (2008) find that the quality of audit (determined by the frequency of meeting held by the audit committee) has a positive relationship with the voluntary disclosure of forward-looking information in corporate yearly reports. In the same way, the results of Persons (2009) show that the frequency of meetings by the audit committee and voluntary disclosure ethics are significantly and positively related. The results suggest that the frequency of meetings (minimum of four meetings yearly) by the audit committee, will lead to more effective supervision of management and is conducive to earlier voluntary disclosure. However, Barros *et al.* (2013) find a negative relationship with voluntary disclosure.

Conversely, Madi *et al.* (2014) examine the relationship between audit committee characteristics on corporate voluntary disclosure using 146 firms listed on Bursa Malaysia for 2006. The empirical results reveal that the meetings of the audit committee

are not related to corporate voluntary disclosure. They argue that the meetings of the audit committee measured by the frequency of meetings does not enhance the monitoring role of such a committee in improving voluntary disclosure practices. Consistent with Othman *et al.* (2014) they report that audit committee meeting frequency and voluntary disclosure are not significantly related. Similarly, the results of Gan *et al.* (2013) indicate that IC disclosure is not related to audit committee meetings.

Thus, it can be concluded that frequent meetings of the audit committee is an important internal control to supervise management behavior with a view to reducing the information asymmetry through the disclosure of IC. As such, audit committees can be expected to have a significant impact on value-relevant information disclosure, of which intellectual capital forms a large element in many firms.

#### **2.9.7 Audit Committee Diligence**

Audit committee diligence is another characteristic of the audit committee. It is measured by the average rate of the participation of the audit committee members in the meeting (Barros *et al.*, 2013). According to Haji-Abdullah and Wan-Hussin (2009) the level of attendance of audit committee members can also be used to measure the activeness of audit committee members. Even if the frequency of meetings is high, if the attendance levels are poor, it may impair the effectiveness of the audit committee. In addition, Barros *et al.* (2013) argue that one of the responsibilities of the audit committee members is attending meetings and that by doing so they have a strong commitment to earnestly

perform their supervision duties. Therefore, a higher level of audit committee meeting attendance indicates a more effective audit committee and increases disclosure.

Two opposing perspectives with respect to the association of audit committee diligence with voluntary disclosure have been pronounced in the literature. From the first perspective, it has been argued that greater participation in audit committee meetings allows directors to provide useful advice, share points of view, and benefit from each other's experience. Hence, a higher attendance rate decreases the information asymmetry between them and promotes more effective functioning of the committee (Barros *et al.*, 2013).

Moreover, regular attendance at audit committee meetings shows the strong commitment of directors to earnestly perform their supervisory duties and their presence pressures the top management into providing further information to reduce oversight. Furthermore, directors who usually attend board meetings are expected to ask for more detailed and varied information to assess management performance, implying more voluntary disclosure (Barros *et al.*, 2013).

However, from the directors and time spent perspective, busy directors are less likely to question managerial proposals and decisions, and are therefore less effective monitors. In this respect, Ahna, Jiraporn and Kim (2010) and Jiraporn, Singh and Lee (2009) suggest that directors holding multiple outside directorships face tight time constraints and their limited attention capacities may hamper their capacity to properly fulfill their monitoring duties, which, in turn, negatively affects firm performance. Similarly, Ferris, Jagannathan



and Pritchard (2003) posit that because of the lack of time, busy directors are unable to serve on various board committees. In addition, Patelli and Prencipe (2007) suggest that directors are more likely to establish personal ties with the firm insiders they are supposed to monitor when they participate frequently in board meetings, which can reduce the effectiveness of monitoring, including that of disclosure decisions.

Barros *et al.* (2013) studied the relationship between corporate governance and voluntary disclosure. By using a panel of 206 non-financial French listed firms during the period 2006 to 2009. They find a significant adverse association between audit committee and voluntary disclosure. They argue that an audit committee that meets frequently with all its members sends a signal of continuous monitoring to the market, reducing the need for public information disclosure in annual reports. However, Haji-Abdullah and Wan-Hussin (2009) show that the level of attendance at audit committee meetings is not significantly related to the quality of financial reporting.

From the above discussion it could be concluded that two views determine the effect of meeting attendance. The first view suggests that greater participation in audit committee meetings allows directors to provide useful advice, share points of view, and benefit from each other's experience. Which in turn, decreases the information asymmetry and promotes more effective functioning of the committee. The second view suggests that decrease attendance rate; the effectiveness of the audit committee will decrease. The assumption of this view is that busy directors are less likely to question managerial proposals and decisions, and are therefore less effective monitors. Based on the first

view, it could be said that greater participation in audit committee meetings causes audit committee to function high effectively.

From the findings of the previous studies, it could be said that the reason why those studies provide unclear results might be their narrow focus and omission of variables that could influence the effectiveness of audit committees. For example, some studies only examined the role of independent members but did not take into account other characteristics that could influence the effectiveness of the audit committee and also the level of voluntary disclosure, such as their frequency of meetings financial experts, multiple directorship, meeting participation, and chairman independence.

DeZoort *et al.*, (2002) argue that the audit committee effectiveness framework could be understood and considerably improved if the audit committee elements are studied together. Chobpichien *et al.* (2008) suggest that if the chairman of the audit committee is independent with independent directors it will improve audit committee effectiveness and enhance the quality of disclosure. Mangena and Pike (2005) suggest that a larger audit committee gives rise to more effective monitoring. Akhtaruddin and Haron (2010) consider that audit committee effectiveness is embedded in the independence and expertise of its members. Saleh, Iskandar and Rahmat (2007) argues that independent members who have financial expertise but do not attend meetings will not enhance the effectiveness of the audit committee in increasing the quality of financial reporting. Similarly, Mustafa and Youssef (2010) argue that audit committee independence is not effective unless the members are financial experts. Ismail *et al.* (2008) argue that multiple directorships of the audit committee add enrichment to the committee as the members

have differing experience and knowledge management as well as various business backgrounds. Similarly, according to Ruzaidah and Takiah (2004), multiple directorships would improve the expertise of the audit committee and allow them to effectively oversee the firms and generate high quality reporting. Xie *et al.* (2003) argue that an audit committee whose members have a financial background and have frequent meetings serves better as an internal control mechanism and enhances oversight of the financial reporting. The results of Li *et al.* (2012, 2008) indicate that audit committee meeting frequency is a crucial factor when it comes to improving IC disclosure for the purpose of decreasing asymmetry in information. However, Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings with attendances are more effective in monitoring management and can potentially enhance the quality of financial reporting. In addition, they also consider the number of the meetings and attendance as the main factors affecting audit committee effectiveness.

It can be seen from the above arguments that the ability of independent audit committee members to improve the financial reporting quality depends on their frequency of meetings financial experts, meeting participation, and chairman independence. Thus, examining the characteristics of audit committees in isolation from each other may be the reason why past studies provided unclear results. The narrow focus and omission of variables, which are the limitations of previous studies, give this study two motivations. This study extends IC disclosure studies by examining the relationship between independent audit committee members, independent of the chairman, audit committee size, financial expertise, audit committee multiple directorships, frequency of meeting

and participation of meeting. In addition, the study will examine the effect of the score of audit committee's characteristics on IC disclosure.

## **2.10 Ownership Structure**

Ownership structure has been identified as a central determinant of IC disclosure (e.g. Azman & Kamaluddin, 2012; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2008; Oliveira *et al.*, 2006; White *et al.*, 2007; Yau *et al.*, 2009). The voluntary disclosure literature provides two contradictory points of view of the effect of ownership structure on IC disclosure (Jiang & Habib, 2009).

The first point of view is represented by the efficient-monitoring hypothesis, which argues that large blockholders have a greater incentive, capability and the resources to supervise managers' behavior since their resources are better related to the performance of the company than individual shareholders (Friend & Lang, 1988; Huafang & Jianguo, 2007; Jensen & Meckling, 1976; Shleifer & Vishny, 1986). For this reason, pressure could be mounted on the management for greater information disclosure (Mohd Ghazali & Weetman, 2006). The reasons why blockholders often exercise their supervisory function on the firm management are rightly recorded. This is so since they could deal with supervision and take control of the costs (Shleifer & Vishny, 1986), carry out the power given to them by law on their role with more skills (Pound, 1988), and obtain more accurate signs of the efforts of management (Huddart, 1993). In line with this view, firms holding large blocks have a tendency to provide greater voluntary disclosure.

In contrast, the conflict-of-interest hypothesis argues that greater investment by controlling shareholders gives room for obtaining private information that could be used as an opportunity to gain advantage of personal behavior (Jiang & Habib, 2009; Md Nor *et al.*, 2010). The concentration of institutional ownership has been shown by Holmstrom and Tirole (1993) to likely constrain the spread of information and reduce the liquidity of the market share. They argue that ownership concentration decreases the gains of the supervising market on the management of the firm by decreasing the liquidity of the market. The strategic-alignment proposition posits that institutional investors find that it is beneficial to work together with institutional managers. This relationship dampens the motivation of large blockholders as well as their ability to supervise the actions of the manager (Pound, 1988). The two hypotheses – the conflict-of-interest and strategic-alignment – identify managerial entrenchment as a possible impact of what could arise when there are very large internal holdings (Chau & Gray, 2010; Jiang & Habib, 2009).

With the concentration of share ownership of firms with few investors, the problems related to the ownership being separate from control could be reduced (Li *et al.*, 2007). Nonetheless, there could be other difficulties. For example, there is a problem of asymmetry of information from the internal investors (owner-manager) and external investors caused by ownership concentration. Concentrated ownership could encourage the control of shareholders to take away other shareholders' wealth that could affect the decisions of management, which gains the individual wealth of the owner (Fama & Jensen, 1983; Morck *et al.*, 1988; Shleifer & Vishny, 1997). Without significant outside share ownership, it is anticipated that companies whose ownership is concentrated within

insiders or controlling owners are likely to provide less information (Allegrini & Greco, 2011).

However, empirical studies on the association of ownership structure with the disclosure of IC fail to provide conclusive results reporting evidence supporting both points of view – the efficient-monitoring hypothesis and conflict-of-interest hypotheses. For example Huafang and Jianguo (2007) in China, Haniffa and Cooke (2002) in Malaysia, and Luo, Courtenay and Hossain (2006) in Singapore, all report that a company with higher blockholders is associated with increased corporate voluntary disclosure. Other empirical studies find consistent evidence supporting the conflict-of-interest hypothesis. For example, Oliveira *et al.* (2006) in Portugal, Li *et al.* (2008) in the UK, and Hidalgo *et al.* (2010) in Mexico, investigate how ownership concentration affects the voluntary disclosure of intangible assets. It has been reported that ownership concentration is negatively related to the voluntary disclosure of intangible assets.

Two reasons provide the opportunity to analyze the inconclusive results of the association of ownership structure with the voluntary disclosure practices. Firstly, previous studies examine the association of the ownership structure with the voluntary disclosure without taking into consideration the effect of the role of corporate governance on this relation. Thus, it can be said that the positive relation may be due to the effectiveness of corporate governance and negative as a result of weak corporate governance. In other words, these studies examine corporate governance in isolation from each other. This study investigates the interaction of the ownership concentration with the audit committee

effectiveness and how this interaction affects the decisions of managers regarding IC disclosure in GCC top capitalization listed companies.

Furthermore, the GCC countries are characterized as having significant ownership concentration, as mentioned by Al-Shammari (2008), in that the GCC has three groups of shareholders, institutional investors, the government and the agencies of the government, and the dominant families. Therefore, it is significant to decide on the possibility of ownership concentration on the voluntary disclosure of IC. In doing so, this study extends the studies regarding the association of ownership concentration with the disclosure of IC, which is mostly conducted in the developed countries with a relatively dispersed corporate ownership structure and transparent legal system.

Secondly, the inconclusive results may be due to the fact that previous researchers have usually used “total ownership concentration” without making a finer classification of the ownership variables, and ignoring the differences in the structures of such ownership (Jiang & Habib, 2009). This could result in less information as a result of the differences in the supervisory costs involved and the incompatible supervisory power possessed by various forms of dominant shareholder (Bennett, Sias, & Starks, 2003; Del Guercio, 1996; Falkenstein, 1996). Therefore, the different ownership groups affect disclosure policies differently. Jiang and Habib (2009) report very important distinguishing ownership structures, which they classify into different classes to draw the actual effect of various controlling properties on the disclosure of managerial decisions. This study extends this stream of research by classifying the shareholding structure into three mutually exclusive types: government ownership, family ownership, and institutional

ownership, and examines the impact of different types of ownership on the concentration of ownership and voluntary disclosure of IC in the top market capitalization listed companies in the GCC.

### **2.10.1 Government Ownership**

The practices of IC disclosure could be affected by government ownership. Government involvement in firms can be in many forms; among others are the share ownership, subsidizing activities, tax incentives, and grants to companies in certain industries (Md Nor *et al.*, 2010). This involvement would at least help to ensure that firms would not be involved in unwarranted activities and that managers do not mismanage the funds entrusted to them. Therefore, government involvement in the form of share ownership can affect the level of agency conflict between managers and outside shareholders (Gul, 1999).

Theoretically, there are two contradictory viewpoints about the association of government ownership with the disclosure of IC. A strong association of government ownership with the disclosure of IC has been reported in the literature. According to the stakeholder theory, the GLCs are politically sensitive, and the managers in GLCs take into consideration the interests of the major stakeholder. Thus, the agency conflict between the manager and the stakeholder will be low in GLCs. Hence, greater disclosure of their initiatives in developing intellectual resources in these GLCs will enhance stakeholder support and satisfaction (Yau *et al.*, 2009).



In addition, Firer and Williams (2003) contended that senior government officials are also the different directors in GLCs. As a result, these directors affect the disclosure policies of GLCs one way or another to successfully show the issues of concern to the government. For this reason, GLCs will possibly engage in voluntary disclosure of more IC as compared to non-GLCs. In addition, it was contended by Eng and Mak (2003) that government-owned companies are associated with higher agency costs as a result of the pure profit objectives of a commercial enterprise conflicting with the objectives associated with the interests of the country. Their contention was buttressed by the fact that the necessity to exchange information with other shareholders is very evident in companies controlled by the government, thereby causing the disclosure to increase. In the same way, Makhija and Patton (2004) point out that the government has a larger stake in companies that are considered to have tactical value or otherwise viewed as "national silver". This consideration, which is non-economic, implies that companies that have greater governmental shareholding could decide to have greater disclosure in order to meet their reporting role to the wider public. GLCs will formulate a broad voluntary disclosure policy in order to enhance the association of investors, reduce political costs, and obtain the maximum share value (Albert, Briones, & Cardoso, 2003).

In contrast, Md Nor *et al.* (2010).highlighted that in a developing country like Malaysia, government-owned companies are mostly politically connected, and such companies tend to disclose less information to protect their political linkages or even their beneficial owner. Jiang and Habib (2009) state many reasons, as observed by the previous studies, that public ownership companies could fail to greatly disclose information as a result of

the following: firstly, the companies are separately supervised by the government; secondly, companies have access to funding by the government and for this reason it reduces the necessity to raise funds from outside; thirdly, the returns in holding companies are assured by the governmental owners (Naser & Nuseibeh, 2003); and, fourthly, government interest in these firms is generally on a long-term basis, and being the body of authority that oversees the well-being of the country, they can fulfill their information needs by directly contacting the firms (Md Nor *et al.*, 2010).

Furthermore, the corporate managers of GLCs might not be very afraid of disclosing information that might be useful to a competitor, but, also, they may have no interest in the company becoming more transparent (Bogdan, Popa, Pop, & Farcane, 2009; Firer & Williams, 2003). Furthermore, the improvement in the shareholder value is not likely to be the main goal of GLCs. Government funding is given to these companies and could also have various means of finance unlike the non-GLCs (Eng & Mak, 2003). The factors ought to dampen the pressure mounted by the public for voluntary disclosure. Therefore, there is less likely to be much disclosure in corporations that have a larger percentage of state-ownership (Huafang & Jianguo, 2007). Moreover, the managers of GLCs have the tendency for little discipline from the corporate control market due to the expectation that the government will be a long-term investor in these GLCs, and are not likely to support the take over offers for GLCs that are not asked for.

The empirical studies show controversial results. Firer and Williams (2003) conducted a study on publicly traded firms listed in Singapore on a sample of 390 firms; their findings indicate that government linked corporations will likely make more voluntary IC

disclosure than ownership diffusion and executive director ownership. In line with the agency perspective, a sample of 158 firms listed in Singapore was used to examine the corporate governance and voluntary disclosure; the government ownership was documented to be positively related with voluntary disclosure (Eng & Mak, 2003). It is contended that moral hazard and agency problems are increased by government ownership and that the source of alleviating these problems is through disclosure. In line with the study of IC disclosure, are the findings of Gan *et al.* (2013), Ahmed Haji and Mohd Ghazali (2013), and Yau *et al.* (2009), who show that government ownership is positively associated with the voluntary IC disclosure of companies listed in Malaysia.

On the other hand, Huafang and Jianguo (2007) investigate the effect of ownership structure as well as the composition of the board on voluntary disclosure using a sample of 559 firms listed on the Shanghai stock exchange in China. The findings reveal that state ownership has no association with disclosure. In a similar way, Ghazali and Weetman (2006) note that, in Malaysia, the level of disclosure is not influenced by government ownership, and, hence, is insignificant in any group of disclosure. It is further contended that, in Malaysia, as an emerging country, companies controlled by the government are strongly related politically with the tendency for less information disclosure to guard their political connections as well as their beneficial owners. In the same line as prior studies, Juhmani (2013), and Samaha and Dahawy (2011) report an insignificant relationship in Bahrain and Egypt, respectively.

From the empirical studies mentioned above, it can be seen that government ownership one of the important factor, which can affect the level of voluntary disclosure, and

provide mixed results. One reason that might explain the inconclusive results is the examination of previous studies of the association of the ownership with voluntary disclosure without taking into consideration the effects of the role of audit committee in this relation. Thus, it can be said that the positive relation may be due to the effectiveness of corporate governance and negative because of weak corporate governance. In other words, these studies examine corporate governance in isolation from each other. Thus, this study looks into the interaction of government ownership with audit effectiveness and how this interaction affects the decisions of managers regarding IC disclosure in the GCC countries

#### **2.10.2 Family Ownership**

Family firms refer to firms that are regulated and managed by the families that found them (Anderson & Reeb, 2003). GCC companies are quite different from those of advanced countries like the United States and the United Kingdom in the sense that the former have a high ownership structure concentration in which family control is prevalent in the founded firms and the small ones while the latter have an ownership structure that is dispersed (Davis, Pitts, & Cormier, 2000). According to Ali, Chen and Radhakrishnan (2007) the main source of agency problems in family firms is between controlling and non-controlling shareholders because family members not only own a considerable share ownership of the firm but also manage and sit as board members of the firms (Md Nor *et al.*, 2010). Thus, the level of information asymmetry is low between the owner and the management. Based on this idea, it has been suggested that family ownership could hinder the disclosure quality (Ho & Wong, 2001).

Nonetheless, whether family ownership offers a motivation to reduce the agency cost or add to it has not yet been resolved and constitutes an issue. Two contrasting views regarding the relationship of family ownership and agency cost exist. It has been agreed by many authors that the shareholding concentration in a particular family is a motivation to reduce the agency costs via the right adjustment of the shareholder's interest and the firm establishment of such interests.

Proponents of the alignment hypothesis suggest that ownership concentration by family is a motivation to reduce the agency cost via the correct adjustment of the relation of the shareholders to managerial interests, which leads to greater supervision, lower asymmetry of information as well as reduced agency costs (Chau & Gray, 2010; Demsetz & Lehn, 1985; Jiang & Habib, 2009; Shleifer & Vishny, 1997). Nonetheless, Bartholomeusz and Tanewski (2006) state many reasons, as recognized by the past studies, which benefit family firms being agents to lower the asymmetry of the information as well as agency costs. Firstly, given that company costs are incurred and benefits reaped by the same individual, family firms have greater motivation to guard their property as it is directly related to the company's welfare (Anderson & Reeb, 2003; Demsetz & Lehn, 1985). Secondly, the possession of expert knowledge and skills by family firms with respect to the operation of the firm give them an advantage to effectively supervise the activities of firms (Bartholomeusz & Tanewski, 2006). Thirdly, firm's long-term wealth is increased by family owned firms to guard the name and reputation of the family. Accordingly, they tend to maintain a level of high ownership. This reputation leads to better disclosure of associated benefits, such as the increase resulting from the analysts as well as money

managers, and the rise in the liquidity of the stock of the firms (Ali *et al.*, 2007). Fourth, the fact that members of family are related brings about a unique and special association that promotes loyalty, makes communication efficient and effective and allows quick and better decision-making, which reduces the agency costs (Bartholomeusz & Tanewski, 2006). As a result, the alignment hypothesis implies that with a high stake in the firm, owners (a controlling family) have an incentive to influence management to disclose more voluntary information as greater disclosure benefits both the market participants (Healy, Hutton, & Palepu, 1999; Lang & Lundholm, 1996; Welker, 1995) and the owners of family companies (Ali *et al.*, 2007).

However, the entrenchment effect provides an opposing view concerning how family ownership is related to voluntary disclosure. An entrenchment effect might arise as a result of the insiders getting greater shareholdings within their firms and could be firmly established to follow policies that satisfy their interests. Therefore, the entrenchment of management may take place as the insider holdings become large (Chau & Gray, 2010; Gul & Leung, 2004; Leung & Horwitz, 2004; Morck *et al.*, 1988) leading to an asymmetry of information problem between the investors from inside and the investors from outside. The more the share of a firm's ownership is concentrated within investors, which are smaller in number, the less likely there will be problems related to the separation of ownership and control. Nonetheless, there could be other problems. For example, there is a problem of information asymmetry from the internal investors (owner-manager) and external investors caused by ownership concentration. Concentrated ownership could encourage the control of shareholders to take away other

shareholders' wealth, which could affect the decisions of management, which increases the individual wealth of the owner (Fama & Jensen, 1983; Morck *et al.*, 1988; Shleifer & Vishny, 1986). As a result of conflicts arising from the interests of family owners and the interests of other shareholders the companies have not disclosed to outsiders much about the information relating to R&D (Md Nor *et al.*, 2010).

For family owned firms, the members of the family usually participate in essential positions of the board of directors as well as the management team (Anderson & Reeb, 2003; Chau & Gray, 2010; Md Nor *et al.*, 2010). By holding those positions, a controlling family will find it easier to gain access to information about the firm. Thus, in family owned firms there is likely to be a significant level of asymmetry information flowing from the founding families to other shareholders and vice versa. Consequently, family members as a part of the controlling shareholders might have an incentive to derive private gains from the firms they control at the cost of minority shareholders (Chau & Gray, 2010). Therefore, the entrenchment effect predicts that family ownership will motivate firms to provide less IC disclosure in order to hide such expropriation activities (Hidalgo *et al.*, 2010).

Overall, the two competing views of family ownership show that the association of family ownership with voluntary disclosure is an empirical issue that warrants further investigation.

Empirical studies on family ownership and voluntary disclosure yield mixed results. Md Nor *et al.* (2010) investigate the association of corporate governance with the research

and development (R&D) reporting, they document that there is no influence between family ownership and R&D reporting. The study used a sample of all the companies listed on the Bursa Malaysian MESDAQ market for the year 2005 to 2006. They argue that the conflict of interest between family owners and other shareholders has made companies disclose less R&D information to outsiders. On the other hand, Hidalgo *et al.* (2010) give an analysis of the association of corporate governance with the disclosure of IC in companies listed in Mexico during the period 2005–2007. Their findings reveal that the association of voluntary disclosure of IC with family ownership is significantly weak. It has been pointed out that companies in Mexico were established as family enterprises in which the ownership and control are in the hands of not many people, who can constantly access secret and private information and protect smaller shareholders.

In Malaysia, the study conducted by Haniffa and Cooke (2002) indicate that the percentage of members of the family present on the board is significantly and negatively related to the degree to which Malaysian companies voluntarily disclose. There is a tendency when several members of the family are members of the board for little request for voluntary disclosure since they can easily access internal information. Furthermore, Ghazali and Weetman (2006) recorded the same results in the examination of the relation of the domination of family members to the level of voluntary disclosure following the 1997 financial crisis. It was noted that companies owned by the family did not disclose information following the reform carried out in corporate governance, which implies that they keep the previous tradition and fail to have a change of attitudes with respect to much voluntary disclosure when regulatory changes take place. Recently, Chakroun and



Matoussi (2012), and Hidalgo *et al.* (2010) find an insignificant relationship between family ownership and the voluntary disclosure level in companies listed in Tunisia and Mexico, respectively.

Hong Kong, Ho and Wong (2001) examine whether corporate governance structure is associated with the degree of voluntary disclosure in Hong Kong. Specifically, they examine the effect of family ownership (which is determined family members proportion on the board). Based on a questionnaire survey sent to 610 chief financial officers and sent to 353 financial analysts for 1997-1998, it was found that family ownership is inversely associated with the degree of voluntary disclosure. In addition, the results of Chau and Gray (2002) using a sample of 60 firms in Hong Kong indicate that family ownership is negatively related to voluntary disclosure. Haniffa and Cooke (2002), use 167 of the companies listed in Malaysia to examine the relation of companies having a high number of family members on the board to the degree of information disclosure. A similar result to that of Chau and Gray (2002) was reported with respect to the disclosure of information. The results confirm that companies having a high number of family members on the board do not disclose much information. Similarly, in Kuwait, Al-Shammari and Al-Sultan (2010) investigate how corporate governance influences voluntary disclosure. Their study uses 107 firms in Kuwait as a sample and finds that companies with family ownership (measured by a high percentage of family members on the board) possess little incentive for information disclosure beyond the compulsory requirements. In Kuwait, the low degree of voluntary disclosure is probably caused by the lack of encouragement by the members of the family on the path of their companies

for information disclosure beyond the requirement given by the IFRSs, Company Law No.15, and the listing requirements given by the stock exchange. In order to show the percentage of family members on the board, ownership structure has been used by some studies.

In the study conducted in France by Depoers (2000), ownership structure (percentage of shares belonging to the largest three shareholders) was found to be unrelated to voluntary disclosure. In another study in Hong Kong, Chau and Gray (2010) employ self-collected data on voluntary disclosure using a sample of 273 listed firms for the year 2002. The findings show that with a greater degree of family ownership (above 25%), the voluntary disclosure will increase. However, empirical research in the past examining the relationship of family ownership to the practices of voluntary disclosure have yielded contradictory outcomes. Empirical studies that have investigated the relationship of family ownership and the degree of voluntary disclosure of IC have been few (Hidalgo *et al.*, 2010). The current study investigates the interaction of the family ownership with audit committee effectiveness and the effect of such interaction on the manager's decision with respect to IC disclosure in GCC top market capitalization listed companies.

### **2.10.3 Institutional Ownership**

The involvement of institutional investors until recent times has become an essential force in the supervision of corporate governance, which acts as a system to guard the interests of the minor shareholders (Daily *et al.*, 2003). The relationship between institutional investors and voluntary disclosure can possibly be explained using two

opposing views: the hypothesis with respect to efficient monitoring and the hypothesis with respect to conflicts-of-interest or private benefit hypothesis.

According to the advocates of the efficient-monitoring proposition, institutional investors provide motivation for a careful and thorough supervision as they possess resources, skills and motivation to regularly supervise the actions of management and guard against the behavior of managers for unfair advantage (Friend & Lang, 1988; Huafang & Jianguo, 2007; Jensen & Meckling, 1976; Shleifer & Vishny, 1986). This, in turn, reduces information asymmetries among insider and outsider owners and reduces agency costs (Barako, Hancock, & Izan, 2006). However, the justifications for the frequent exercise of the supervisory role by the institutional ownership on the team of firm management have been noted. First, if the institutional ownership has a large stake, the institutional investors possess greater motivation to supervise the practices of corporate disclosure.

Therefore, information could be disclosed voluntarily by managers in order to fulfill the anticipation of the larger shareholders (Barako *et al.*, 2006). Second, being traditional owners, institutional investors take order, they are capable and possess experience to monitor the management of the company with respect to agency costs and make it more profitable. This will allow them to carry out greater direct control on the managers of the company (Hidalgo *et al.*, 2010). Therefore, the knowledge of finance is obtained by institutional investors who are good at interpreting the disclosed information in the yearly reports (Bos & Donker, 2004). Third, long term investments are obtained by institutional ownership, who also have essential motivation to regularly supervise managers (Jung &

Kwon, 2002). Hence, it has been proposed that the managers disclose greater information in the yearly reports to reduce the agency costs associated with supervision and the asymmetry of information (Huafang & Jianguo, 2007; Mohd Ghazali & Weetman, 2006).

From another angle, the advocates of the private benefit proposition contend that institutional investors having larger investments have the advantage of getting private information that could be used to satisfy personal interest or behavior with respect to institutions (Jiang & Habib, 2009; Md Nor *et al.*, 2010). In addition, Vishny and Shleifer, (1997) also affirm that if the concentration of ownership exceeds a certain threshold, the large shareholders are inclined to satisfy their self-benefits at the cost of the outside minority shareholders. Based on this hypothesis, instead of becoming a good monitoring mechanism, institutional investors with greater concentrated ownership appear to deliver information sharing that is not efficient, and, to bring about an advantage for the management and create a firmly established large shareholder, there is anticipation that ownership concentration by institutional investors has a tendency to reduce voluntary disclosure (Jiang & Habib, 2009).

The conflict of interest and tactical adjustment in relation to the management by most of the financial shareholders facilitates understanding and allows corporations to hide their expropriation of the interests of a few shareholders by decreasing corporate disclosure. Furthermore, a comparison of institutional investors and small shareholders indicates that the former are professionals, and, for that reason, their supervisory cost is greatly reduced compared to that of small shareholders. This implies that institutional investors in possession of large blocks of shares of the company have the following characteristics.

One, more motivation and ability to obtain quick information before it is disclosed than that of diffused shareholders; as a result the companies with larger shareholders have less information asymmetry (Li *et al.*, 2008) and a low level of R&D disclosure with large shareholder ownership (Md Nor *et al.*, 2010). Two, they can provide an active governance system, which makes it easy to assess the financial decision of management and reduce the cost of monitoring (Li *et al.*, 2008). Three, the power to vote is greater, thereby enabling them to embark on the correct action when it is considered important (Donnelly & Mulcahy, 2008).

Based on this perspective, companies with institutional investor ownership are not likely to make extensive IC disclosure. A number of empirical studies find consistent evidence supporting this proposition (Arcay & Vázquezb, 2005; Bushee & Noe, 2000; Hidalgo *et al.*, 2010). Empirically, the results of many studies have supported the regular supervision proposition of institutional owners' effectiveness in supervising management by voluntary disclosure. For example, a study carried out by Barako *et al.* (2006) investigates the factors affecting companies in Kenya for voluntary corporate disclosure by using a sample of 54 listed firms over the period 1992 to 2001. Their findings show a significantly positive influence of institutional ownership levels on voluntary disclosure. Similarly, Matoussi and Chakroun (2009) carried out a study in Tunisia to examine the relationship of institutional ownership and voluntary disclosure using a sample of 70 listed firms in the non-financially based sector. The findings indicate an insignificant positive association between institutional ownership and voluntary disclosure.

In addition, Huafang and Jianguo (2007) note that regular supervision of the institutional investors assists in avoiding undue and unfair advantage arising from the managerial behavior and enhances the value of governance in the voluntary disclosure. Based on a sample of 599 non-financial companies in China, for one year (2002), it was found that institutional shareholders reduce the behavioral activities, which satisfies the personal interests of corporate managers in voluntary disclosure. The recent results of Chakroun and Matoussi (2012), Khodadadi *et al.* (2010), Rouf and Al Harun (2011), and Uyar *et al.* (2014) indicate a significant positive relationship between the institutional ownership and voluntary disclosure level in Tunisia, Malaysia, Bangladesh and Iran, respectively.

In addition, Khodadadi *et al.* (2010) conducted a study in Iran to investigate the influence of the structure of corporate governance on the degree of voluntary disclosure. The findings indicate a significant association of the proportion of institutional investors with the degree of voluntary disclosure. Another study, by Makhija and Patton (2004), examines how the degree of disclosure is related to external ownership by using a sample of 1993 yearly reports on the Prague Stock Exchange (PSE) for the non-financial firms. The findings indicate that the degree of disclosure is significantly related to the external ownership. To support the hypothesis of entrenchment, Hidalgo *et al.* (2010) affirm that institutional ownership has a negative impact on the tactical decision of disclosure. It has been pointed out that firms having an institutional investor shareholding are not likely to possess much asymmetry information. Due to the reduction in informative pressure, not much information is disclosed to the market. Bushee and Noe (2000) note the presence of a negative association of institutional ownership with the degree of voluntary disclosure.

The study by Arcay and Vazquez (2005) in Spain investigates the association existing among corporate features, the structure of governance of the firm, and its policy disclosure. Their results indicate that the concentration of ownership has a significant negative relation to voluntary disclosure. Additionally, Jiang and Habib (2009) report that a non-linear association of institutional ownership with voluntary disclosure is impacted by high ownership concentration in New Zealand by using listed non-financial companies as a sample over the period 2001 to 2005. It was found that the control of financial institutional ownership causes significantly smaller disclosure in cases of higher concentration and greater disclosure when the concentration is low. These results support the expropriation proposition (efficient supervision proposition) where there is a high or low concentration of ownership.

On the other hand, other studies never found a significant relationship. For example, by using a sample of 197 companies, Haniffa and Cooke (2002) conducted a study on Malaysian listed companies in the non-financial sector. Their findings indicate that institutional ownership has no association with voluntary disclosure. In a similar way, Firer and Williams (2003), Saha and Akter (2013), and Sartawi *et al.* (2014) find that the degree of disclosure has no significant association with blockholder ownership. Thus, voluntary disclosure is reduced by an increase in outside directors.

In addition, Donnelly and Mulcahy (2008) investigate the association between board structure and ownership as well as voluntary disclosure in Ireland, using a sample of 62 listed companies for one year. They find no association between institutional ownership and voluntary disclosure. It has been contended that institutional investors possess more

efficient and appropriate channels for obtaining the necessary information. In the same way, the results of the study by Ahmed Haji and Mohd Ghazali (2013), and White *et al.* (2007) indicate that there is no relationship between the disclosure of IC and institutional shareholders in Malaysia and Australia, respectively. It has been pointed out that institutional shareholders are not likely to lobby management or the board for much reporting.

From the previous studies mentioned above and those that are showed in Tables 2.8, it is clear that there is a lack of studies investigating the relationship between institutional ownership and IC disclosure. In addition, most of previous studies studied the direct relationship between institutional ownership and voluntary disclosure. As a result, such studies provide unclear results. Therefore, it could be said that the reason for the inconsistency in results of previous studies due to focused on direct relationship without considering the effects of the audit committee effectiveness in this relation. Thus, it can be said that the positive relation may be due to the effectiveness of audit committee and negative because of weak audit committee effectiveness. In other words, these studies examine corporate governance mechanisms in isolation from each other. Thus, the current study investigates the interaction of the institutional ownership with audit committee effectiveness and the effect of such interaction on the manager's decision with respect to IC disclosure in GCC listed firms.



### **2.11 Moderating Effect of Audit Committee Effectiveness**

Board monitoring not only depends on the board's structure and composition but also depends on the subcommittees of the board in which significant processes are supervised and where significant decisions are made (Cotter & Silvester, 2003). The responsibilities of audit committees have advanced for some time now to face the complexity of the socio-economic and business environments (Li *et al.*, 2008). The audit committee starts to oversee, supervise, and give advice to the management and the external auditor in dealing with financial statements, carrying out audits, and executing the system of internal accounting control (Liu & Sun, 2010). According to Felo *et al.* (2003) the effectiveness of audit committees plays a significant role in ensuring the quality of the financial reports of a firm and may assist the firm in reducing its capital cost.

As argued by the agency theory, the tendency for a firm to be pressurized is more by the shareholders for more disclosure in order to lower the agency costs and asymmetry of information, given the greater diffusion of ownership (Raffournier, 1995). On the other hand, firms having concentrated ownership are not anticipated to get much asymmetry of information from management to dominate shareholders and vice versa. This is because dominant shareholders have a way of obtaining the information needed and can provide a functioning system of governance that is problematic for smaller investors who are not very active or well informed (Bushee, Matsumoto, & Miller, 2003). Nonetheless, there could be other problems; for example, there is a problem of asymmetry of information from the internal investors (owner-manager) and external investors caused by concentrated ownership. Concentrated ownership could encourage the controlling

shareholders to take away the wealth of other shareholders, which could affect the decisions of management and boost the individual wealth of the owner (Fama & Jensen, 1983; Morck *et al.*, 1988; Shleifer & Vishny, 1997).

Nonetheless, the previous results of studies on voluntary disclosure that viewed the structure of ownership as a likely factor in determining the disclosure of IC are mixed. Some empirical studies report a positive association of ownership structure with the disclosure of IC. Examples of these studies include Azman and Kamaluddin (2012) for Malaysia and Hidalgo *et al.* (2010) for Mexico. Both studies report that any company that has larger blockholders has a relationship to an increase in corporate voluntary disclosure. However, some empirical studies indicate a negative association of concentration of ownership and voluntary IC disclosure. Examples of these studies include Oliveira *et al.* (2006) for Portugal, and Li *et al.* (2008) for the United Kingdom.

The level of agency problem and information asymmetry between majority and minority shareholders depends on the corporate governance effectiveness (Akhtaruddin & Haron, 2010; Chobpichien *et al.*, 2008; Ho & Wong, 2001). For example, in companies that are owned or controlled by large shareholder; with effectiveness of audit committee will reduce information asymmetry, agency problem by enforce the management to disclosures more information to outside party (Akhtaruddin & Haron, 2010). In addition, most of the prior studies have also recognized that the features of audit committees are an important corporate governance system to regulate the agency problem and enhance corporate voluntary disclosure (Akhtaruddin & Haron, 2010; Ho & Wong, 2001; Li *et al.*, 2008). In addition, Chung *et al.* (2004) note that the agency theory asserts that an audit

committee decreases the asymmetry of information, reduces managerial opportunism, and enhances the quality of disclosure. In addition, Li *et al.* (2008) point out that many systems of corporate governance regulate the agency problem and enhance the disclosure as well as provide a better IC exchange of information. This involves high independence of the board and many audit committees that function better. DeZoort *et al.* (2002) noted that by studying the features of the audit committee together, the framework for audit committee effectiveness may be improved substantially. The effectiveness of the audit committee is firmly fixed in the independence of its members, chairman, size, financial expertise, multiple directorships, frequency of meetings and attendance of meetings.

Based on the above, ownership structure has been identified as a central determinant of IC disclosure and provides mixed results. Agency problem and information asymmetry between majority and minority shareholders depends on the audit committee effectiveness. The majority of the previous studies investigated the association of the ownership structure with voluntary disclosure by ignoring the influence of the role of corporate governance. Therefore, if the result of the association is positive, it may be caused by the influence of the effectiveness of the audit committee. Conversely, if the result is negative it could also be due to the weak corporate governance. Audit committee effectiveness could play a significant role in influencing the result but most of the previous studies have not taken it into consideration. This implies that corporate governance has been investigated in isolation of other factors. The current study investigates how the ownership structure (e.g. government, family and institutional) interacts with audit committee effectiveness and how this interaction influences the

decision of managers with respect to the disclosure of IC in the top capitalization listed companies of the GCC countries. By doing so, this study extends the study of Akhtaruddin and Haron (2010) but differs from it by examining effectiveness of audit committee as a moderator for the relationship between three types of ownership and IC disclosure in the top firms.

Table 2.3

*Previous Research on Levels of IC Disclosure in Corporate Annual Reports*

Author (s)	Sample & Period	Methodology			Level of IC disclosure
		Coding	Unit of analysis	Search terms	
Guthrie & petty (2000)	20 largest Australian listed companies (1998)	24 items modified Sveiby (1997)	sentences	24	External capital (40%), internal capital (30%) and human capital (30%)
Brennan (2001)	11 companies listed in Ireland, technology and people oriented (1997)	Guthrie & Petty (2000) framework	words	24	External capital (40%), internal capital (30%) and human capital (30%)
Williams (2001)	31 UK listed companies (1995-1999)	50 items from literature 50 items from literature	Disclosure index	50	IC disclosure increase over the time
Bontis (2002)	11,000 Canadian firms (not known)	39 elements	Disclosure index	39	
April <i>et al.</i> (2003)	20 South Africa largest listed mining companies (not known)	Guthrie & Petty (2000) framework	Disclosure index	24	External capital (40%), internal capital (30%) and human capital (30%)
Abdolmohammadi (2005)	58 USA randomly selected from Fortune 500 (1993-1997)	58 components were developed.	sentences	58	He notices an increase in ICD for only 2 out of 10 categories
Abeysekera & Guthrie (2005)	30 Sri Lanka listed, top firms (98-20)	Guthrie & Petty (2000) framework	sentences	45	External capital (44%), internal capital (20%) and human capital (36%)
Vergauwen & Van Alem (2005)	89France, Germany, Netherlands listed companies (20 to 2001)	22 items modified by Bozzolan <i>et al.</i> (2003)	sentences	39	IC disclosure level differs between these countries

Table 2.3 (*continued*)

Author (s)	Sample & Period	Methodology			Level of IC disclosure		
		Coding	Unit of analysis	Search terms	EC	IC	HC
Miller & Whiting (2005)	70 New Zealand listed, 35 traditional and 35 technological (2003)	18 items	sentences	18	External capital (47%), internal capital (21%) and human capital (33%)		
Vandemaele <i>et al.</i> (2005)	60 large public companies listed in the Netherlands, Sweden, and the UK (1998-2000-2002)	22 elements modified Guthrie and Petty (2000)	word	22	External capital (40%), internal capital (30%) and human capital (30%)		
Sujan & Abeysekera (2007)	20 Australian listed, highest market capitalization (2004)	24 items modified Guthrie <i>et al.</i> (1999)	Sentences	25	External capital (48%), internal capital (31%) and human capital (21%)		
Guthrie <i>et al.</i> (2006)	100 firms (Hong Kong) and 50 (Australia) (2002)	24 items modified Sveiby (1997)	words	27 (HK) 18 (AUS)	External capital (49%), internal capital (37%) and human capital (14%)		
Abeysekera (2008)	Top 20 Singaporean, and Sri Lanka listed firms (1998 to 2000)	45 items modified Brooking (1996)	words	45	The level of IC disclosure is likely to increase over time in both countries.		
Yi & Davery (2010)	49 dual-listed firms in mainland China (2006)	21 items derived from Guthrie and Petty (2000)	Sentences	21	External capital (46%), internal capital (30%), and human capital (24%)		

Table 2.4

*Previous Research on Levels of IC Disclosure and Firm-Specific Variables*

Author (s)	Sample & Period	Methodology			Firm variables	Main Findings
		Coding	Unit	Search terms		
Bozzolan <i>et al.</i> (2003)	30 Italian listed, non-financial, 20 traditional and 10 new economy (2001)	22 elements modified Guthrie and Petty (2000)	sentences	22	Industry Firm size	Firm size and industry are not important factors for disclosure and there is a significant difference between high and low profile companies, concerning disclosure.
García-Meca & Martínez (2005)	257 Spanish financial analysts reports (2000 to 2001)	71 items adopted from Bukh <i>et al.</i> (2001)	words	71	Firm size Listing status leverage Financial Industry Profitability Market-to-book ratio Objective of the meeting	Firm size, International Listing, IBEX Listing, Market-to-Book and Type of Meeting have positive association with the disclosure of IC. While, Leverage, profitability, industry and investor relations department have no influence on the extent of disclosure of intangibles.
Bukh, Nielsen <i>et al.</i> (2005)	68 Denmark IPOs prospectuses (1990-2001)	78 items applied by Guthrie <i>et al.</i> (2004)	words	78	Company type Management ownership Company size Company age	Managerial ownership prior to the IPOs and industry type affects the amount of voluntary IC disclosure, while company size and age do not affect disclosure.
Oliveira <i>et al.</i> (2006)	56 Portuguese companies (2003)	33 items modified Guthrie and Petty (2000)	Dis index	33	Firm size Leverage Ownership Type of auditor Profitability Industry type Listing state Foreign activities	The voluntary reporting of intangibles is found to be influenced significantly by size, ownership concentration, and type of auditor, industry and listing status. While leverage, profitability, and foreign activity have no influence on the extent of disclosure of intangibles.
Bozzolan <i>et al.</i> (2006)	30 Italian and 30 London firms	Guthrie & Petty (2000) framework	sentences	22	Industry type Firm size	Firm size and industrial sector are found to be predictors of levels of IC disclosure.

Table 2.4 (*continued*)

Author (s)	Sample & Period	Methodology		Search terms	Firm variables	Main Findings
		Coding	Unit			
Carlin <i>et al.</i> (2006)	124 Hong Kong firms (1992-1998-2003)	0 – no information 1 – information	words	24	Time Industry Firm size Level of disclosure	Firm size and industrial sector have significant association with the disclosure of IC.
White <i>et al.</i> (2007)	96 Australian biotechnology companies (2005)	78 items in 5 categories for Bukh <i>et al.</i> (2005)	Disc. Index	78	Firm size Ownership Board Independence Firm age Leverage	Independence of board, leverage; firm age and size have significant association with the disclosure of IC. While ownership concentration has no influence on the level of IC disclosure.
Sonnier <i>et al.</i> (2008)	143 USA high-technology firms (2000-2004)	121 items modified by Vergauwen and Alem's (2005)	Discs index	121	Firm size Firm age	Firm age and firm size have a negative relationship with the level of IC disclosure.
Brüggen <i>et al.</i> (2009)	125 Australian publicly listed Australian firms (2002 to 2004)	38 items modified by Bontis (2003) and Vergauwen and van Alem (2005)	words	38	Firm size Leverage Type of industry Information asymmetry	Firm size and industrial sector plays a key role as a determinant for the disclosure of IC. However, no relationship between the level of information asymmetry and IC disclosure is found.
Yau <i>et al.</i> (2009)	Malaysian top 30 and bottom 30 companies (2003)	Guthrie & Petty (2000) framework	sentences	21	Corporate size Government firm Corporate growth potential Profitability	Firm size and Government-linked firms (GLCs) have more extensive IC disclosure than non-government linked companies.
Rimmel <i>et al.</i> (2009)	The 120 Japanese IPOs prospectuses (2003)	78 items	word	78	Industry differences Managerial ownership Company size Company age	There is a significant relationship between industry differences, managerial ownership and company size and IC disclosure. While, company age did have a significant influence on the extent of IC disclosure.



Table 2.4 (*continued*)

Author (s)	Sample & Period	Methodology			Firm variables	Main Findings
		Coding	Unit	Search terms		
Castelo <i>et al.</i> (2010)	72 Portuguese's listed firms (2004, 2006, 2008)	24 derived from Guthrie and Petty (2000)	Discs index	24	Firm size Industry type Time Growth	The results of analysis shows that firm size, industry type are significant in explaining IC disclosure. However, time and the growth have insignificant relationship.
White et al. (2010)	156 UK and Australian listed biotechnology firms (	78 items developed by Bukh et al. (2005)	words	78	Leverage Firm size Country	The results shows that leverage and country have significant relationship with nature of IC disclosure by UK and Australian.
Whiting & Woodcock (2011)	70 Australian publicly listed firms 35 high tech 35 low tech (2006)	Guthrie & Petty (2000) framework	Sentence	18	Industry type Ownership concentration Listing age Leverage Auditor type	There is significant relationship between big four auditing and IC disclosure. While, concentration of ownership, leverage, and listing age have no effect on the disclosure of IC.
Ferreira <i>et al.</i> (2012)	45 Portuguese listed companies (2006)	22 adopted from Guthrie and Petty (2000)	Discs index	22	Company size Ownership concentration Leverage Profitability Industry affiliation Type of auditor Level of intellectual capital	Results also show that size and type of auditor are significant in explaining IC disclosure, whereas leverage, profitability, ownership concentration, and IC disclosure level are not. Regarding industry affiliation, only the variables I3 (Industrials) and I5 (Consumer Services) are statistically significant.

Table 2.4 (*continued*)

Author (s)	Sample & Period	Methodology			Firm variables	Main Findings
		Coding	Unit	Search terms		
Dewi <i>et al.</i> (2014)	226 service companies listed in Indonesia Stock Exchange period 2008-2012	25 items modified by Guthrie & Petty (2000), Guthrie <i>et al</i> (2006)	sentence	25	Firm size Firm age Type of industry Listing status Managerial ownership	The result of the analysis shows that firm size, firm age, and listing status affect intellectual capital disclosure significantly. While the type of industry and managerial ownership does not affect intellectual capital disclosure significantly.
Liao <i>et al.</i> (2013)	50 Chinese companies which are dual listed in both Chinese Mainland and Hong Kong stock markets (2009)	12 items combined with the authors' own knowledge of Chinese companies	sentence	12	Type of industry Firm size	A strong relationship between type of industry and size of company was found, and the level of IC disclosure

Table 2.5

*Previous Research on Levels of IC Disclosure and Corporate Governance Variables*

Author (s)	Sample & Period	Methodology			Corporate Variables	Classification of IC
		Coding	Unit	Search items		
Cerbioni and Parbonetti (2007)	10 countries 54 biotech firms (2002 to 2004)	24 items modified of Sveiby (1997)	sentences	24	Board size Board composition CED Duality Board structure	Human capital Structural capital Relations capital
Li <i>et al.</i> (2007)	100 UK listed knowledge-rich firms (2004).	61 items Modified Sveiby (1997)	words	61	Board composition Ownership concentration Audit committee size Directors shareholding	Human capital Structural capital Relations capital
Li <i>et al.</i> (2008)	100 UK listed firms (March 2004 and February 2005)	61 items Modified Sveiby (1997) as in Guthrie and Petty (2000)	words	61	Board composition Ownership structure AC size and meeting CEO role duality	Human capital Structural capital Relations capital
Taliyang and Jusop (2011)	150 listed companies in Bursa Malaysia (2009)	36 items Bontis (2003) and Vergauwen and Van Alem (2005) framework	Disc. Index	36	Board composition CEO duality AC meeting AC size	Human capital Structural capital Relations capital
Hidalgo <i>et al.</i> (2010)	100 Mexican listed companies (2005 to 2007)	58 items Garcí'a-Meca <i>et al.</i> (2005) and Bukh <i>et al.</i> (2001) framework	Disc. Index	58	Board independence AC and Board size AC independence Inside ownership Family ownership Ownership concentration Institutional investors	Human capital Structural capital Relations capital
Abeysekera (2010)	Top 26 Kenyan listed firms (2002 to 2003)	45 elements modified CPA Austria CMA Canada, IFAC	Sentence	45	Board size AC independence	Internal capital External capital Human capital
Azman and Kamaluddin (2012)	78 Malaysian GLCs listed in the KLCI (2007 to 2009).	40 items adapted and modified from Campbell & Rahman's model	Disc. index	40	Share concentration Cross directorship AC Meeting Company Size	Structural capital Relations Capital Human capital

Table 2.5 (continued)

Author (s)	Sample & Period	Methodology			Corporate Variables	Classification of IC
		Coding	Unit	Search items		
See & Rashid (2011)	112 randomly selected listed firms (2004 to 2008)	84 develops index based on Bukh et al. (2005).	Disc. index	84	Board size Board independence Leverage ,Listed board Board diversity Age ,Firm size Underwriter Auditor type	Human resources, IT, R&D, process, strategy, and customers.
Li <i>et al.</i> (2012)	100 UK intensive sectors companies (2005)	61 items developed by Li <i>et al.</i> (2008)	Disc. index	61	Size of AC Frequency of AC meeting AC independence AC director's shareholding AC financial expertise	Human capital Structural capital Relations Capital
Gan <i>et al.</i> (2013)	Top 100 Malaysian companies based on their market capitalization (2006-2008)	33 items adopted from Abeysekera and Guthrie (2005)	ICD Score	33	Board size, Board composition, Board leadership, Board diversity AC size and meeting AC financial expertise Family-controlled Government ownership	Human capital Structural capital Customer capital
Moeinfar <i>et al.</i> (2013)	80 listed companies in Tehran stock exchange (2008 to 2011)	32 items	Disc. index	32	Board independence , Board size Ownership concentration	Structure capital Communication capital Humanities capital
Ahmed Haji and Mohd Ghazali (2013)	51 top companies listed on Bursa Malaysia (2008-2009-2010)	58 items (Guthrie and Petty, 2000)	Disc. index	44	Board size and meeting Non-executive directors Family members Independent of chairman director ownership government ownership Institutional ownership	Internal capital External capital Human capital

Table 2.6

*Summary of Studies Investigating the Association Between Board of Directors Characteristics and Voluntary Disclosure*

<b>Author (s)</b>	<b>Sample &amp; Period</b>	<b>Board Variables</b>	<b>Dependent Variable</b>	<b>Main Result(s)</b>
Ho & Wong (2001)	98 Hong Kong firms (1997/1998)	Proportion of independent non-executive directors. Existence of dominant personalities. Family member in the board	Aggregated voluntary disclosure index	No relationship between voluntary disclosure and the proportion of independent non-executive directors. No relationship between voluntary disclosure and CEO duality. Negative relationship between family member and voluntary disclosure.
Haniffa & Cooke (2002)	167 Malaysian non-financial firms (1995)	Board composition	Aggregated voluntary disclosure index	Positive significant relationship between the percentage of non-executive directors on the board and level of voluntary disclosure.
Eng & Mak (2003)	158 firms in Singapore (1995)	Board composition	Aggregated voluntary disclosure index	Negative relationship between board composition and voluntary disclosure.
Nasir and Abdullah (2004)	86 Malaysian listed firms (2000-2001)	Board independence Management ownership Executive directors' shareholdings Non-executive shareholding CEO duality	Voluntary disclosure	Significant positive relationship between board independence, executive directors' shareholdings and voluntary disclosure. No association between non-executive directors' shareholding, CEO duality and voluntary disclosure.
Gul & Leung (2004)	385 Hong Kong companies (1996)	CEO duality Outside directors expertise	Aggregated voluntary disclosure index	CEO duality is associated with lower levels of voluntary corporate disclosures. Negative CEO duality/voluntary disclosure association is weaker for firms with higher PENEDs.
Karamanou & Vafeas (2005)	5 US firms (1995-2000)	Insider ownership	Management earnings forecasts	Significant negative relationship between insider ownership and management earnings forecasts.
Cheng & Courtenay (2006)	104 Singaporean firms (2000)	Proportion of independent non-executive directors Board size CEO duality	Aggregated voluntary disclosure index	There is relationship between voluntary disclosure and the proportion of independent non-executive directors. Board size and CEO duality are not associated with voluntary disclosure.

Table 2.6 (*continued*)

Author (s)	Sample & Period	Board Variables	Dependent Variable	Main Result(s)
Ghazali & Weetman (2006)	87 Malaysian firms (2001)	Directors ownership	Voluntary disclosure	Negative relationship between director's ownership and voluntary disclosure.
Barako <i>et al.</i> (2006)	54 Kenyan firms (1992-2001)	Proportion of outside directors Board size	Aggregated voluntary disclosure index	Independent non-executive directors are significantly negatively associated with voluntary disclosure.
Huafang & Jianguo (2007)	559 China firms (2002)	Proportion of independent directors on board CEO duality	Aggregated voluntary disclosure index	Positive relationship between board composition and voluntary disclosure. Negative relationship between CEO duality and voluntary disclosure.
Cerbioni & Parbonetti (2007)	10 countries 54 biotech firms (2002 to 2004)	Board size Board composition CED Duality Board structure	IC disclosure	Negative relationship between board size, CEO duality and IC disclosure. Positive relationship between board composition, board structure and IC disclosure.
Barako & Brown (2008)	40 Kenyan banks	Board composition Proportion of women directors on the board. Proportion of foreign national directors on the board.	Corporate social reporting	Significant relationship between the proportion of non-executive directors on the board and CSR reporting. No relationship between the women representation in the board, foreign national in the board and CSR reporting.
Li <i>et al.</i> (2008)	100 UK listed firms (March 2004 and February 2005)	Board composition CEO role duality	IC disclosure	Board composition, CEO duality have a significant positive association with IC disclosure.
Akhtaruddin <i>et al.</i> (2009)	105 Malaysian companies (2002)	Board size Proportion of independent	Aggregated voluntary disclosure index	Positive association between board size, proportion of independent non-executive directors and voluntary disclosure.
Shammeri & Al-Sultan (2010)	170 Kuwaiti firms (2007)	Proportion of non-executive directors Role duality	Aggregated voluntary disclosure index	No relationship between proportion of non-executive directors, role duality and voluntary disclosure.

Table 2.6 (continued)

Author (s)	Sample & Period	Board Variables	Dependent Variable	Main Result(s)
Khan (2010)	30 private commercial banks of Bangladesh (2007/2008)	Board composition Proportion of women directors on the board. Proportion of foreign national directors on the board.	CSR disclosure	Insignificant relationship between the representation of women on the board and CSR reporting Non-executive directors and existence of foreign nationalities have found a significant impact on the CSR reporting Non-executive directors and existence of foreign nationalities have been found to have a significant impact on the CSR reporting
Mid Nora <i>et al.</i> (2010)	187 Malaysian listed companies (2006/2007)	Independent directors CEO duality	R&D disclosure	Negative relationship between independent directors and R&D disclosure.
Hidalge <i>et al.</i> (2010)	100 Mexican listed companies (2005 to 2007)	Board independence Board size	IC disclosure	Positive relationship between board size and IC disclosure. Insignificant relationship with board independence.
Akhtaruddin & Haron (2010)	124 public listed companies in Malaysia (2003)	Board ownership	Voluntary disclosure	Board ownership is associated with lower levels of voluntary disclosures.
Khodadadi <i>et al.</i> (2010)	106 Iranian listed firms (2001-2005)	Percentage of independent directors on the board CEO duality	Aggregated voluntary disclosure index	Positive relationship between board independence and voluntary disclosure. Negative relationship between CEO duality and voluntary disclosure
Taliyan and Jusop (2011)	150 listed companies in Bursa Malaysia (2009)	Board composition CEO duality	IC disclosure	Insignificant relationship with the level of intellectual capital disclosure.
Rouf (2011)	132 listed companies under Dhaka Stock Exchange (DSE) during 2005-2008.	Non-Executive Directors Management ownership Board Leadership Structure Board size	Corporate voluntary disclosure	The senior management's decision has a positive relationship between board leadership structure and the level of voluntary disclosure. Management of ownership structure is negatively related to the level of voluntary disclosure. Board composition, board size and firm size displayed no significant influence on senior management's decisions in this area.

Table 2.6 (*continued*)

Author (s)	Sample & Period	Board Variables	Dependent Variable	Main Result(s)
Samaha and Dahawy (2011)	100 largest companies listed on the Egyptian stock exchange (EGX).	Independent non-executive director	Voluntary disclosure	Significant positive relationship between ratio of independent non-executive directors and extent of voluntary disclosure.
Chakroun and Matoussi (2012)	144 Tunisian non-financial listed firms (2003-2008)	Independence of the board Size of the board CEO duality Managerial ownership	Voluntary disclosure	Board size, CEO duality, managerial ownership, and institutional ownership have significant positive relationship with voluntary disclosure. Negative relationship between independence of the board and voluntary disclosure
Azman and Kamaluddin (2012)	78 Malaysian GLCs listed in the KLCI (2007 to 2009)	Chairman cross directorship	IC disclosure	Positive significant relationship between chairman cross directorship and IC disclosure.
Samaha <i>et al.</i> (2012)	100 Egyptian listed companies (2009)	Board composition Duality in position Board size Director ownership	voluntary disclosure	Negative relationship between duality in position, ownership concentration and voluntary disclosure. Positive association between proportion of independent directors on the board and voluntary disclosure.
Yanesari <i>et al.</i> (2012)	95 publicly traded Iranian firms (2005–2010)	Board Independence CEO Duality Board Ownership	Voluntary disclosure	Board independence is positively related to voluntary disclosure. CEO duality has a negative relationship with the level of voluntary disclosure. No relationship between board ownership and level of voluntary disclosure
Saha and Akter (2013)	40 Bangladeshi listed companies (2011)	Inside share ownership Independent directors Board size	Voluntary disclosure	Negative association between voluntary disclosure and percentage of equity owned by insiders. Voluntary disclosure has no significant relationship with the board size, board audit committee and percentage of independent directors on the board of directors.



Table 2.6 (*continued*)

Author (s)	Sample & Period	Board Variables	Dependent Variable	Main Result(s)
Ahmed Haji and Mohd Ghazali (2013)	51 top companies listed on Bursa Malaysia (2008-2009-2010)	Board size Non-executive directors. Family members on the board Board meetings. independent chairman on the board director ownership	IC disclosure	Board size, independent directors, board effectiveness and position of the chairman (except family members on the board) were significant in explaining the extent and quality of IC disclosure in the expected direction. Director ownership is negatively related to both the extent and quality of IC disclosure.
Moeinfar <i>et al.</i> (2013)	80 companies listed on the Tehran Stock Exchange (2008 to 2011)	Board independence Board size	IC disclosure	Positive relationship between board size and IC disclosure. No significant relationship between board independence and the level of IC disclosure.
Dhouibi and Mamoghli (2013)	10 banks during the period 2000 -2011 in Tunisia	Board size Board composition CEO duality	Voluntary disclosure score	Board composition and duality are insignificantly related to voluntary disclosure, but board size is negatively associated with voluntary disclosure.
Barros <i>et al.</i> (2013)	206 nonfinancial French listed firms (2006-2009)	Managerial ownership Board independence Board meetings Board diligence	Voluntary disclosure	Positive relationship between managerial ownership, board independence, board meeting frequency and voluntary disclosure. Diligence of board associated with decreased disclosure.
Khan <i>et al.</i> (2013)	116 manufacturing companies listed with Dhaka Stock Exchange (DSE) in Bangladesh from 2005 to 2009.	Managerial Ownership Board Independence Role Duality	CSR disclosure.	CSR disclosures generally have a negative association with managerial ownership, such a relationship becomes significant and positive for export-oriented industries. Board independence has a positive significant impacts on CSR disclosures. However, fail to find any significant impact of CEO duality.
Gan <i>et al.</i> (2013)	Top 100 Malaysian companies (2006-2008)	Board size Board composition Board leadership Board diversity	IC disclosure	Board size, board composition, board leadership and board diversity does not affect intellectual capital disclosure significantly

Table 2.6 (*continued*)

Author (s)	Sample & Period	Board Variables	Dependent Variable	Main Result(s)
Jaffar <i>et al.</i> (2013)	104 companies listed on Bursa Saham Indonesia (2008)	Board composition Family members Management ownership	Aggregated voluntary disclosure index	Composition of independent BOC has a positive and significant relationship with the level of voluntary disclosure. Family members on the BOC negatively influences the disclosure. Management ownership is not related to voluntary disclosure.
Nandi and Ghosh (2013)	60 firms listed on the Bombay (2000-01 to 2009-2010)	Board size Board composition CEO Duality	Voluntary disclosure index	Positive relationship between board size, CEO duality and the extent of corporate disclosure. However, the degree of corporate disclosure is negatively related to board composition.
Alhazaimeh et al. (2014)	Listed companies in ASE (2002-2011)	Board compensation Board activity Board size Non-executive directors	Aggregated voluntary disclosure index	Board compensation is significantly positive in influencing voluntary disclosure. No relationship between board activity, board size, non-executive directors and voluntary disclosure.
Sartawi <i>et al.</i> (2014)	103 firms listed on the Amman Stock Exchange (2012)	Board size Non-Executive Directors CEO Duality Board Ownership Concentration	Aggregated voluntary disclosure index	Negative relationship between ownership concentration and level of voluntary disclosure. Board size, non-executive directors, CEO duality does not have any influence on the level of voluntary disclosure
Uyar <i>et al.</i> (2014)	131 Turkish manufacturing companies listed on the BIST (2010)	Independent directors Board size	Aggregated voluntary disclosure index	Positive association between voluntary information disclosure level and proportion of independent directors on the board. Board size found to be insignificant
Dewi <i>et al.</i> (2014)	226 service listed companies (2008 - 2012)	Managerial ownership	IC disclosure	Managerial ownership does not affect IC disclosure significantly.
Rahman and Bukair (2015)	53 Islamic banks were collected from five GCC countries in 2008.	Board size Board Composition CEO and Chairman	CSR disclosure.	No relationship between selected board of directors' characteristics (board size, board composition, and CEO duality) and CSR disclosure.

Table 2.7

*Summary of Studies Investigating the Association Between Audit Committee Characteristics and Voluntary Disclosure*

<b>Author (s)</b>	<b>Sample &amp; Period</b>	<b>AC Variables</b>	<b>Dependent Variable</b>	<b>Main Result(s)</b>
Felo <i>et al.</i> (2003)	1992-93 and 1995-96 (119 firms -130 firms)	A C expertise AC independence AC size	Financial reporting quality	A significant positive association between audit committee expertise, size and financial reporting quality. No significant relationship between audit committee independence and financial reporting quality.
Nasir and Abdullah (2004)	86 Malaysian listed firms (2000-2001)	AC independence	Voluntary disclosure	No association between audit committee independence and voluntary disclosure.
Mangena & Pike (2005)	262 UK listed companies (2001-2002)	AC Shareholding AC expertise AC Size	Interim financial disclosure	A significant negative association between shareholding of audit committee members and interim disclosure. A significant positive association between interim disclosure and audit committee financial expertise. No significant relationship between audit committee size and the extent of disclosure in interim reports.
Li <i>et al.</i> (2007)	100 UK listed firms (Marsh 2004 to February 2005)	AC size	IC Disclosure	Positive relationship between size of audit committee and IC disclosure.
O'Sullivan <i>et al.</i> (2008)	183 Australian firms (2000/ 02)	AC activity	Forward-looking information	Audit quality (measured by the frequency of meeting of the audit committee) is positively associated with the voluntary disclosure of forward-looking information in corporate annual reports.
Li <i>et al.</i> (2008)	100 UK listed firms (Marsh 2004 to February 2005)	AC size	IC Disclosure	Positive relationship between size of audit committee and IC disclosure.
Ismail et al. (2008)	108 companies listed on the Bursa Malaysia for the year 2002	AC Financial literacy AC meeting AC Multiple directorship Independence of AC	Quality of corporate reporting	Only multiple directorships of audit committee members is significantly positive related to the quality of corporate reporting.

Table 2.7 (continued)

Author (s)	Sample & Period	AC Variables	Dependent Variable	Main Result(s)
Persons (2009)	77 fraud firms and 77 no-fraud firms USA (June 1999 to October 2003)	AC Independence AC Expertise AC activity AC size A C tenure AC Directorship	Earlier voluntary ethics disclosure	Independence, size and meeting frequency of audit committee have a significantly positive relationship with earlier ethics disclosure. Accounting expertise, tenure and additional directorships of audit committee are not significantly associated with earlier ethics disclosure.
Allegrini & Greco (2010)	177 Italian non-financial listed firms (2007)	AC activity	Voluntary disclosure	A significant and positive relationship exists between frequency of audit committee meetings and amount of information voluntarily disclosed.
Hidalgo <i>et al.</i> (2010)	100 Mexican listed companies (2005 to 2007)	AC size	IC Disclosure Index	Audit committee size is positively related to the level of IC disclosure.
Akhtaruddin & Haron (2010)	124 public listed companies in Malaysia (2003)	Independence of AC and expertise of AC as Moderating	Voluntary disclosure	Higher proportion of INED on audit committee leads to reduce the negative relation between board ownership and voluntary disclosure. They not find evidence to support the notion that expert members on the audit committee are effective in enhancing the quality financial reporting.
Nekhili <i>et al.</i> (2010)	85 French firms (2000-2004)	AC independence	R&D voluntary disclosure	Independence of the audit committee encourages R&D-related disclosure.
Shammeri & Al-Sultan (2010)	170 Kuwaiti firms (2007)	Exists of audit committee	Aggregated voluntary disclosure index	Companies have audit committee are likely to have more voluntary disclosure
Taliyan and Jusop (2011)	150 listed companies in Bursa Malaysia (2009)	AC meeting AC size	Intellectual capital disclosure	Frequency of audit committee meeting has a significant positive relationship in influencing the level of intellectual capital disclosure. Audit committee size is not related.
Azman and Kamaluddin (2012)	78 Malaysian GLCs listed in the KLCI on (2007 to 2009)	Audit Committee Meetings	Intellectual capital disclosure Index	Audit committee meeting has significant positive relationship with IC disclosure.

Table 2.7 (continued)

Author (s)	Sample & Period	AC Variables	Dependent Variable	Main Result(s)
Li <i>et al.</i> (2012)	100 UK listed firm (2005)	AC size AC frequency of meetings AC directors' shareholding AC financial expertise	Intellectual capital disclosure Index	IC disclosure is positively associated with audit committee characteristics such as the size and frequency of meetings. Negatively associated with audit committee directors' shareholding. No significant relationship between IC disclosure and audit committee independence and financial expertise.
Barros <i>et al.</i> (2013)	206 non-financial French listed firms (2006 – 2009)	AC independence AC meeting AC diligence	Voluntary disclosure	Positive relationship between audit committee independence and voluntary disclosure. Negative association between audit committee meeting and voluntary disclosure. No relationship between audit committee diligence and voluntary disclosure.
Gan <i>et al.</i> (2013)	Top 100 Malaysian companies (2006-2008)	AC size AC meetings AC financial expertise	Intellectual capital disclosure score	Audit committee size, audit committee expertise affect intellectual capital disclosure significantly. Audit committee meeting does not affect intellectual capital disclosure significantly.
Madi <i>et al.</i> (2014)	146 Malaysian listed firms (2009)	AC independence AC financial expertise AC size AC meetings AC directorships	Aggregated voluntary disclosure index	Audit committee independence, size and multiple directorships of audit committee members are positively associated with corporate voluntary disclosure. Frequency of meetings and financial expertise of audit committee members are not significantly associated with corporate voluntary disclosure.
Alhazaimieh <i>et al.</i> (2014) Othman <i>et al.</i> (2014)	Listed companies in ASE (2002-2011) Top 94 firms listed on Bursa Malaysia	Audit committee AC independence AC financial expertise AC meetings AC size AC tenure AC directorships	Aggregated voluntary disclosure index voluntary ethics disclosure	No relationship between existence of audit committee and voluntary disclosure. The results from the study suggest that only two audit committee characteristics (tenure and multiple directorships) are associated with the voluntary ethics disclosure, whilst independence, expertise, meeting frequency and size are inconsistent.

Table 2.8

*Summary of Studies Investigating the Association Between Ownership Structure and Voluntary Disclosure*

<b>Author (s)</b>	<b>Sample &amp; Period</b>	<b>Independent Variable (s)</b>	<b>Dependent Variable</b>	<b>Main Result(s)</b>
Ho & Wong (2001)	98 Hong Kong firms (1997/1998)	Proportion of family members on board.	Aggregated voluntary disclosure index	The percentage of family members on the board is negatively related to the extent of voluntary disclosure.
Haniffa & Cooke (2002)	167 Malaysian non-financial firms (1995)	Top ten shareholders (proportion of shares owned by top 10 shareholders) Foreign ownership Institutional investors Family members on the board.	Aggregated voluntary disclosure index	The extent of voluntary disclosure is higher for firms with lower ownership concentration, foreign ownership and institutional ownership. The percentage of family members on the board is negatively related to the extent of voluntary disclosure.
Chau & Gray (2002)	60 Hong Kong industrial firms and 62 Singaporean industrial firms (1997)	Wider ownership by outsiders. Family ownership.	Aggregated voluntary disclosure index	A positive association between outsiders ownership and the extent of voluntary disclosure for firms in Hong Kong and Singapore. A negative association between family ownership and voluntary disclosure
Eng & Mak (2003)	158 firms in Singaporean (1995)	Managerial ownership Blockholder ownership Government ownership	Aggregated voluntary disclosure index	A negative association between managerial ownership and voluntary disclosure. Blockholder ownership is not related to disclosure. A positive association between government ownership and voluntary disclosure.
Nasir and Abdullah (2004)	86 Malaysian listed firms (2000-2001)	Outside ownership	Voluntary disclosure	Positive relationship between outside blockholders and voluntary disclosure.
Ghazali & Weetman (2006)	87 Malaysian firms (2001)	Family ownership Government ownership	Voluntary disclosure	Negative relationship between family members on the board and voluntary disclosures. No significant relationship between government ownership and voluntary disclosure.

Table 2.8 (*continued*)

Author (s)	Sample & Period	Independent Variable (s)	Dependent Variable	Main Result (s)
Barako <i>et al.</i> (2006)	54 Kenyan firms (1992-2001)	Foreign ownership Institutional ownership	Aggregated voluntary disclosure index	Institutional ownership and foreign ownership have a significant positive impact on voluntary disclosure.
Huafang & Jianguo (2007)	559 firms listed on the SSE of china (2002)	Blockholder ownership Managerial ownership State ownership Foreign ownership Legal person ownership	Aggregated voluntary disclosure index	Significant positive relationship between voluntary disclosure and both of higher blockholder ownership and foreign ownership. No relationship between voluntary disclosure and both of managerial ownership, state ownership, and legal person ownership
White <i>et al.</i> (2007)	96 Australian companies (2005)	Top 20 shareholder	IC disclosure	No correlation between IC disclosure and the level of ownership concentration
Cerbioni & Parbonetti (2007)	10 countries 54 biotech firms (2002 to 2004)	Ownership structure	IC disclosure	No relationship between ownership structure and IC disclosure.
Donnelly & Mulcahy (2008)	62 Irish public limited firms (2002)	Institutional ownership Management ownership	Voluntary disclosure score	No relationship between voluntary disclosure and the outside block (institutional) ownership and managerial ownership.
Li <i>et al.</i> (2008)	100 UK listed firms (March 2004 and February 2005)	Share concentration	IC disclosure	Share ownership concentration showed significant negative associations with all three measures of intellectual capital disclosure
Yau <i>et al.</i> (2009)	60 Malaysian firms (2003)	Government ownership	Voluntary disclosure of IC disclosure	Significant positive relationship between IC disclosure and government ownership.
Jiang & Habib (2009)	116 New Zealand companies (2001 to 2005)	Financial controlled Government-controlled Management-controlled	Aggregated voluntary disclosure index	Negative relationship between financial institutional ownership control and voluntary disclosures. Positive relationship between governments, management controlled ownership and voluntary disclosures.

Table 2.8 (*continued*)

Author (s)	Sample & Period	Independent Variable (s)	Dependent Variable	Main Result(s)
Matoussi & Chakroun (2009)	60 Tunisian listed companies (2003 to 2005)	Institutional ownership	Voluntary disclosure	Insignificant positive association of institutional ownership with voluntary disclosure.
Mid Nor <i>et al.</i> (2010)	187 Malaysian listed companies (2005/2006)	Family ownership Management ownership Government ownership Foreign ownership Institutional ownership	R&D disclosure	Significant relationship between R & D disclosure and government ownership. No relationship among family ownership, management ownership, foreign ownership, and institutional ownership and R&D disclosure.
Hidalgo <i>et al.</i> (2010)	100 Mexican listed companies (2005 to 2007)	Family shareholding Shareholding concentration Institutional shareholding	Intellectual capital disclosure	Family shareholding and institutional shareholding are not related to the level of IC disclosure. Positive significant between shareholding concentration and IC disclosure.
Khodadadi <i>et al.</i> (2010)	106 Iranian listed firms (2001-2005)	Institutional ownership	Voluntary disclosure	Insignificant association of the proportion of institutional investors with the degree of voluntary disclosure.
Shammeri & Al-Sultan (2010)	170 Kuwaiti firms (2007)	Percentage of family members on the board	Aggregated voluntary disclosure index	No significant relationship between percentage of family members on the board and voluntary disclosure.
Chau & Gray (2010)	273 Hong Kong firms (2000)	Family ownership.	Aggregated voluntary disclosure index	Their results indicate that with higher levels of family ownership (more than 25%), will increase voluntary disclosure.
Samaha and Dahawy (2011)	100 largest companies listed on the Egyptian stock exchange (EGX).	Block-holder ownership managerial ownership government ownership number of shareholders	Voluntary disclosure	Two other ownership aspects – managerial and government – are not related to voluntary disclosure. On the other hand, the number of shareholders does not affect the extent of voluntary disclosure



Table 2.8 (*continued*)

Author (s)	Sample & Period	Independent Variable (s)	Dependent Variable	Main Result(s)
Uyar (2011)	96 companies listed on the Istanbul stock exchange (2008).	Ownership diffusion	voluntary disclosure level of graphs	Ownership structure does not have any significant association with graphical disclosure level
Rouf and Al Harun (2011)	94 Bangladeshi listed companies (2007)	Management ownership Institutional ownership	voluntary disclosure	The extent of corporate voluntary disclosure is negatively associated with a higher management of ownership structure. The extent of corporate voluntary disclosure is positively associated with a higher institutional ownership structure.
Azman and Kamaluddin (2012)	78 Malaysian GLCs listed on the KLCI (2007 to 2009)	Share concentration	IC disclosure Index	Positive relationship between share concentration IC items.
Chakroun and Matoussi (2012)	144 Tunisian non-financial listed firms (2003-2008)	Managerial ownership concentration of ownership Institutional ownership Family ownership	Voluntary disclosure	Managerial ownership and institutional ownership have significant positive relationship with voluntary disclosure. Negative relationship between ownership concentration and voluntary disclosure. No relationship between family ownership and voluntary disclosure.
Ferreira <i>et al.</i> (2012)	45 Portuguese listed companies (2006)	Ownership concentration	Intellectual capital disclosure	Ownership concentration and IC level are not related.
Samaha <i>et al.</i> (2012)	100 Egyptian listed companies (2009)	Blockholder Number of shareholders	Voluntary disclosure	Negative relationship between ownership concentration and voluntary disclosure
Barros <i>et al.</i> (2013)	206 non-financial French listed firms (2006 – 2009)	Managerial ownership	Voluntary disclosure	Significant positive relationship between managerial ownership and voluntary disclosure.

Table 2.8 (continued)

Author (s)	Sample & Period	Independent Variable (s)	Dependent Variable	Main Result(s)
Saha and Akter (2013)	40 Bangladeshi listed companies (2011)	Inside share ownership Institutional ownership	Voluntary disclosure	A negative association between voluntary disclosure and percentage of equity owned by insiders. Voluntary disclosure has no significant relationship with the percentage of equity held by institutions.
Jaffar <i>et al.</i> (2013)	104 companies listed on Bursa Saham Indonesia (2008)	Family member Management ownership	Aggregated voluntary disclosure index	Composition of family members on the board negatively influenced the voluntary disclosure. However, Management ownership is not related to voluntary disclosure
Ahmed Haji and Mohd Ghazali (2013)	51 top companies listed on Bursa Malaysia (2008-2009-2010)	Government ownership Institutional ownership	Intellectual capital disclosure	Insignificant relationship between institutional ownership and IC disclosure. Government ownership was marginally significant in determining the extent of IC disclosure.
Gan <i>et al.</i> (2013)	Top 100 Malaysian companies (2006-2008)	Family-controlled Government ownership Diffused ownership	intellectual capital disclosure score	Government ownership, diffused ownership, and family ownership affect intellectual capital disclosure significantly.
Juhmani (2013)	41 Bahraini listed companies (2010)	Blockholder Ownership Managerial Ownership Government Ownership	Voluntary disclosure	Significant negative association between blockholder ownership and voluntary disclosure. However, Managerial ownership and governmental ownership are not associated with voluntary disclosure.
Dhouibi and Mamoghli (2013)	10 banks during the period 2000 -2011 in Tunisian	Blockholder ownership State ownership Foreign ownership	Voluntary disclosure score	Blockholder ownership and state ownership negatively associated with voluntary disclosure. Foreign ownership positively associated with voluntary disclosure.
Nandi and Ghosh (2013)	60 firms listed (2000-01 to 2009-10)	Family Control	Voluntary disclosure index	A positive relationship between family control and the extent of corporate disclosure.

Table 2.8 (*continued*)

Author (s)	Sample & Period	Independent Variable (s)	Dependent Variable	Main Result(s)
Alhazaimeh <i>et al.</i> (2014)	Listed companies in ASE (2002-2011)	Foreign ownership Government ownership Blockholder ownership Number of shareholders	Aggregated voluntary disclosure index	Foreign ownership and government ownership to be significant positive in influencing voluntary disclosure. Negative significant relationship between blockholder ownership and voluntary disclosure.
Sartawi <i>et al.</i> (2014)	103 firms listed on the Amman Stock Exchange (2012)	Board Ownership Concentration Institutional Ownership Foreign Ownership	Aggregated voluntary disclosure index	A negative relationship between board ownership ponderation and the level of voluntary disclosure Institutional ownership does not have any influence on the level of voluntary disclosure Presence of foreign directors on the board seems to influence, positively, the level of voluntary disclosure.
Uyar <i>et al.</i> (2014)	131 Turkish manufacturing companies listed on the BIST (2010)	Institutional ownership Ownership diffusion	Aggregated voluntary disclosure index	A positive association between voluntary information disclosure level and institutional ownership. A negative significant association ownership diffusion and the extent of voluntary disclosure.

## 2.12 Summary

Based in previous literature, it can be said that the studies that have investigated the relationship between board of directors, audit committee ownership structure and voluntary disclosure in different countries or in the same country provide somewhat mixed results. One of the reasons that might explain this outcome is the different institutional settings. Yuen *et al.* (2009) suggests that the presence of regulatory environment enhances the strength of the association between the proportion of independent directors and the level of voluntary disclosure. García-Meca and Sánchez-Ballesta (2010) argue that the relationship between corporate governance and voluntary disclosure depend on the legal and institutional setting.

The other reason that might explain the mixed results due to their examination of the effect of board of directors and audit committee characteristics in isolation from each other (Ward *et al.*, 2009). According to Ward *et al.* (2009) most of the prior studies neglected the idea that the success of a mechanism depends on additional mechanisms in that they considered each mechanism separately. In addition, Agrawal and Knoeber (1996) found that the effectiveness of an individual mechanism might be ambiguous as the effectiveness of the individual mechanism could disappear if a number of mechanisms are combined. Based on the above discussion, the motivation for this study to examine the relationship between the board of directors, audit committee effectiveness and IC disclosure are twofold. First, this study will examine this relationship between the board of directors, audit committee and voluntary disclosure of IC in GCC firms. Second,

this study will examine the influence of the board of directors, audit committee' effectiveness with IC disclosure as a bundle of mechanisms in protecting shareholders' interests.

Based on prior studies, several studies that examined the relationship between IC disclosure and ownership structure provide mixed results (e.g. Azman & Kamaluddin, 2012; Cerbioni & Parbonetti, 2007; Ferreira *et al.*, 2012; Gan *et al.*, 2013; Haji Ahmed & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2008; White *et al.*, 2007; Yau *et al.*, 2009). The study by Akhtaruddin and Haron (2010) suggests that the mixed results of the relationship between the ownership structures and the voluntary disclosure found in the previous studies may be due to the fact that those studies do not take into consideration the impact of the role of corporate governance on this relation. Audit committee effectiveness has been suggested as being an important instrument that can play a crucial role in moderating the relationship between ownership structure and voluntary disclosure (Akhtaruddin & Haron, 2010; Li *et al.*, 2008). However, this study differs from previous disclosure studies by examining the audit committee effectiveness as a moderator on the government, family and institutional ownership-IC disclosure relationship, which, according to the knowledge of the researcher, no study has previously examined. The next chapter of this thesis explains the hypotheses development.

## **CHAPTER THREE**

### **DEVELOPMENT OF HYPOTHESES**

#### **3.1 Introduction**

The aim of this chapter is to provide an insight into the theoretical framework of the study and to develop the hypotheses that related to IC disclosure on the basis of the identified issues. A thorough literature review forms the basis of the developed research framework presented in Section 3.2, after which hypotheses are developed. This is followed by Section 3.3, which provides the justification for each developed hypothesis, and, finally, Section 3.4, which provides the chapter summary.

#### **3.2 Theoretical Framework**

In modern companies, there is a separation between managers and owners. Consequently, managers have better information about the company than shareholders. The agency theory relies on information asymmetry, in that managers will take decisions to increase their interests, which may not lead to the maximization of shareholder wealth (Berle & Means, 1991). Several corporate governance mechanisms have been suggested to make sure that managers are running the business in a way that serve the interests of shareholders. According to Cerbioni and Parbonetti (2007), some of these mechanisms are internal while others are external. These mechanisms either complement or substitute each other.

According to Jensen and Meckling (1976), voluntary disclosure is one of the corporate governance mechanisms. This is because it could minimize the information asymmetry between the manager and the owner through the provision of information about the financial and non-financial performance achieved by managers. In addition, Jensen and Meckling (1976), and Williamson (1984), claim that voluntary disclosure reduces the agency costs that result from the separation between the shareholders and management. Williamson (1984) argues that any transactions made by management may lead to the creation of information asymmetry. He also argues that voluntary disclosure can mitigate the information asymmetry that allows outsiders to forecast the valuation of future transactions because of the financial reporting transparency. Therefore, Cerbioni and Parbonetti (2007) argue that because IC disclosure is the key driver of the company's competitive advantage, IC disclosure is expected to mitigate opportunistic behavior and the information asymmetry problem, and, thus, primarily works as a corporate governance mechanism.

According to the agency theory, it has been suggested that internal corporate governance mechanisms, such as board of directors (Cerbioni & Parbonetti, 2007; Li *et al.*, 2008; Singh & Van der Zahn, 2008) and audit committees (Akhtaruddin & Haron, 2010; Akhtaruddin *et al.*, 2009; Li *et al.*, 2012) are important corporate mechanisms to solve the agency problem by reducing the opportunistic behavior of the management and information asymmetry. Those studies have indicated that the board and audit committee reduce information asymmetry by forcing managers to disclose more information. Likewise, Cerbioni and Parbonetti (2007) argue that internal corporate governance

mechanisms work complementarily to corporate disclosure and that the application of more governance mechanisms will assist the company to maintain its internal control. They further argue that it will work as an “intensive monitoring package” to reduce the opportunistic behavior of management and information asymmetry. Managers should not withhold information for their own benefit, so the level of voluntary disclosure in the company’s annual report is expected to increase (Cerbioni & Parbonetti, 2007; Chobpichien *et al.*, 2008; Li *et al.*, 2008). Cerbioni and Parbonetti (2007) contend that a good corporate governance structure, which is led by an independent director, and comprises a majority of independent directors who are vital for the audit, nominating and compensation committees, is critical for overall quality enhancement and appropriate voluntary disclosure because these factors contribute to the serious monitoring role of the board of directors.

Based on the resource dependency theory, it has been suggested that internal corporate mechanisms, such as board of directors (Akhtaruddin *et al.*, 2009; Al-Musalli & Ku Ismail, 2012b; Haniffa & Hudaib, 2006; Haniffa & Cooke, 2002), and audit committees (Haniffa & Cooke, 2005; Ismail *et al.*, 2008) are important corporate mechanisms in that the directors are resource providers, and it assumes that a large number of directors, diversity of nationality and multiple directorships, financial experience of directors are valuable resources to the firm and directors. They may also significantly help the directors to effectively monitor and oversee the financial reporting process, thus improving voluntary disclosure. Such studies relate that the board of directors and audit committee reduce information asymmetry by providing more valuable resources to the



firm. However, many researchers suggest a positive relationship between the board and audit committee characteristics due to the large number of directors, diversity of nationality, multiple directorships, and financial experience of directors in that they are valuable resources to the firm and directors, and, therefore, improve voluntary disclosure (Akhtaruddin *et al.*, 2009; Haniffa & Cooke, 2002; Haniffa & Cooke, 2005; Ismail *et al.*, 2008). It has been argued that the ability of directors to control and promote value-creating activities is more likely to increase with the increase of directors on the board, multiple directorships and financial experience. With more directors, the collective experience and expertise of the board will be increased; therefore, the need for information disclosure, consequently, will be higher.

This study aims to extend the previous studies by examining the relationship between the characteristics and effectiveness of the board of directors and audit committee, and ownership structure with IC disclosure in GCC top firms, after considering the control factors that are considered to be significant in providing an insight into the firm's level of disclosure (i.e. Industry type, firm size, profitability, leverage and country). On the basis of previous studies, these variables are employed in this current study for it has been shown that they influence voluntary disclosure (Hidalgo *et al.*, 2010; Li *et al.*, 2008; Md Nor *et al.*, 2010). Furthermore, the effectiveness of the audit committee is acknowledged to be an important corporate governance mechanism to control the agency problem and enhance corporate voluntary disclosure (Akhtaruddin & Haron, 2010; Ho & Wong, 2001; Li *et al.*, 2008). This study extends previous studies by providing evidence concerning the issue of whether the ownership structure affects the level of disclosure and is affected

by audit committee effectiveness. In addition, since governance mechanisms operate interdependently, with the overall effectiveness depending on the particular combination, the study extends the previous studies by examining the relationship of the board and audit committee effectiveness and IC disclosure. The research framework and description of variables are shown in Figure 3.1.

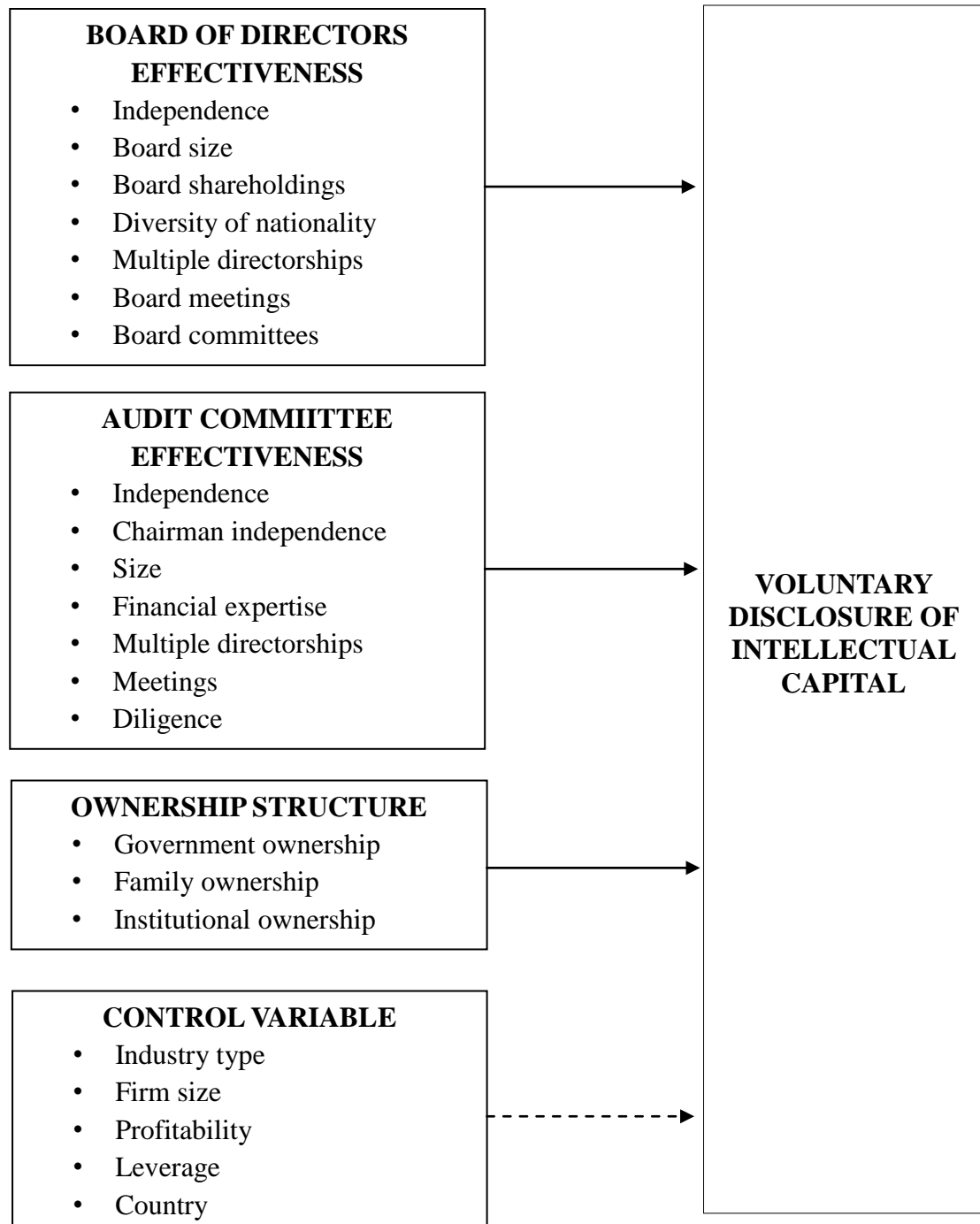


Figure 3.1  
*Theoretical Framework*

Previous studies that have investigated the relationship between ownership structure (namely, government, family and Institutional ownership) and voluntary disclosure fail to provide clear results. Perhaps these past studies never considered the influential role of audit committee effectiveness in this association. According to the agency theory and studies in the literature, audit committee effectiveness is one of the important internal corporate governance mechanisms to the control agency problem by reducing information asymmetry, managerial opportunism, and improving the quality of disclosure (Akhtaruddin & Haron, 2010; Chung *et al.*, 2004; Ho & Wong, 2001; Li *et al.*, 2008). Therefore, the positive relation, as shown by the results, could be as a result of the effectiveness of the audit committee while the negative result could be attributed to a weak audit committee. This implies that audit committees have been investigated in isolation of the other factors in these past studies.

However, DeZoort *et al.* (2002) argue that the effectiveness of audit committee framework may increase considerably if the characteristics of audit committee are studied together. Chobpichien *et al.* (2008) suggest that if the chairman of the audit committee is independent with independent directors it would improve audit committee effectiveness and enhance disclosure quality. Mangena and Pike (2005) suggest that larger audit committees give rise to more effective monitoring. Akhtaruddin and Haron (2010) consider that audit committee effectiveness is embedded in the independence and expertise of its members. Similarly, Agrawal and Chadha (2005) suggest that independent directors with financial expertise are valuable in providing oversight financial reporting. Saleh *et al.* (2007) argue that independent members who have

financial expertise but do not attend meetings will not enhance the effectiveness of the audit committee in increasing the quality of financial reporting. Similarly, Mustafa and Youssef (2010) argue that independence of audit committee is not effective unless the members are financial experts. Ismail *et al.* (2008) argue that multiple directorships of members of the audit committee add enrichment to the committee as the members have differing experience and knowledge management as well as various business backgrounds. Similarly, according to Ruzaidah and Takiah (2004), multiple directorships would improve the expertise of the audit committee and allow them to effectively oversee the firms and generate high quality reporting. Xie *et al.* (2003) argue that an audit committee whose members have a financial background and have frequent meetings serves better as an internal control mechanism and enhances oversight of the financial reporting.

The results of Li *et al.* (2012- 2008) indicate that audit committee meeting frequency is a crucial factor when it comes to improving IC disclosure for the purpose of decreasing asymmetry in information. However, Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings and attendance are more effective in monitoring management and can potentially enhance the quality of financial reporting. In addition, they also consider that the number of meetings and attendance are the main factors affecting audit committee effectiveness. Then, this study uses the agency theory as the foundation framework to investigate the effectiveness of the audit committee in moderating the relationship between three types of ownership structure and IC disclosure.

As illustrated in Figure 3.1, the study examines the moderating effect of audit committee effectiveness on the relationship between ownership structure and IC disclosure.

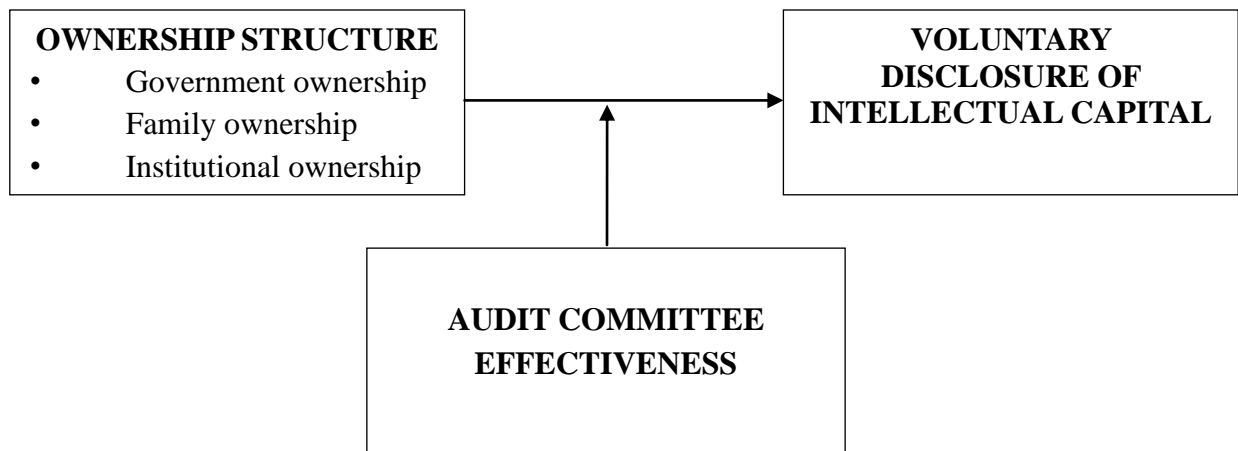


Figure 3.2  
*The Moderating Effect of Audit Committee Effectiveness*

### **3.3 Hypotheses Development**

In this section, the hypotheses are developed. First, the relationship of the characteristics of the board of directors, an essential internal corporate governance mechanism with IC disclosure, is investigated. Second, the characteristics of the audit committee are investigated. Third, the relationship of the different types of ownership structure with IC disclosure are discussed. Lastly, the moderating effect of audit committee effectiveness on the different types of ownership structure – IC disclosure relationship – is discussed.

#### **3.3.1 Board of Directors' Characteristics**

##### **3.3.1.1 Board Independence**

Supporters of the agency theory believe that boards that consist of a higher percentage of independent outside directors could greatly control the managerial decisions, because they have the motivation to make decisions that protect their reputational capital (Fama & Jensen, 1983). Furthermore, directors from outside serve as referees by making sure that the board protects the interests of shareholders in its attempt at supervising managerial decisions (Fama, 1980). Akhtaruddin *et al.* (2009), Chobpichien *et al.* (2008), Fama and Jensen (1983) and Hidalgo *et al.* (2010) argue that outside directors are important to determine the board's effectiveness in monitoring and controlling the opportunistic behaviour of management, because they have the motivation to make decisions that protect their reputational capital. Therefore, independent directors differ from the inside directors, who are possibly closely aligned with the CEO interests, and are likely to form

an alliance and embed themselves with the CEO to the disadvantage of shareholders' interests.

Thus, companies that have a higher proportion of non-executive directories are expected to disclose more voluntary information. Meanwhile, the resource dependence theory suggests that the existence of non-executive directors on the board provides the companies connections to the outside environment as a result of their skills, knowledge, prestigious status and contacts, which benefits the company (Haniffa & Cooke, 2005). Thus, management will be motivated to make disclosure, which exceeds the ritualistic, uncritical compliance to the laid down rules and guides, to a more proactive position reflecting the value relevance of IC information to stakeholders (Li *et al.*, 2008).

The empirical results from studied countries that have a greater ownership structure concentration with respect to the relationship of the composition of the board and voluntary disclosure is mixed. Some results of studies have been reported as having a positive association between the extent of voluntary disclosure and a higher proportion of independent board members, for example, Barros *et al.* (2013), Chen and Jaggi (2000), Cheng and Courtenay (2006), Donnelly and Mulcahy (2008), Huafang and Jianguo (2007), Khodadadi *et al.* (2010), Lim *et al.* (2007), Uyar *et al.* (2014), and Yanesari *et al.* (2012). Conversely, some reported a negative association between the variables (e.g. Chakroun & Matoussi, 2012; Eng & Mak, 2003; Haniffa & Cooke, 2005), while others find no relationship, such as Alhazaimah *et al.* (2014), Al-Shammari and Al-Sultan (2010), Haniffa and Cooke (2002), Ho and Wong (2001), Saha and Akter (2013), and Sartawi *et al.* (2014). However, studies on the association of board composition with IC



disclosure have been conducted by a few researchers and most of them in developed countries, such as Cerbioni and Parbonetti (2007) in European countries and Li *et al.*, (2007), (2008) in the UK.

Cerbioni and Parbonetti (2007) and Li *et al.* (2008) reveal that the proportion of independent directors' on the board is significantly and positively related to the voluntary disclosure of IC in European biotechnology and UK companies. They argue that with more independent board directors the board will be more capable of overseeing top management. In addition, the breadth of expertise and knowledge increases the recognition of the board with respect to the significance of IC disclosure. On the other hand, Md Nor *et al.* (2010) and Li *et al.* (2007) never found empirical support for the relationship of IC disclosure to the independence of the board in the United Kingdom and Malaysia.

According to the GCC Code for Corporate Governance, good corporate governance strongly relies on the board of directors. It is required by the Code that for better independent judgment in the process of decision-making a third of the board should comprise independent non-executive directors. On this basis, the corporate governance code asserts that boards should be made up of independent non-executive directors. Moreover, independent non-executive directors have larger networking, which indirectly provides an advantage to the company. These are the claims of the resource dependency theory. Therefore, based on the arguments in the literature the following hypothesis is specified:

*H1: There is a positive relationship between independent non-executive directors on the board and the level of IC disclosure.*

### **3.3.1.2 Board Size**

Board size is another important element of the board of directors that may have an effect on voluntary disclosure. The findings of prior studies reveal that board size is a determinant of board effectiveness, and, hence, voluntary disclosure (Akhtaruddin & Haron, 2010; Allegrini & Greco, 2011; Cerbioni & Parbonetti, 2007). This is because board size can offer more or less knowledge and expertise, as well as more capacity for monitoring and sharing the workload (Larmou & Vafeas, 2010).

Based on the resource dependency theory, large boards are preferable and might be constructive for some firms because they provide diversity that would help firms to secure more critical resources and reduce environmental uncertainties (Goodstein *et al.*, 1994). Further, a large board has diverse expertise, experience, and networks with other firms, which could assist the board in making more effective decisions by providing various inputs. Larger boards are often believed to be effective in their oversight duties, and, thus, board of directors, because they provide counsel, advice, and a range of perspectives on how to solve problems in financial reporting process, lead to better financial reporting oversight (Mohamad & Sulong, 2010).

The results of several past studies lend support to the importance of the size of the board of directors and provide mixed results. For example, Akhtaruddin and Haron (2010), Allegrini and Greco (2011), and Nandi and Ghosh (2013) find that the board of directors'

size has a significant positive association with voluntary disclosure in Malaysia, Italy and India, respectively. On the other hand, Alhazaimeh *et al.* (2014), Bukair and Rahman (2015), Chenga and Courtenay (2006), Sartawi *et al.* (2014) and Uyar *et al.* (2014) find that the size of board is not related to the degree of voluntary disclosure. However, In terms of IC disclosure, Cerbioni and Parbonetti (2007) find that the size of the board has a positive association with the human capital as well as information from outside with respect to IC, but that its relation with the inside disclosure of IC is negative. Recently, the results of Ahmed Haji and Mohd Ghazali (2013) show that board size is significant at the one percent level and positively related to the extent of IC disclosure.

From the above discussion, it could be said that larger board provides the ability of the board members to monitor and evaluate management and reducing information asymmetry. Further, the ability of directors to control and promote value-creating activities is more likely to increase with the increase of directors on the board. With more directors, the collective experience and expertise of the board will increase, and therefore, the need for information disclosure will be higher. Therefore, it is reasonable to expect that the board size is associated with the extent of IC disclosure for GCC firms. Thus, based on the arguments above, the following hypothesis is proposed:

*H2: There is a positive relationship between board size and the level of IC disclosure.*

### **3.3.1.3 Board Shareholding**

Board of director shareholding refers to the percentage of non-executive directors who are shareholders in the company. Jensen and Meckling (1976) argue that ownership in a firm could alleviate agency conflicts between managers and shareholders. For instance, although non-executive directors could be the highest monitoring mechanism on the board, they would not effectively play such a role unless they have significant shares in the firm. Hence, if the outside directors hold shares in a firm, their motivation to monitor the performance of management would increase. Thus, the larger the amount of equity interests is, the greater the incentive for the directors to monitor the management (Mohd Ghazali & Weetman, 2006).

As users rely on published financial statements when inferring a share's value, non-executive directors with equity in the firm are predicted to be more serious in ensuring that the quality of the information is high so that it will be valuable to other users as well. Consistently, Jensen (1989) contends that the outside directors with a small amount of stockholding cannot effectively monitor and discipline the managers.

In respect of the relationship between outside director ownership with ownership help reduce asymmetry information associated with agency problems because they have greater power and incentive to oversee financial reporting process by increasing the level of disclosure. For example, Chau and Gray (2002), their empirical results indicated that ownership of outside directors is significantly associated with the increased level of voluntary disclosure. Similarly, Akhtaruddin *et al.* (2009) reported a positive relationship between outside directors' shareholdings and the level of voluntary disclosure for a

sample of Malaysian listed firms. For this reason, outside directors' shareholdings could influence the voluntary disclosure positively, and, therefore, affect the level of voluntary IC. Thus, we aim to extend this line of research into the IC disclosure theme by examining the relationship between IC disclosure and outsider director ownership.

Based on the above discussion, non-executive directors with ownership help reduce asymmetry information associated with agency problems because they have greater power and incentive to oversee financial reporting process. Thus, outside director ownership in a firm increase disclosure practices in financial reporting. The shareholdings held by board directors is considered to be a key component to ensuring adequate oversight of managements' disclosure practices and enhancing the level of IC disclosure. Thus, the following hypothesis is proposed:

*H3: There is a positive relationship between outside directors' shareholdings and the level of IC disclosure.*

#### **3.3.1.4 Board Nationality**

In recent years, board nationality has become a critical component of the corporate governance structure (Barako & Brown, 2008). In addition, Ayuso and Argandoña (2007) argue that foreign directors are usually assumed to play an important role in favoring voluntary disclosure. Prior research indicates that board nationality, as measured by the presence of foreign nationals, is associated with stronger orientation toward voluntary disclosure (Ibrahim & Angelidis, 1994; Siciliano, 1996).

Based on the study by Carter *et al.* (2003), they argue that board diversity will increase board independence because with a different gender, ethnicity, or cultural background, the members might ask questions that would not come from directors with more traditional backgrounds. In addition, board cultural diversity provides the firm with the skills and flexibility in decision-making to adopt products or services to market needs and meet the changes in customer needs (Beaulieu *et al.*, 2001; Richard, 2000). Therefore, the diversity in the nationality of the board is positively associated with IC disclosure.

The prior findings of voluntary disclosure research that focus on board nationality as a potential voluntary disclosure determinant are inconsistent; for example, Barako and Brown (2008) provide empirical findings that show that having foreign nationals on the board of the bank is not significantly associated with the level of voluntary disclosure. Similarly, Wallace and Naser (1996) did not find a significant relationship between the disclosure levels and boards dominated by directors of non-Chinese background. In terms of IC performance, Al-Musalli and Ku Ismail (2012a) report an insignificant relationship between board nationality and IC performance in GCC banks. They argue that the lack of any relationship between nationality diversity and IC performance might be due to the low number of foreigners on the boards of the GCC banks.

However, Khan (2010) noted a positive relationship between the representation of foreign nationals on the board and bank corporate social responsibility reporting practice. In a similar vein, Haniffa and Cooke (2005) reveal empirical evidence of a positive association between cultural factors (race), measured as the proportion of Malay directors on the board, and the extent of voluntary disclosure by Malaysian companies. Similarly,

Van der Zahn (2004) examines the relationship between the board diversity (Gender and Ethnic) on the boards of directors and IC performance in South Africa. The results indicate a significant positive association between the percentage of non-white directors on the board and the performance of IC.

However, the previous empirical studies only focused on the relationship between the diversity of board nationality and voluntary disclosure in terms of social responsibility disclosure. There is a lack of empirical evidence concerning the relationship between board nationality and IC disclosure. Therefore, based on the discussion above, the following hypothesis is proposed:

*H4: There is a positive relationship between the proportion of foreign nationals on the board and the level of IC disclosure.*

#### **3.3.1.5 Board Multiple Directorships**

Another characteristic of board of directors is that directors may occupy positions on more than one board (multiple directorships). Board multiple directorships are described as the situation where directors occupy a position on more than one board (Al-Musalli & Ku Ismail, 2012b; Haniffa & Cooke, 2002). Based on the resource dependence theory, multiple directorships of the board members is a mechanism that enables the firm to access resources in the form of ideas, information, and capital from the environment (Al-Musalli & Ku Ismail, 2012; Haniffa & Hudaib, 2006).

According Haniffa and Cooke (2002), multiple directorships held by members of boards have important implications for disclosure practice as there will be greater access to information in more than one company. Therefore, companies may become more transparent and preference for confidentiality diminished. Furthermore, directors having multiple directorships on another board may acquire additional contextual background, skills, experience, and knowledge to conduct their oversight responsibilities, which may affect corporate disclosure. In addition, Fama and Jensen (1983), and Fama (1980) argue that the market for outside directorships serves as an important source of incentives for outside directors to develop reputations as monitoring specialists. Mace (1986) suggests that outside directorships are perceived to be valuable because they provide executives with prestige, visibility, and commercial contacts.

However, the study by Haniffa and Cooke (2002) failed to find a significant association between board multiple directorships and the level of voluntary disclosure (corporate social reporting) in Malaysia. Similarly, in GCC countries, Al-Musalli and Ku Ismail (2012) report an insignificant relationship between board interlocking and IC performance in the bank sector and suggest that serving on the boards of multiple firms makes it difficult for directors to gain adequate understanding of the issues facing any one firm, and, hence, directors with multiple appointments have no way of influencing IC related strategies. On the other hand, a negative significant relationship was found by Haniffa and Hudaib (2006) between multiple directorships and market performance, and they note that the market considers multiple directorships as detrimental and that they do not add value to Malaysian corporate performance.



In summary, the results above have indicated that the members of boards with multiple directorships may contribute to its effective functionality as they may bring more experience gained through director positions in other companies. Directorship held by the members of board have important implications for the practice of disclosure as there will be greater access to information in more than one company. Further, board members' with multiple directorships will be motivated and better able to monitor management and disclosure practices more carefully. Consequently, companies may become more transparent and preferences for confidentiality may diminish. Therefore, the following hypothesis is proposed:

*H5: There is a positive relationship between the number of multiple directorships on the board and the level of IC disclosure.*

#### **3.3.1.6 Board Meetings**

The diligence of the board of directors would reflect the board's commitment in discharging its role as an agent in the company (Jensen & Meckling, 1976). According to Evans and Weir (1995), the board of directors in a company that has more frequent meetings would allow the board members to discuss identified problems, which leads to superior performance of the company. In addition, Chobpichien *et al.* (2008) argue that one of the important dimensions of the board operations is board activity, which is measured by the frequency of board meetings. Carter and Lorsch (2004) claim that the time that a board spends together in meetings is the most important that directors have to perform their duties. It is during board meetings that the whole board is engaged in the

business of the company, that ideas are contested and that a collective view is developed, which is then conveyed to management.

There is also empirical evidence concerning the importance of board meetings. Tauringana *et al.* (2009) find a significant negative relationship between the frequency of board meetings and timeliness of the annual reports. A Study by Xie *et al.* (2003) report that the frequency of the board meetings is negatively associated with their earnings management. In addition, Hashim and Abdul Rahman (2011) find that the frequency of board meetings is negatively related to audit report lag. In terms of voluntary disclosure, Barros *et al.* (2013), and Ahmed Haji and Mohd Ghazali (2013) report a significant positive relationship between the frequency of board meetings and the extent of voluntary disclosure in companies listed in France and Malaysia, respectively.

Therefore, the more frequently that the board of directors hold meetings, the more superior will be the financial reporting quality as the directors are able to monitor management activities in an effective manner. An increase in board meetings leads to the discussion of any problems identified, which leads to improved management disclosure. In addition, the information asymmetry is high in GCC companies, thus, the frequency of meetings is important for taking decisions that protect the interests of shareholders and increase the level of disclosure. Thus, based on the argument for board meetings, the following hypothesis is put forward:

*H 6: There is a positive relationship between the frequency of board meetings and the level of IC disclosure.*

### **3.3.1.7 Board Committees**

The board of directors has a major role in corporate governance and in the achievement of diverse roles, the board delegates some duties to its board committees. With the establishment of board committees, the directors may effectively and efficiently perform their duties and may be more accountable for their decisions as board committees enable directors' specialization in specific areas, which allows them to conduct an in-depth discussion concerning the main issues in their relevant groups. In other words, board committees may lead to the enhancement of board effectiveness (Engel *et al.*, 2010; Hoitash *et al.*, 2009). According to Vafeas (2000), the structure of the board has a role in determining the effectiveness of monitoring strategies in the light of information asymmetry. The guidelines and the legislation in GCC countries pertaining to corporate governance suggest the employment of board committees, specifically audit, remuneration (compensation) and nomination.

Researchers consider that the audit, remuneration and nomination committees act as monitoring committees that concentrate on the board's monitoring activity and provide both an objective and independent review of the firm's affairs. Based on the agency theory (Fama & Jensen, 1983), the committees (audit, compensation and nominating) conduct particular roles in the process of decision-making. Cerbioni and Parbonetti, (2007) argue that the board of directors should have three committees – audit, nominating and compensation – in order to be highly effective and influence the amount and quality of voluntary disclosure. The audit committee is responsible for reviewing the financial reports and reporting process to improve internal systems. The remuneration committee

performs the difficult tasks of deciding executives' compensation, as there is an important incentive to keep the managers and shareholders' interests aligned. Adopting a nomination committee is essential to achieve good governance, since the task of selecting qualified directors can be performed in greater depth.

The presence of audit, nominating and compensation committees could improve the process of decision-making, controlling top management and influencing the level and quality of voluntary disclosure. Consistent with this view, Al-Shammari and Al-Sultan (2010) report that establishing an audit committee is considered as a monitoring mechanism to control agency costs and improve voluntary disclosure. Similarly, Jiamsagul (2007) argues that the existence of compensation and nomination committees is considered to be a monitoring mechanism to reduce information asymmetry due to increased transparency and disclosure; and that good board characteristics could reduce the agency problem.

As expected, Fauzi and Locke (2012) find that companies having audit, nominating and compensation committees have a positive relationship with firm performance. They argue that board committees are considered to be a significant entity that reduces agency costs, and, thus, enhances the performance of the firm. Therefore, audit, nominating and compensation committees are viewed as monitoring mechanisms for management performance. This supports the view that board committees can improve the board of directors in terms of effectiveness. Thus, it is quite interesting to examine the board committees on the IC disclosure in the companies in the GCC. The proposed alternative hypothesis is as follows:

*H7: There is a positive relationship between the board committees and the level of IC disclosure.*

#### **3.3.1.8 Effectiveness of Board of Directors**

According to Akhtaruddin *et al.* (2009) large boards, independence and outside shares are important governance factors for determining board effectiveness and enhancing disclosure. Similarly, Chen and Jaggi (2000) argue that a greater number of directors on the board and a higher proportion of independent non-executive directors are important variables to determine board effectiveness by reducing the likelihood of information asymmetry. Chobpichien *et al.* (2008) argue that independence, size and frequency of board meetings, are important factors that determine the effectiveness of the board that forces management to disclose more information to outside parties. According to Khan (2010), board independence and board nationality are important variables that determine the effectiveness of the board and enhance social responsibility disclosure and they find a significant positive relationship.

Haniffa and Cooke (2002) suggest that members' cross-directorships have significant implications for the practice of disclosure, as there will be ample access to the required information in several companies. Cerbioni and Parbonetti (2007) suggest that board committees and board independence are important corporate mechanisms to enhance board effectiveness, and, consequently, influence the level and quality of voluntary disclosure. However, a few studies have been dedicated to examining the relationship between board of directors' effectiveness and IC disclosure and provide unclear results.

From the findings of such previous studies, it seems that the effectiveness of board members to improve the disclosure depends on their independence, size, shareholding, nationality, multiple directorships, frequency of meetings and board committees. Therefore, because most of the previous studies examine the characteristics of the board of directors in isolation of each other, it might explain why those studies provide unclear results. This study gives a score to the board of directors based on its characteristics, and proposes a positive association between the score of effectiveness of the board and IC disclosure. Thus, based on the arguments above, the following hypothesis is proposed:

*H8: There is a positive relationship between the score of the effectiveness of the board of directors and the level IC disclosure*

### **3.3.2 Audit Committee Characteristics**

#### **3.3.2.1 Audit Committee Independence**

Audit committee independence is always viewed as an important feature that affects the effectiveness of the committee in supervising the quality of financial reporting. From the agency theory perspective it has been argued that companies with independent directors are anticipated to have greater voluntary disclosure of information (Md Nor *et al.*, 2010). According to Fama and Jensen (1983), and Fama (1980), independent directors on the audit committee, motivated by the desire to maintain their reputational capital, have an incentive to exercise stronger control over managerial decisions than dependent directors to protect shareholders' interests and restrain managerial opportunism. Since voluntary disclosure is considered to be an important system to reduce managerial opportunism and

agency problems between managers and shareholders (Klein, 2002a), independent directors on the audit committee have a greater likelihood of encouraging better financial reporting quality (Akhtaruddin & Haron, 2010; Collier & Gregory, 2000). Furthermore, it has been argued that independent directors have a long term horizon with more focus on firm survivability in the long run (Ibrahim & Angelidis, 1995; Ibrahim, Howard, & Angelidis, 2003). Therefore, this study argues that the presence of independent directors on the audit committee will enhance IC disclosure due to the recognition that IC is growing in importance in facilitating and sustaining competitive advantage and shareholder value of the organizations (Li *et al.*, 2012; Li *et al.*, 2008; Tayles *et al.*, 2007). Empirical support for the importance of audit committee members being independent of management can be found in a number of prior studies. Some studies find that the proportion of independent directors in the audit committee is positively associated with the audit committee's ability to influence the decision for voluntary disclosure, for example, Akhtaruddin and Haron (2010), Barros *et al.* (2013), Madi *et al.* (2014), Patelli and Prencipe (2007), and Persons (2009). In terms of R&D voluntary disclosure as one component of IC disclosure, Nekhili *et al.* (2010) reported a significant positive association between independence of the audit committee and R&D voluntary disclosure in French companies. Others find a negative relationship between independent directors on the audit committee and voluntary disclosure, see, for example, Haniffa and Cooke (2005), Mangena and Pike, (2005), and Nasir and Abdullah (2004).

Therefore, in line with the agency theory and the above arguments, it is reasonable to expect that as the proportion of independent members on the audit committee increase,

the ability of the agent to withhold information will reduce and then increase IC disclosure. Therefore, based on the agency theory and the discussion above, the following hypothesis is proposed:

*H9: There is a positive relationship between the proportion of the independent directors on the audit committee and the level of IC disclosure.*

### **3.3.2.2 Audit Committee Chairman Independence**

It is important for the board to create committees, particularly audit committees to assist it in tackling the many problems and in screening workload on the basis of the given situation. Audit committees should be furnished with a policy and framework for determining the members' qualities, their job responsibilities, meeting details and board reporting (Chobpichien *et al.*, 2008).

The chairman of the audit committee was reported to be a significant determinant in enhancing the effectiveness of the audit committee and the quality of disclosure. For example, Liu (2004) states that audit committees should consist of independent non-executive directors for the quality of disclosure to be improved. In contrast, Chobpichien *et al.* (2008) find that the independence of the chairman is significantly and negatively related to the level of voluntary disclosure. In addition, other studies (e.g. Berg & Smith, 1978; Donaldson & Davis, 1991; Rechner & Dalton, 1991) find a negative relationship between independent chairman and the level of voluntary disclosure with the highest regression coefficient. These findings are inconsistent with the agency theory, which documents that the chairman, as a non-executive director in the firm, is able to play a



greater independent function when it comes to enhancing disclosure owing to the accountabilities at the top of the firm and influential power. Therefore, it is expected that the existence of an independent chairman will increase IC disclosure.

As expected, Chobpichien *et al.* (2008) find that audit committee chairman independence is reported to be significant in enhancing the effectiveness of the audit committee, which, in turn, will lead to enhancing voluntary disclosure. This supports the view that the audit committee chairman can enhance the effectiveness of the audit committee and increase IC disclosure. Thus, it is quite interesting to examine the effect of audit committee leadership on the IC disclosure in the GCC firms. The proposed alternative hypothesis is as follows:

*H10: There is a positive relationship between the independence of the audit committee chairman and the level of IC disclosure.*

### **3.3.2.3 Audit Committee Size**

Another essential feature to determine the effectiveness of the audit committee arises from the examination of the effect of audit committee size on the quality of financial reporting. The size of the audit committee is significant in increasing the effectiveness of the monitoring, thus improving corporate governance disclosure (Mangena & Pike, 2005).

According to the agency theory and the theory of resource dependency, as the resources earmarked for the functioning of internal audit become large, the efficiency of the

committee to supervise the necessary disclosure of valuable information becomes high, which may then lessen agency costs (Mangena & Pike, 2005). In addition, it is argued that when audit committees become large, their effectiveness is commonly expected to be more in monitoring due to their larger knowledge base and expertise, and an increased diversity of views that could enhance monitoring (Li *et al.*, 2007).

Studies on the effect of the size of the audit committee on the quality of financial reporting have been done by many researchers. However, the majority of the past studies employed earnings management, financial fraud and financial restatement as a proxy for the financial reporting quality (see for example, Bedard *et al.*; 2004; Karamanou & Vafeas 2005; Mangena & Pike 2005) document that audit committee size has a significant negative association with the occurrence of earnings management. The findings of Xie *et al.* (2003) reveal that the audit committee directors in terms of numbers are not linked to earnings management. Similarly, Albert *et al.* (2003) report that the size of the audit committee has no significant association with earnings restatements.

Most findings also show that audit committee size is significantly associated with corporate voluntary disclosure. For example Persons (2009) finds that audit committee size is significantly and positively associated with the earlier voluntary disclosure of ethics. In addition, Felo *et al.* (2003) conclude that audit committee size has a positive association with the quality of financial reporting. Mangena and Pike (2005) show that the relationship between the size of the audit committee and voluntary disclosure is negative. In the context of IC disclosure, the studies conducted by Gan *et al.* (2013), Hidalgo *et al.* (2010), and Li *et al.* (2012), (2008) find that the size of the audit committee

and the level of disclosure of IC are positively associated in Malaysia, Mexico and the UK, respectively. They suggest that large audit committees are an essential factor for determining audit committee supervision effectiveness since their role is to supervise the documents, such as the review of operation and finance concerning related IC. Therefore, based on the agency theory and resource dependency theory, the following hypothesis is proposed:

*H11: There is a positive relationship between audit committee size and the level of IC disclosure.*

#### **3.3.2.4 Audit Committee Financial Expertise**

Apart from the audit committee independence, audit committee expertise is another essential feature for operational effectiveness. For an effective discharge of responsibilities by the audit committee there is a need for its members to have adequate expertise in accounting and auditing to effectively evaluate the issues before them (Beasley & Salterio, 2001).

The audit committee is considered to perform the role of supervising the quality of financial reporting. For this reason, the presence of expertise in accounting or financial management in the audit committee serves to ensure that the financial disclosure of the firm gives dependable information (Beasley & Salterio, 2001). In order to have effective members of committee, they ought to have the necessary skills to correctly comprehend and interpret information relating to finance, and to ensure that the quality of the financial report given to shareholders (Felo *et al.*, 2003). Therefore, having audit committee

members that are expert in finance is invaluable for effective and efficient execution of their roles, particularly on issues concerning financial reporting. Drawing from the literature it could be argued that a higher percentage of members of the audit committee with financial expertise is anticipated to supervise the board in a more effective way and improve the voluntary disclosure of IC.

In terms of voluntary disclosure, it has been suggested that financial expertise enhances the effectiveness of the audit committee and enhances voluntary disclosure. For example, Akhtaruddin and Haron (2010) argue that a higher proportion of expert members in the committee leads to the improved effectiveness of the audit committee, through which the audit committee improves the internal control, reduces the information asymmetry and enhances the corporate voluntary disclosure. In terms of IC disclosure, Li *et al.* (2012) argue that one or more members on the audit committee with financial expertise leads to the improved effectiveness of the audit committee, as the audit committee members are in a better position to understand the capital market implications of providing quality IC disclosure. Thus, the audit committee should lead to the improvement in IC disclosure in order to communicate information on a firm's value-creating process.

In respect of the relationship between audit committee financial expertise and the level of voluntary discourse, many studies have documented that the financial expertise of the audit committee strengthens its effectiveness. For example, Felo *et al.* (2003), and Mangena and Pike (2005) note that audit committee members with accounting and financial management knowledge are positively related to the degree of financial reporting quality and interim financial disclosure. Similarly, Akhtaruddin and Haron

(2010), and Persons (2009) find a significant positive relationship between the financial expertise of the committee and voluntary disclosure in Malaysia and the USA, respectively. Recently, Aboagye-Otchere, Bedi and Kwakye (2012) find a positive relationship between the number of accounting/finance experts on the audit committee and the level of voluntary disclosure in companies listed in Ghana. They justify their results based on the idea that people with an accounting/finance background are able to understand and interpret the reports prepared by financial managers.

Based on the above arguments and empirical evidence, it could be proposed that the expertise of the audit committee enhances its effectiveness, which is perceived as being one of the mechanisms to reduce the information problem. Consequently, an AC that has a high proportion of financial expertise will be more likely to improve the monitoring of corporate financial reporting and internal control, which reduces the information asymmetry in the firm. Therefore, the level of IC disclosure will increase in the annual report.

*H12: There is a positive relationship between the proportion of the financial expertise on the audit committee and the level of IC disclosure.*

### **3.3.2.5 Audit Committee Multiple Directorships**

Audit committee multiple directorships are among the audit committee characteristics that have recently acquired a great deal of interest. Multiple directorships are described as the number of director positions occupied by the members of the audit committee (Ismail *et al.*, 2008).

According to the resource dependency theory, multiple directorships secure and provide vital resources to the firm (Ismail *et al.*, 2008). In addition, directors having multiple directorships on the audit committee may acquire additional contextual background, skills, experience, and knowledge to conduct their oversight responsibilities, which may affect corporate disclosure (Haniffa & Hudaib, 2006). In addition, Shepardson (2011) argues that the market for outside directorships serves as an important source of incentives for outside directors to develop their reputation as monitoring specialists. Mace (1986) suggests that outside directorships are perceived to be valuable because they provide executives with prestige, visibility, and commercial contacts. Additionally, studies have shown that multiple directorships may improve the audit committee members' contributions toward the carrying out of their duties in an effective manner. Boo and Sharma (2008) show that audit committees whose members have multiple directorships request for a more thorough audit to safeguard their reputation capital and to contribute highly to superior reporting quality.

In respect of the association between audit committee multiple directorships and voluntary disclosure, it has been contended that multiple directorships strengthen the effectiveness of the oversight of the audit committee of the management and reduce the information asymmetry by increasing the level of disclosure. Between Malaysian companies, audit committee multiple audit directorships are revealed to be significantly and positively related to corporate social reporting (Ismail *et al.*, 2008) and financial reporting quality (Haniffa & Cooke, 2005) and voluntary disclosure (Madi *et al.* 2014). This shows that audit committees having multiple directorships effectively monitor the

accounting process. In addition, prior studies have shown that such directorships may also improve the audit committee contribution to discharging its duties effectively. For instance, in Australia, multiple directorships has been reported to be significantly and positively related to market civilization and firm performance (Ismail *et al.*, 2008), and the request for a quality audit to protect their interests (Kiel & Nicholson, 2003).

Based on the above arguments and empirical evidence, it could be proposed that the multiple directorships of audit committee members enhance the effectiveness of the audit committee, which is perceived as being one of the mechanisms to reduce the information asymmetry. Consequently, an audit committee that has a high number of multiple directorships will be more likely to improve the monitoring of the quality of financial reporting and internal control, which reduces the information asymmetry in the company. Therefore, the level of IC disclosure will increase in the annual report. Thus, the following hypothesis is proposed:

*H13: There is a positive relationship between the number of multiple directorships among the members of the on the audit committee and IC disclosure.*

#### **3.3.2.6 Audit Committee Meeting**

The frequency of meetings of the audit committee is always used as a proxy for the diligence of the audit committee. The audit committee's meeting in performing its function is also connected to the effectiveness of the audit committee. According to Boo and Sharma (2008), the frequency of meetings of the audit committee is an important

internal control to supervise management behavior with a view to lessening the asymmetry of information through the disclosure of IC. In addition, Felo *et al.* (2003) note that audit committees that meet more frequently are more effective at overseeing the financial reporting process than audit committees that meet less frequently. The frequency of audit committee meetings serves as an indicator of the audit committee's effectiveness to monitor financial reporting effectively. Therefore, audit committee activities and IC disclosure are positively associated.

In respect of the relationship between audit committee meetings and the level of voluntary disclosure, many studies have documented that frequent audit meetings strengthen the effectiveness of the audit committee. For example, Allegrini and Greco, (2011), O'Sullivan *et al.* (2008) and Persons (2009) find a significant positive relationship between the frequency of committee meetings and voluntary disclosure in companies listed in Italy, Australia and the USA. In terms of IC disclosure, Azman and Kamaluddin (2012), Taliyang and Jusop (2011) find a significant positive relationship between the frequency of audit committee meetings and IC disclosure. Recently, Li *et al.* (2012) find a significant positive relationship between the frequency of audit committee meetings and IC disclosure in the top 100 UK companies. They conclude that more frequent meetings means a high-level oversight of all corporate reporting issues, including IC disclosure.

Based on the increasing importance of this matter, we expect audit committees to have more meetings to influence the disclosure of IC in the company. Therefore, they will be



better able to reduce the agency costs by increasing the level of IC disclosure. Thus, the following hypothesis is proposed:

*H14: There is a positive relationship between the frequency of audit committee meetings and the level of IC disclosure.*

### **3.3.2.7 Audit Committee Diligence**

Audit committee diligence refers to the percentage of members who attend the audit committee meetings during the year. According to Haji-Abdullah and Wan-Hussin (2009), the level of attendance of audit committee members can also be used to measure the activeness of the audit committee members. Even when the frequency of meetings is high, if the attendance levels are poor, the effectiveness of the audit committee is impaired. In addition, Barros *et al.* (2013) contend that regular attendance at audit committee meetings shows the strong commitment of directors to earnestly perform their supervisory duties and their presence to pressure top management to provide further information to reduce oversight. In addition, greater participation in audit committee meetings allows directors to provide useful advice, share points of view, and benefit from each other's experience. Hence, a higher attendance rate decreases the information asymmetry between them and promotes more effective functioning of the committee. Furthermore, directors who usually attend board meetings are expected to ask for more detailed and varied information to assess management performance, implying more voluntary disclosure.

The complexity of the accounting and financial reports reviewed by the audit committee requires significant resources in terms of directors and the time spent for the monitoring mission. Regular attendance at audit committee meetings shows the strong commitment of the directors to earnestly perform their supervisory duties. Their presence pressures top management to provide further information to reduce oversight. Moreover, directors who usually attend board meetings are expected to ask for more detailed and varied information to assess management performance, implying more voluntary disclosure. In addition, in an environment like GCC firms where information asymmetry is high, the regular attendance at audit committee meetings is important to strengthen the effectiveness of the audit committee members in order to take decisions that protect the interests of shareholders and increase the level of disclosure. Thus, based on the argument for audit committee diligence, the following hypothesis is proposed:

*H15: There is a positive relationship between the participation in audit committee meetings and the level of IC disclosure.*

### **3.3.2.8 Audit Committee Effectiveness**

The effectiveness of the audit committee as an internal corporate governance mechanism operates interdependently with the overall effectiveness depending on the particular combination. As mentioned earlier, studies have also recognized the effectiveness of audit committee as being an important corporate governance mechanism to regulate the agency problem and enhance corporate voluntary disclosure (Akhtaruddin & Haron, 2010; Ho & Wong, 2001; Li *et al.*, 2012; Li *et al.*, 2008). DeZoort *et al.* (2002) argue that

the audit committee effectiveness framework could increase considerably if the audit committee characteristics are studied together.

Effectiveness of audit committee have been defined by its characteristics (DeZoort *et al.*, 2002; Kiatapiwat, 2010; Madi, 2012). Prior research has indicated that audit committee effectiveness essentially functions on audit committee characteristics; therefore, knowing the characteristics is essential to understanding the conditions of audit committee effectiveness. In terms of the characteristics of the audit committee how can audit committee effectiveness be determined. Chobpichien *et al.* (2008) suggest that if the chairman of the audit committee is independent with independent directors it will improve the audit committee effectiveness and enhance the quality of disclosure. Mangena and Pike (2005) suggest that a larger audit committee leads to more effective monitoring. Akhtaruddin and Haron (2010) consider that audit committee effectiveness is embedded in the independence and expertise of its members. Similarly, Agrawal and Chadha (2005) suggest that independent directors with financial expertise are valuable in providing oversight financial reporting. Saleh *et al.* (2007) argue that independent members who have financial expertise but do not attend meetings will not enhance the effectiveness of the audit committee in increasing the quality of financial reporting. Similarly, Mustafa and Youssef (2010) argue that audit committee independence is not effective unless the members are financial experts. Ismail *et al.* (2008) argue that multiple directorships of the audit committee add enrichment to the committee as the members have differing experience and knowledge management, as well as various business backgrounds. Similarly, according to Ruzaidah and Takiah (2004), multiple directorships

would improve the expertise of the audit committee and allow them to effectively oversee the firms and generate high quality reporting. Xie *et al.* (2003) argue that an audit committee whose members have a financial background and have frequent meetings serves better as an internal control mechanism and enhances oversight of the financial reporting. The results of Li *et al.* (2012, 2008) indicate that audit committee meeting frequency is a crucial factor when it comes to improving IC disclosure for the purpose of decreasing asymmetry in information. However, Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings with attendance is more effective in monitoring management and can potentially enhance the quality of financial reporting. In addition, they also consider the number of the meetings and attendance to be the main factors to affect audit committee effectiveness.

Although a few studies have investigated the association between audit committee effectiveness and IC disclosure they provide unclear results. From the findings of such previous studies, it seems that the effectiveness of audit committee members to improve the disclosure depends on their independence, chairman's independence, size, expertise, multiple directorships, and frequency of meetings and attendance. Therefore, most of the previous studies examine the characteristics of the audit committee separately, which might explain why those studies provide unclear results. This study gives a score to an audit committee based on its characteristics, and proposes a positive relationship between the effectiveness of the audit committee score and IC disclosure. Thus, based on the arguments above, the following hypothesis is proposed:

*H16: There is a positive relationship between the score of the effectiveness of the audit committee and the level of IC disclosure.*

### **3.3.3 Ownership Structure**

#### **3.3.3.1 Government Ownership**

According to Al-Musalli and Ku Ismail, (2012) and Chahine (2007) governments of GCC countries have a significant stake of ownership in most of the listed companies. Ahmed Haji and Mohd Ghazali (2014) expected that those companies in which the government is a substantial shareholder have higher investments on IC. This in turn may lead to more IC disclosure as such disclosures may legitimize the government's activities, therefore, have the tendency of disclosing greater information compared to companies (non-GLCs) that have its major shareholders from the private sector (Yau et al., 2009). It was noted that large companies, in addition to the GLCs, are normally on the attention of investment analysts and hence, the need to reduce information asymmetry to benefit from reduced cost of capital is less critical as compared to the smaller and "less well-known" companies. Furthermore, government has a larger stake in companies which are considered to have tactical value. Thus, companies which have greater governmental shareholdings could decide to have greater disclosure in order to meet their reporting role to the wider public (Jiang & Habib, 2009; Makhija & Patton, 2004). In addition, government-owned companies are associated with higher agency costs as a result of the pure profit objectives of a commercial enterprise conflicting with the objectives associated with the interests of the country. Their contention was buttressed by the fact that the necessity to exchange information with other shareholders is much in companies

controlled by government, causing the disclosure to increase (Eng & Mak, 2003). Therefore, government ownership may positively affect the IC disclosure.

The findings of studies conducted from countries having greater ownership structure concentration on the association between government ownership and voluntary disclosure are mixed; some studies find that a greater percentage of government ownership will lead to more voluntarily disclosure of information, such as Alhazaimeh *et al.* (2014), Eng and Mak (2003), Huafang and Jianguo (2007). In terms of IC disclosure studies, Gan *et al.* (2013) Ahmed Haji and Mohd Ghazali (2013), Md Nor *et al.* (2010), and Yau *et al.* (2009) indicate that government ownership is likely to lead to more voluntary IC disclosure in Malaysian listed companies. However, other studies find that a greater percentage of government ownership is not associated with the voluntary disclosure of information (Dhouibi & Mamoghli, 2013; Huafang & Jianguo, 2007; Mohd Ghazali & Weetman, 2006; Samaha & Dahawy, 2011).

In this current study, the relationship of government ownership has been examined to ascertain the existence of its positive relation to the degree of IC disclosure as it is with the rest types of voluntary disclosures. The proposition is that companies in the GCC that have government ownership will be motivated to disclosure greater IC information. Therefore, the next hypothesis is stated as follows:

*H17: There is a positive relationship between government ownership and the level of IC disclosure.*

### 3.3.3.2 Family Ownership

For family owned firms, members of the family often participate in essential positions on the board of directors as well as on the management team (Huafang & Jianguo, 2007; Mohd Ghazali & Weetman, 2006). By holding these positions, a controlling family will find it easier to gain access to information about the firm. Thus, in family owned firms there is likely to be a significant degree of asymmetry of information between founding families and other shareholders. Therefore, family members, as a part of the controlling shareholder, might have the incentives for private gains from the firms they control at the expense of minority shareholders (Anderson & Reeb, 2003; Chau & Gray, 2010; Md Nor *et al.*, 2010). In addition, Chau and Gray (2010) point out that the concentration of the company's power centered on the family, makes the power of monitoring, decision taking, transparency of information and other intrinsic aspects in the company more liable to judgment by the family. This, in effect, would lead to narrow opinions, which could impact the company's goals as well as the IC disclosure. Therefore, the entrenchment effect predicts that family ownership will motivate firms to provide less IC disclosure in order to hide such expropriation activities, for example, the related party transaction and other activities that transfer wealth from firms to family members (Hidalgo *et al.*, 2010). Therefore, they also have little incentive to disclose information to protect themselves.

The result showing the evidence from developing countries concerning the relationship of a high family ownership structure to voluntary disclosure is inconclusive. Some studies have shown that family ownership (measured by the proportion of family members to

total number of directors on the board) and the level of voluntary disclosure, have a negative relationship, such as Malaysia (e.g. Haniffa & Cooke, 2002; Jaffar *et al.*, 2013; Mohd Ghazali & Weetman, 2006), and Hong Kong (Ho & Wong, 2001). Similarly, Gan *et al.* (2013) find that family-controlled companies have fewer tendencies to disclose IC-related information compared to companies with diffused ownership. Others report that there is a positive association between family control and voluntary disclosure, see for example Hong Kong Chau and Gray (2010), and India Nandi and Ghosh (2013). However, Chakroun and Matoussi (2012), Hidalgo *et al.* (2010), and Md Nor *et al.* (2010) find an insignificant relationship between the voluntary disclosure level and family ownership in Tunisia, Malaysia, and Mexico, respectively.

However, empirical research in the past only focused on the relationship of family ownership to the practices of voluntary disclosure. Empirical studies that have investigated the relationship of family ownership to the degree of voluntary disclosure of IC have been few. This study aims to fill this gap in the literature. Therefore, based on the entrenchment effect and the discussion above, the following hypothesis is proposed:

*H18: There is a negative relationship between family ownership and the level of IC disclosure.*

### **3.3.3.3 Institutional Ownership**

Institutional ownership is an exceptional shareholder group that, relatively, has a concentrated large stake of shares. Being traditional owners, institutional investors take



order, which allows them to carry out greater direct control on the managers of the company.

According to the advocates of the efficient-monitoring proposition, institutional investors give motivation for a careful and thorough supervision as they possess resources, skills and motivation to regularly supervise management's actions and guard against the behavior of managers for unfair advantage (Friend & Lang, 1988; Huafang & Jianguo, 2007; Jensen & Meckling, 1976; Shleifer & Vishny, 1986). This, in turn, reduces information asymmetry between the insider and outsider owners and lowers the agency costs (Barako *et al.*, 2006).

However, justifications for the frequent exercise of the supervisory role by the institutional ownership on the team of firm management have been noted. First, if such ownership has a large stake. In this case, the institutional investors possess greater motivation to supervise the practices of corporate disclosure. Therefore, information could be disclosed voluntarily by managers in order to fulfill the anticipation of larger shareholders (Barako *et al.*, 2006). Second, being traditional owners, institutional investors take order, they are capable and possess experience to monitor the management of the company with respect to agency costs and make it more profitable. This will allow them to carry out greater direct control on the managers of the company (Hidalgo *et al.*, 2010). Therefore, knowledge of finance is obtained by institutional investors and they are good at interpreting the disclosed information in the yearly reports (Bos & Donker, 2004). Third, long term investments is obtained by institutional ownership, and, hence, they also have essential motivation to regularly supervise managers (Jung & Kwon,

2002). Accordingly, it has been proposed that the managers disclose more information in the yearly reports to reduce the agency costs associated with the activities of supervision and lessen the asymmetry of information (Huafang & Jianguo, 2007; Mohd Ghazali & Weetman, 2006). Therefore, companies with institutional ownership report more information about IC disclosure.

Empirical studies between institutional ownership and corporate voluntary disclosure show controversial results. Some studies report a positive relationship between institutional ownership and the degree of corporate voluntary disclosure (Barako *et al.*, 2006; Chakroun & Matoussi, 2012; Rouf & Al Harun, 2011; Uyar *et al.*, 2014). Other studies report a negative relationship (Bushee & Noe, 2000; Haniffa & Cooke, 2002; Jiang & Habib, 2009). While others find no association between institutional ownership and the degree of corporate voluntary disclosure (Donnelly & Mulcahy, 2008; Khodadadi *et al.*, 2010; Matoussi & Chakroun, 2009; Md Nor *et al.*, 2010; Saha & Akter, 2013; Sartawi *et al.*, 2014). Recently, Ahmed Haji and Mohd Ghazali (2013) indicate that there is no relationship between the disclosure of IC and the extent of institutional ownership.

It is evident from the above discussion that increased institutional ownership can lead to an increased level of IC disclosure. The present study aims to examine this relationship in the context of GCC top listed firms. The reason lies in the fact that institutional ownership is one of the kinds of ownership structure in GCC countries. Therefore, based on the private benefit hypothesis and the discussion above, the following hypothesis is proposed:

*H19: There is a positive relationship between institutional ownership and the level of IC disclosure.*

#### **3.3.4 Effectiveness of Audit Committee as Moderator**

In the GCC member states, three shareholder groups typically have substantial equity ownership in companies listed on the GCC stock exchanges. These groups are the government and its agencies, family, and institutional ownership, all of whom may influence the level and quality of disclosure (Al-Musalli & Ku Ismail, 2012a; Al-Shammari, 2008). Previous studies have shown that ownership structure is a determinant of IC disclosure and fail to provide conclusive results (Azman & Kamaluddin, 2012; Ferreira *et al.*, 2012; Firer & Williams, 2003; Gan *et al.*, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2007; Li *et al.*, 2008; Oliveira *et al.*, 2006; White *et al.*, 2007; Woodcock & Whiting, 2009; Yau *et al.*, 2009).

The level of agency problem and information asymmetry between majority and minority shareholders depends on the corporate governance effectiveness (Akhtaruddin & Haron, 2010; Chobpichien *et al.*, 2008; Ho & Wong, 2001). For example, in companies that are owned or controlled by large shareholder which have effective audit committee will reduce information asymmetry and agency problem by enforcing the management to disclose more information to outside party. However, Audit committee effectiveness has been suggested as being an important instrument that can play a crucial role in moderating the association between the ownership structure and the level of voluntary disclosure (Akhtaruddin & Haron, 2010; Li *et al.*, 2008). In addition, audit committee

effectiveness has been recognized as being an important corporate governance system to regulate agency problems and enhance corporate voluntary disclosure (Akhtaruddin & Haron, 2010; Ho & Wong, 2001; Li *et al.*, 2008). Furthermore, Chung *et al.*, (2004) note that the agency theory asserts that an audit committee decreases the asymmetry of information, reduces managerial opportunism, and enhances the quality of disclosure.

The effectiveness of the audit committee is firmly fixed in its members' independence, chairman independence, size, financial expertise, multiple directorships, frequency and attendance of meetings. For instance, independence of the audit committee is generally believed to be one of the main features related to audit committee effectiveness. In addition, Akhtaruddin and Haron (2010) note that formation of audit committees with more outside directors indicates less interference from management to exercise their independence, and improving audit committee effectiveness. Therefore, decrease in agency costs. Chobpichien *et al.* (2008) suggest that if the chairman of the audit committee is independent with independent directors it will lead to an improvement in audit committee effectiveness and enhance the quality of disclosure. Audit committee expertise is also another feature apart from independence of the audit committee. The former have been connected to the effectiveness of the audit committee and have attracted substantial attention in the previous literature. For example, Agrawal and Chadha (2005) note that independent directors having financial skill knowledge are very capable of in taking charge in financial reporting. In a similar way, Mustafa and Youssef (2010) show that the independence of audit committee could not be considered as being effective unless the members have financial expertise. Multiple directorships constitutes a

part of the expertise of the audit committee. Ismail *et al.* (2008) argue that multiple directorships among members of the audit committee add enrichment to the members as they hold different experiences and backgrounds of company management. Similarly, other studies like Ruzaidah and Takiah (2004) explain that multiple directorships would improve audit committee expertise and allow effective monitoring of companies to generate quality reporting.

Furthermore, frequency of audit committee meetings is another feature that has been connected to the effectiveness of the audit committee. Haji-Abdullah and Wan-Hussin (2009) argue that the frequency of audit committee meetings with attendance is more effective in monitoring management and can possibly enhance the quality of financial reporting (Haji-Abdullah & Wan-Hussin, 2009). In addition, they also consider the number of meetings and attendance as the main factors affecting audit committee effectiveness. The agency theory suggests that if the resources earmarked for the internal audit function are large, the supervision of the committee will be very efficient concerning the disclosure of value-relevant information, which, in turn, may lower agency costs (Haji-Abdullah & Wan-Hussin, 2009). However, The effectiveness of the audit committee has been treated as a moderator variable in this study, as Akhtaruddin and Haron (2010) have shown that the negative association between board ownership and the level of corporate voluntary disclosure may be due to weaker audit committee effectiveness in companies, and, conversely, the positive effect with higher audit committee effectiveness. However, this study differs from previous disclosure studies by

examining the audit committee effectiveness as a moderator on the government, family and institutional ownership-IC disclosure relationship.

As mentioned before numerous studies that have investigated the relationship between ownership structure and voluntary disclosure fail to provide clear results. Perhaps these past studies never considered the influential role of audit committee effectiveness in this association. Therefore, the positive relation, as shown by the results, could be because of the effectiveness of the audit committee while the negative result could be attributed to a weak audit committee. This implies that audit committees have been investigated in isolation from other factors in these past studies. The current study examine the interaction between audit committee effectiveness and these types of ownership structure and how this interaction influences the decisions of manager with respect to the disclosure of IC in the top listed companies in the GCC countries where legal protection and law enforcement is low. By providing a score for audit committees on the basis of its characteristics, the current researcher hypothesizes the positive influence of the effectiveness of audit committee between different types of ownership structure and the disclosure level of IC. Thus, the following propositions are made:

*H20: The effectiveness of the audit committee positively moderates the relationship between government ownership and IC disclosure.*

*H21: The effectiveness of the audit committee positively moderates the relationship between family ownership and IC disclosure.*

*H22: The effectiveness of the audit committee positively moderates the relationship between institutional ownership and IC disclosure.*

### **3.4 Summary**

This chapter discusses the research design. The research design is based on the theoretical framework and hypotheses development. Starting with an overview of the theoretical framework of this study, the chapter recognizes several variables for the board and audit committees, ownership structure and developed a number of hypotheses regarding the influence of IC disclosure. The hypotheses about the moderating effect of audit committee effectiveness between ownership structure and IC disclosure are developed at the end of the chapter. In the following chapter, the measurement of the variables and the collection of data are described.

## **CHAPTER FOUR**

### **RESEARCH METHODOLOGY**

#### **4.1 Introduction**

This chapter primarily aims to provide an explanation of the sample collection, measurement, and analysis to examine the hypotheses. In order to achieve the objectives of the study, the researcher used content analysis of the secondary data provided in the corporate annual reports. The sample selection is provided in Section 4.2. Section 4.3 presented content analysis, while the measurement used in the study for the dependent variable and independent variables as well as the measurement of the moderating variable and control variables are explained in Section 4.4. This is followed by section 4.5, which explains the data analysis technique. Section 4.6 discusses the repression model. The last section, 4.7, summarizes the chapter.

#### **4.2 Sample of Study**

##### **4.2.1 Population**

The population in this study is companies listed in the GCC countries. This research uses secondary data from annual reports of listed firms in the GCC countries for 2011. This period is considered due to most of the GCC countries released a code on corporate governance between 2001 and 2010.



#### **4.2.2 Sample**

The study aims to investigate the effect of the board and audit committee characteristics, and ownership structure on the level of intellectual capital (IC) disclosure. The sample of the present study was drawn from top companies listed on the GCC stock market based on their market capitalization for 2011. The top capitalization is taken in the study because the top companies have an incentive to provide additional information as they are dependent on their stakeholders, as emphasized by Vergauwen *et al.* (2007). In addition, top companies are most likely to engage in voluntary disclosure practices to enhance their chance of attracting global investments (Mohd Ghazali & Weetman, 2006). Moreover, the annual reports of top firms by market capitalization represent the concerns and interests of firms for being benchmarked for best practice of corporate governance (Abeysekera & Guthrie, 2005; Yau *et al.*, 2009). Furthermore, Abeysekera and Guthrie (2005) suggest that, in aggregate terms, bigger companies are likely to possess more IC disclosure because they are more visible and have more resources at their disposal to sponsor new initiatives. Therefore, the content analysis in the present study focuses on IC information provided voluntarily in the annual reports of top companies that is not required by an accounting standard or company law.

#### **4.2.3 Sample Selection**

For the purpose of practicality, sampling is carried out as opposed to collecting data from every unit of the population owing to the fact that sample selection leads to more reliable results (Sekaran, 2003). The present study follows the method developed by Krejcie and Morgan (1970) who constructed a table and diagram showing the population and sample

size requirement for the purpose of the researcher's consideration, which is useful for conducting this research. The sample of this study is determined using the stratified sampling technique. This type of sampling is used by researchers to ensure that the different groups of a population are adequately represented in the sample so as to increase the level of accuracy in estimating the parameters (Nachmias & Nachmias, 1996). In other words, stratified sampling is the best sampling design when there are strata populations available that are able to provide the information needed (Sekaran, 2003).

As mentioned in Chapter 2 section 2.6.1, the GCC countries comprise six Arab states: Bahrain, Oman, Qatar, Saudi Arabia, UAE, and Kuwait, which share many common characteristics and similarities that by far outweigh any differences and unite them under a common umbrella. These characteristics include a common language (Arabic), shared religious and cultural heritage, similar geographical conditions, infrastructure, and economic structures (Abdul-Gader, 1997). For this reason, previous studies look at GCC countries as a single block (i.e. one country) such as Al-Khoury (2011), Al-Muharrami *et al.* (2006), Al-Musalli and Ku Ismail (2012a), (2012b), Arouri *et al.* (2011), and Chahine (2007). Tables 4.1 below show the details of sample selection.

Table 4.1  
*Sample Selection GCC Listed Firms*

	<b>Bahrain</b>	<b>Oman</b>	<b>Qatar</b>	<b>Saudi Arabia</b>	<b>UAE</b>	<b>Kuwait</b>	<b>Total</b>
Listed of firms end of 2011	50	124	42	152	141	0	509
Stratified sampling 43%	21	53	18	65	60	0	217
Incomplete data	(2)	(21)	(9)	(35)	(31)	0	(98)
Sample size	19	32	9	30	29	0	119
Financial	14	12	7	11	13	0	57
Non-Financial	5	20	2	19	16	0	62

As presented in Table 4.1, the total number of listed firms on GCC Stock Exchanges in the end of 2011 was 509. According to Krejcie and Morgan (1970) the representative sample for the population is 217 firms. Therefore, the stratified sampling represented 43% (i.e.  $509 / 217$ ). The samples in this study must have the following criteria:

1. Firms listed on GCC Stock Exchanges.
2. The firms published their annual report of 2011 on their website or on the stock exchange of the respective country.
3. The annual report was accessible and contained the complete information needed.

Based on the above criteria, all Kuwaiti listed firms, and several firms in other GCC countries were omitted from the sample because of missing relevant information such as corporate governance variables. Therefore, the final sample consists of 119 out of 217 firms from each country as follows: Bahrain (19), Oman (32), Qatar (9) Saudi Arabia (30), and UAE (29). The top 119 firms based on market capitalization value were selected as a sample in this study from each country.

As the sample size needed for running multivariate regression should be five (Coakes, 2005; Green, 1991) for each variable tested, the sample size of 100 is quite acceptable (Coakes, 2005; Roscoe, 1969) and manageable within the period of the study (Bukair & Rahman, 2015; Gan *et al.*, 2013; Li *et al.*, 2012; Li *et al.*, 2008). Therefore, the sample size of this study is quite acceptable and comparable with the samples used in most other IC disclosure studies as well as content analysis (Such as the studies by Gan *et al.*, 2013; Hidalgo *et al.*, 2010; Li *et al.*, 2012; Li *et al.*, 2008).

The types of data acquired for this study include: (1) IC disclosure, (2) characteristics of board and audit committee (3) ownership structure of the firm, (4) industry types, firm size, profitability, leverage and country. The above data are secondary data in nature. Data concerning a firm's IC disclosure and other variables are derived from its annual report. The annual reports are obtained from the stock exchange in countries or the firm websites. The choice of annual reports as a source of information for IC research is made for several reasons. First, management regularly signal important issues using this reporting mechanism, and annual reports also represent the corporate concern in a comprehensive and compact manner (Abeysekera & Guthrie, 2005). Second, annual reports are considered the most prevalent and acknowledged document regularly produced by the companies in the GCC countries. They are also regarded as the key means by which information about the company is provided (Khan, Halabi, & Samy, 2009). Thus, in this study, annual reports are extensively analyzed.

#### **4.3 Content Analysis**

To explore the IC disclosure of the top capitalization companies operating in the GCC countries, this study uses content analysis, which is a technique for codifying the text (or content) of a piece of writing into different groups (or categories) responding to chosen standards (Weber, 1990), based on the objectivity and reliability. The objective of criterion defined by Gray, Kouhy, & Lavers (1995) requires that independent judges would be able to similarly recognize what was and was not IC disclosure. Content analysis has been widely used in previous studies of IC (Brennan, 2001; Cerbioni & Parbonetti, 2007; Guthrie & Petty, 2000; Li *et al.*, 2012; Li *et al.*, 2008; 2006). To

develop the checklist instrument of content analysis, this study requires the choice of groups into which content units can be categorized.

Prior studies in the content analysis of the IC disclosure research have adopted the number of words, sentences, and/or pages to measure the volume of disclosure, which are the preferred units of analysis in written communication (Gray *et al.*, 1995). The theoretical literature does not give an overpowering explanation for preferring any one of the three units of analysis over the others (Williams, 1999). In this study, the unit of analysis is a sentence and the analysis is carried out based on the 2011 annual reports of the 119 selected companies listed in the GCC countries. There are several reasons for choosing the number of sentences as the unit of analysis: coding is in sentences and using sentences for both coding and measurement seems likely to provide complete, reliable and meaningful data for further analysis (Milne & Adler, 1999). In addition, sentences form easily identifiable wholes, and, additionally, are preferred when inferring meaning (Abeysekera & Guthrie, 2005). Furthermore, the sentences count method is more appropriate than the word count in drawing inferences from narrative statements. Also, the sentence count method provides a more appropriate starting point from which to convert charts, tables and photographs into equivalent lines so that the text, charts, tables, and photographs can be compared on a common basis (Abeysekera & Guthrie, 2005). The justification is that when judged against sentences, single words are of little consequence when out of context while paragraphs or sections of pages may contain several distinct meanings or threads that are problematic to code.

Milne and Adler (1999) suggest that using multiple coders will help achieve the reliability of the analysis and measurement. To test the reliability the researcher reviews a small sample of annual reports in the first instance using the coding process and re-analyses the same data after two weeks. The coded data are subsequently compared and any differences were resolved. The study uses three steps to analyze the annual reports. The primary, relevant data of the IC disclosure items in any section of the annual report were collected. After that, the IC disclosure items were categorized into one of the content themes. Lastly, the number of sentences for each IC disclosure item were calculated.

Following Guthrie *et al.* (2008), Milne and Adler (1999) and Yau *et al.* (2009) this study uses the following steps in order to increase reliability and validity in recording and analyzing data. First, the IC disclosure categories adopted from well-grounded, relevant literature, i.e. Sujan and Abeysekera (2007) who adapted their framework from well-grounded, relevant literature, i.e. (Sveiby, 1997), and (Guthrie & Petty, 2000). Second, the sentence was selected as the measurement unit to increase the validity of the content analysis (Milne & Adler, 1999). Third, the coder underwent a sufficient period of training, and a pilot study was conducted in order to reach an acceptable level of the reliability of the coding decisions. According to Weber (1990), testing a sample of documents in a pilot study before conducting the main content analysis gives the researcher practical experience that may improve the reliability result of the content analysis. In addition, this will enable the researcher to become more familiar with the

process of content analysis. In doing so, random annual reports were chosen and analyzed to ensure the usability of the framework.

The researcher then analyzed the content of annual reports of thirty firms surveyed as pilot work completed prior to gathering the primary data for this study. Throughout the pilot work, difficulties concerning, *inter alia*, the interpretation of the decision rules were noted and clarified. Solutions were discussed with the supervisor and other academics that have previous experience in using content analysis. To assist with the uniformity of scoring, one researcher completed the research instrument. Furthermore, to increase the dependability of the measurement, rescoring was conducted on twenty firms, which were randomly selected, three weeks after the initial analysis.

#### **4.4 Operationalization of Variables**

##### **4.4.1 Measurement of Dependent Variable: IC Disclosure**

The dependent variable in this study is IC disclosure in the annual reports of the top capitalization companies. There are several reasons for adopting Sujan and Abeysekera's 2007 framework in this study; firstly, they developed their framework based on Guthrie and Petty (2000), which has been adopted and employed by several studies on top capitalization companies for example (April *et al.*, 2003; Bozzolan *et al.*, 2003; Brennan, 2001; Guthrie *et al.*, 2006; Yau *et al.*, 2009). In addition, the framework of Sujan and Abeysekera (2007) captures IC reporting by allocating qualifying content into one of three major categories, which are internal, human and external capital. Within the internal capital category there are nine items, the external capital category also has nine items and

the human capital category seven items, making a total of 25 items; Table 4.2 presents the 25 IC items under the three IC categories.

However, in terms of items their framework has one item more than that of Guthrie and Petty, i.e. 24 items. It is important to mention here that under human capital, Sujan and Abeysekera's (2007) framework differs from Guthrie and Petty (2000) by adding one item – training. However, by adding this item, Sujan and Abeysekera's (2007) framework is similar to that of Li *et al.* (2008). Secondly, as their framework was applied on the top capitalization companies, only those items that have been consistently identified as relevant and likely to be disclosed by top companies were included. Further, their study remains as one of the few undertaken in the top companies in an emerging economy context. Thus, it is a suitable benchmark for further studies in the top companies in emerging economies. Tables 4.2 show the categories of IC disclosure and their items.

Table 4.2

*IC Framework Adopted for the Study*

<b>Internal capital</b>	<b>External capital</b>	<b>Human capital</b>
1. Patents	1. Brands	1. Know how
2. Copyrights	2. Customers	2. Education
3. Trademarks	3. Customer loyalty	3. Vocational qualifications
4. Management philosophy	4. Company name	4. Training
5. Corporate culture	5. Favorable contracts	5. Work related knowledge
6. Management processes	6. Distribution channels	6. Work related competence
7. Information systems	7. Business collaboration	7. Entrepreneurial spirit
8. Networking systems	8. Licensing agreements	
9. Financial relations	9. Franchising agreements	

Source: Ahmad Sujan and Indra Abeysekera (2007, page 77)



#### **4.4.2 Measurement of Independent Variables**

The present section provides the operational meanings of the individual independent variables included in the hypothesis. The independent variables are categorized into three, namely, board of directors' characteristics (e.g. independence, size, shareholding, nationality, multiple directorships, meetings and board committees), audit committee characteristics (e.g. independence, chairman, size, financial expertise, multiple directorships, frequency and attendance of audit committee meetings) and ownership structure (e.g. government, family and institutional ownership).

##### **4.4.2.1 Board of Directors' Characteristics**

###### **4.4.2.1.1 Board Independence**

Board independence was measured by the ratio of independent non-executive directors to the total board directors. Such measurement has also been used by prior studies in the literature in the context of developing countries (Akhtaruddin & Haron, 2010; Alhazaimeh *et al.*, 2014; Al-Shammari & Al-Sultan, 2010; Bukair & Rahman, 2015; Dhouibi & Mamoghli, 2013; Ahmed Haji & Mohd Ghazali, 2013; Hidalgo *et al.*, 2010; Jaffar *et al.*, 2013; Khan *et al.*, 2013; Khan, 2010; Khodadadi *et al.*, 2010; Md Nor *et al.*, 2010; Moeinfar *et al.*, 2013; Nandi & Ghosh, 2013; Rouf, 2011; Saha & Akter, 2013; Samaha & Dahawy, 2011; Taliyang & Jusop, 2011; Uyar *et al.*, 2014; Yanesari *et al.*, 2012).

#### **4.4.2.1.2 Board Size**

The size of the board is measured by the total number of directors on the company board. Such measurement has been used by previous studies, see for example Akhtaruddin *et al.* (2009), Alhazaimeh *et al.* (2014), Allegrini and Greco, (2011), Barako *et al.* (2006), Cerbioni and Parbonetti (2007), Cheng and Courtenay (2006), Dhouibi and Mamoghli (2013), Ahmed Haji and Mohd Ghazali (2013), Lim *et al.* (2007), Rahman and Bukair (2015), Saha and Akter, (2013), Sartawi *et al.* (2014), and Uyar *et al.* (2014).

#### **4.4.2.1.3 Board Shareholding**

Board of director shareholding is measured by the proportion of non-executive directors who are shareholders divided by the total number of directors on the board of a particular company. This measurement has been used by Madi (2012).

#### **4.4.2.1.4 Board Nationality**

Board nationality is gauged via the proportion of foreign national directors to the total number of directors on the board, as suggested by Barako and Brown (2008), Khan (2010), and Sartawi *et al.* (2014).

#### **4.4.2.1.5 Board Multiple Directorships**

Board multiple directorships is measured as the total number of board seats that each board member holds in other firms and organizations (Al-Musalli & Ku Ismail, 2012b; Ong, Wan, & Ong, 2003; Wincent, Anokhin, & Örtqvist, 2010). According to Ong *et al.* (2003), this measure provides an accurate measure of multiple directorships. Finkelstein

(1992) states that this measure effectively captures board interlocking since the greater the number of board directorships, the greater the ability of board members to access to strategic information, innovative ideas, and to absorb uncertainty in the institutional environment.

#### **4.4.2.1.6 Board Meetings**

Board meetings is measured as the number of meetings held by the board of directors during the accounting year. The same measure has been used by prior studies as a proxy for the meeting of the board of directors (Ahmed Haji & Mohd Ghazali, 2014; Alhazaimah *et al.*, 2014; Barros *et al.*, 2013; Wincent *et al.*, 2010).

#### **4.4.2.1.7 Board Committees**

As mentioned earlier, board committees are an important tool that can improve the effectiveness of the board of directors. According to Cerbioni and Parbonetti (2007), committees (audit, nominating and compensation) are needed for the board of directors to function effectively, and, ultimately, it impacts on the quality and level of IC voluntary disclosure. This study measures board committees by giving one for firms that have three committees – nominating, compensation and audit, and zero otherwise (Cerbioni & Parbonetti, 2007; Ishak & Al-Ebel, 2013).

#### **4.4.2.1.8 Board of Directors' Effectiveness**

By following prior studies (e.g. Brown & Caylor, 2006; Chobpichien *et al.*, 2008; Singh & Van der Zahn, 2008), this study measures the effectiveness of the board of directors by

a composite measure that combines seven characteristics of the board of directors' members: independent board of directors, size, shareholdings, nationality, multiple directorships, meetings and board committees. Next, a dummy variable for each of the seven characteristics is developed, whereby each sample firm is coded 1 if the value of the corresponding board of directors characteristic was above the sample median and 0 otherwise. Table 4.3 describes the process used to create the dummy variables for the seven board of directors' characteristics.

Table 4.3

*Constructing the Board of Directors' Effectiveness Score*

	It ranges from 1 to 0 with the higher score indicating the higher effectiveness of the board
Board independence	A firm is coded "1" if the number of independent directors on the board is greater than the sample median, and "0" otherwise.
Board size	A firm is coded "1" if the number of directors on the board is greater than the sample median and "0" otherwise.
Board shareholding	A firm is coded "1" if the proportion of non-executive directors who own shares on a firm is greater than the sample median, and "0" if otherwise
Board nationality	A firm is coded "1" if the proportion of foreign national directors on the board is greater than the sample median, and "0" otherwise.
Board multiple directorship	A firm is coded "1" if the number of board of directors with multiple directorship is greater than the sample median, and "1" otherwise.
Board meeting	A firm is coded "1" if the number of meetings held by the board during the year is greater than the sample median, and "0" otherwise.
Board committee	Board committees is assigned "1" if the firm has three committees – nominating, audit and compensation – and "0" otherwise.

Finally, the new dummy variables for the seven board of directors' characteristics are summed to create a composite measure for board of directors' effectiveness. In this case, the board of directors' effectiveness would range from 0 to 7. The greater the value, the more effective is the board directors.

#### **4.4.2.2 Audit Committee Characteristics**

##### **4.4.2.2.1 Audit Committee Independence**

Audit committee independence is measured by the proportion of independent directors on the audit committee relative to the total number of audit committee members, as was also used by Akhtaruddin and Haron (2010), Barros *et al.* (2013), Madi *et al.* (2014), Nekhili *et al.* (2010), Othman *et al.* (2014) and Persons (2009).

##### **4.4.2.2.2 Audit Committee Chairman Independence**

The Code of Corporate Governance of GCC countries requires listed companies to have an independent chairman of the audit committee. Audit committee chairman independence is measured by dummy variables. If the chairman of audit committee is an independent member, it is coded as 1 and 0 otherwise. This measurement is similar to that used in a previous study (Chobpichien *et al.*, 2008).

##### **4.4.2.2.3 Audit Committee Size**

The size of the audit committee is measured by the number of directors on the audit committee. This number includes both non-executive independent directors and non-executive non-independent directors. The number of audit committee directors has been extensively considered in audit committee studies as a measure of committee size, and has been used by many researchers, such as Gan *et al.* (2013), Hidalgo *et al.* (2010), Li *et al.* (2008), (2012), Madi *et al.* (2014), Othmana *et al.* (2014) and Taliyang and Jusop (2011).

#### **4.4.2.2.4 Audit Committee Financial Expertise**

The Code of Corporate Governance of GCC countries requires listed companies to include in their committees at least one member with accounting certification or financial expertise. However, as the code does not provide a specific definition of accounting or financial expertise, this study uses the Blue Ribbon Committee's definition to classify the audit committees that have members with accounting or finance expertise. Following Akhtaruddin and Haron (2010) and Othman *et al.* (2014), this study measures the financial expertise of the audit committee by the proportion of members with accounting or financial expertise on the audit committee.

#### **4.4.2.2.5 Audit Committee Multiple Directorships**

The multiple directorships variable is considered to be the number of director positions held by audit committee members in other companies, either as executive or non-executive directors. The total number of audit committee multiple directorships is used to compute the audit committee multiple directorships (Ismail *et al.*, 2008).

#### **4.4.2.2.6 Audit Committee Meetings**

The meetings of the audit committee are measured by the number of audit committee meetings held within the financial year of the annual report, as suggested by many researchers, such as Azman and Kamaluddin (2012), Barros *et al.* (2013), Gan *et al.* (2013), Li *et al.* (2012),(2008), Madi *et al.* (2014), Othman *et al.* (2014), and Taliyang and Jusop (2011).

#### 4.4.2.2.7 Audit committee Diligence

Audit committee diligence is measured by the proportion of the participation of the audit committee members in the meeting, as suggested by Barros *et al.* (2013).

#### 4.4.2.2.8 Effectiveness of Audit Committee

Following DeFond, Hann and Hu (2005) and Kiatapiwat (2010) this study captures the audit committee effectiveness by using a composite measure that combines seven audit committee characteristics into a single dichotomous variable. The seven characteristics of the audit committee are independent of audit committee, audit committee chairman independence, size, expertise in financial know-how, multiple directorships, meeting, and diligence. Table 4.4 describes how this study creates dummy variables for the seven audit committee characteristics.

Table 4.4

#### *Constructing the Audit Committees' Effectiveness Score*

Audit Committees, Effectiveness Score	It is bounded by "1-0," with a higher score indicating a greater effectiveness of the audit committee.
AC independence	A firm is coded "1" if the number of independent directors on the audit committee is greater than the sample median, and "0" otherwise.
AC chairman independence	A firm is coded "1" if the chairman of the audit committee is an independent director, and "0" otherwise.
AC size	A firm is coded "1" if the number of members on the committee is greater than the sample median and "0" if otherwise.
AC financial expertise	A firm is coded "1" if the proportion of financial experts on the committee is higher than the sample median and "0" otherwise.
AC multiple directorships	A firm is coded "1" if the number of audit committee members with high multiple directorships is greater than the sample median, and "0" otherwise.
AC meetings	A firm is coded "1" if the number of meetings during the year is higher than the sample median and "0" otherwise.
AC diligence	A firm is coded "1" if the average rate of the participation of the audit committee members in the meeting is greater than the sample median, and "0" otherwise.

Finally, the value of the seven dummy variables for each sample observation is summed to create a composite measure of audit committee effectiveness, potentially ranging from 0 to 7. The larger the value, the more effective the audit committee.

#### **4.4.2.3 Ownership Structure**

The term ownership structure in this study refers to the major owners of the companies (i.e. blockholders) since ownership of GCC companies is concentrated and involves a large set of blockholders including families, government, and institutional investors (Eng & Mak, 2003; Huafang & Jianguo, 2007). Blockholders are defined as shareholders who own at least 5% of a firm's common shares (Eng & Mak, 2003; Huafang & Jianguo, 2007). This study is interested in how the total fraction of shares held by such large owners influences the IC disclosure of the companies they own. In the GCC, information about the number of shareholders is hardly disclosed. However, information regarding the shares proportion owned by dominant shareholders (blockholders) is mandated by the GCC stock exchange. Specifically, the mandate states that each individual, corporation or government owning 5% or over should make a disclosure of their ownership (Al-Shammari *et al.*, 2008).

##### **4.4.2.3.1 Government Ownership**

Government ownership is measured as the aggregate percentage owned by the government and its agencies who own 5% or more of the ordinary shares. This measurement is used, for example, by Al-Musalli and Ku Ismail (2012)a; Ahmed Haji and Mohd Ghazali (2013), and Samaha and Dahawy (2011).



#### **4.4.2.3.2 Family Ownership**

Family ownership is measured as the aggregate percentage owned by the family who owns 5% or more of the ordinary shares. This measurement has also been used in other studies (e.g. Al-Musalli & Ku Ismail, 2012a; Chau & Leung, 2006; Chau & Gray, 2010).

#### **4.4.2.3.3 Institutional Ownership**

Institutional ownership is measured as the aggregate percentage owned by banks and financial institutions who own 5% or more of the ordinary shares. This measurement has been used by many researchers, such as (Alhazaimeh *et al.*, 2014; Eng & Mak, 2003; Ahmed Haji & Mohd Ghazali, 2013; Huafang & Jianguo, 2007; Juhmani, 2013).

### **4.4.3 Control Variables**

#### **4.4.3.1 Industry Type**

The literature establishes interpretation keys to expound on the industry effect on corporate disclosure. First, proprietary costs differ based on the industry (Verrecchia, 1983). Second, firms are urged to disclose information related to their industry in their annual reports (Cooke, 1992) by external investors who require such information relative to the status of the company to the industry so that they may assess the value of the company (Lev & Zarowin, 1999). Industry disclosure may also be influenced by the dominant company's behavior (Cooke, 1989). Moreover, historical events may also be behind the bandwagon effects (Cooke, 1989); in other words, the international exposure of a specific industry may influence the disclosure level (Raffournier, 1995). In addition, both Botosan (1997) and Nagar *et al.* (2003) contend that different disclosure levels could

prevail in different industries due to their varying disclosure needs and financial service firms have separate disclosure rules specific to their industry. However, industry type is a dichotomous financial and non-financial variable. In this study, the variable takes a value of one if it is a financial company; otherwise it takes a value of 0. This measurement is similar to the study by Bozzolan *et al.* (2006).

#### **4.4.3.2 Firm Size**

Most of the prior studies have shown that firm size is significantly associated with IC disclosure for example Bozzolan *et al.* (2006), Brüggén *et al.* (2009), Li *et al.* (2008), Oliveira *et al.* (2006), Rimmel *et al.* (2009), White *et al.* (2007), and Yau *et al.* (2009). The rationale behind this argument is that, first, larger companies tend to employ highly skilled individuals and sophisticated management reporting systems that are capable of providing an array of corporate information (Bozzolan *et al.*, 2006; Cooke, 1989; Depoers, 2000; Oliveira *et al.*, 2006). Second, larger companies are more likely to voluntarily disclose information because they are more visible to the public and may potentially face extra political costs; for example, increased regulation, pressure from labor unions for increased wages, consumer boycotts and higher taxes (Watts & Zimmerman, 1978). Third, the cost of providing detailed information for smaller corporations is relatively high compared to larger corporations (Singhvi & Desai, 1972). In addition, smaller corporations are reluctant to disclose full information to their competitors for strategic reasons. Because their annual report is the main source of information for their competitors, smaller firms are more likely to be reluctant to disclose

additional information about their activities that place them at a competitive disadvantage (Raffournier, 1995).

Company size has been measured in several ways in the literature, among them, Peng, Zhang and Li (2007) measured company size on the basis of the natural logarithm of the book value of the total assets of the bank. In this study, total firm assets are used as a proxy for size and log firm assets is used as a size variable in the multiple regression analyses to avoid the normality issue. In line with Akhtaruddin and Haron (2010), Donnelly and Mulcahy (2008), Hidalgo *et al.*, (2010), Huafang and Jianguo (2007), Dhouibi and Mamoghli (2013), Khan *et al.* (2013), Khodadadi *et al.* (2010), and Yanesari *et al.* (2012), this study measures firm size by using the natural logarithm of the book value of the total company assets.

#### **4.4.3.3 Profitability**

Studies in the literature show that profitability impacts the IC disclosure level in the annual reports, such as Cerbioni and Parbonetti, (2007) and Li *et al.* (2012), (2008). Li *et al.* (2008) posit that profitability might result from continuous investment in IC and that firms might disclose the required information to relay the importance of their investment decision for long-term growth in firm value. The empirical evidence shows that firms with high firm performance have more incentive to engage in higher disclosure (Gul & Leung, 2004; Li *et al.*, 2008).. Following Oliveira *et al.* (2006) and Yanesari *et al.* (2012), profitability is calculated as the annual net profit of the individual firm before tax divided by the average total assets.

#### **4.4.3.4 Leverage**

Leverage is gauged via the ratio of total liabilities against total assets, as measured by prior studies; for example, Eng and Mak (2003), Huafang and Jianguo (2007), Lim *et al.* (2007), and Uyar *et al.* (2014). Prior empirical studies have shown that leverage increases the level of voluntary disclosure in the annual reports (Eng & Mak, 2003; Ho & Wong, 2001; Lim *et al.*, 2007; Mohd Ghazali & Weetman, 2006). However, Chau and Gray (2002) contend that long-term creditors need adequate information from borrowers to decrease risks. Added to this, Meek *et al.* (1995) explain that a company having higher leverage is more likely to disclose greater information. In other words, the greater the leverage possessed, the higher will be the voluntary disclosure. More leverage is related to higher IC voluntary disclosure level. Prior studies dedicated to examining the relationship between corporate governance and IC disclosure widely utilized leverage as a control variable (e.g. Hidalgo *et al.*, 2010; Singh & Van der Zahn, 2008), and find that the leverage affects IC disclosure. Following Alsaeed (2006), Al-Shammari (2008), and Uyar *et al.* (2014) this study measures firm leverage by dividing total liabilities by the total assets.

#### **4.4.3.5 Country**

Country is measured as 1–5 dichotomous dummy for each country; for example, Bahrain takes 1 and 0 otherwise and the same thing applies for other countries (Bahrain, Oman, Qatar, Saudi Arabia and UAE). Countries are expected to have an impact on the voluntary disclosure level as could be affected by the national and cultural factors and. Debreceeny and Rahman (2005) maintain that although the choice of identifying material

and the manner in which it will be made available to the market is largely voluntary, the stock exchange's listing requirements, rules of securities agencies and accounting standards of respective countries can influence the frequency of continuous disclosure. In addition, the study by Patel and Dallas (2002) on the transparency and disclosure of firms from 23 countries suggests that disclosure levels in countries such as the United States is higher than developed markets in Asia and Latin America. The five countries we have chosen each has a continuous disclosure reporting regime that is available on its stock exchange website to all firms listed on the exchange and is also available to the public.

Table 4.5 summarizes the measurement of the dependent and independent variables.

Table 4.5

*Summary of the Operationalisation of the Research Variables*

<b>Variables</b>	<b>Acronym</b>	<b>Operationalisation</b>
<b>Dependent variable:</b>		
IC disclosure index	ICD	Intellectual capital disclosure level
<b>Independent variables:</b>		
Board independence	BODIND	The proportion of independent non-executive directors on the board to the total board directors.
Board size	BODSIZ	The total number of directors in the board of a firm.
Board shareholding	BODSH	The proportion of independent non-executive directors who own shares in the firm to the total directors in the firm.
Board nationality	BODNA	The proportion of foreign national directors to total directors on the board of a company.
Board multiple directorships	BODMD	Total number of board seats held by board members.
Board meetings	MODMEET	Number of board meetings during the accounting year.
Board committee	BODCOM	Dichotomous by giving one for a firm that has three committees, nominating, audit and compensation – and zero otherwise.
Board of directors' effectiveness	BoD_Score	Is bounded by "1-0," with a higher score indicating a higher effectiveness of board of directors.
Audit committee independence	ACIND	The proportion of independent directors on the audit committee to the total audit committee directors.
Audit committee chairman independence	ACCI	Dichotomous with 1 for audit committee has independent chairman and 0 otherwise.
Audit committee size	ACSIZ	Total number of directors on the audit committee.
Audit committee financial expertise	ACFE	The proportion of audit committee members with accounting or financial expertise.
Audit committee multiple directorships	ACMD	Total number of board seats held by audit committee member.
Audit committee meetings	ACMEET	The number of audit committee meetings held within the financial year of the annual report.

Table 4.5 (*continued*)

Variables	Acronym	Operationalisation
<b>Independent variables:</b>		
Audit committee diligence	ACDILI	The proportion of the participation of the audit committee members in the meeting.
Audit committees' Effectiveness	ACE_Score	Is bounded by "1-0," with a higher score indicating a higher effectiveness of audit committee.
Government ownership	GOVOWN	Percentage of 5% or more of the ordinary shares held by the government ownership.
Family ownership	FAMOWN	Percentage of 5% or more of the ordinary shares held by the family ownership.
Institutional ownership	INSOWN	Percentage of 5% or more of the ordinary shares held by the institutional investors.
<b>Control variables:</b>		
Industry types	INTYP	Dichotomous with 1 for financial firms and 0 otherwise.
Firm size	FSIZ	Natural log of total assets.
Profitability	ROA	The annual net profit of individual firm before tax divided by average total assets.
Leverage	LEVER	The ratio of total liabilities to total assets.
Country	COUNTRY	1-5 Dichotomous dummy for country (UAE, KSA, QA, OM and BA)
United Arab Emirates	UAE	Dichotomous with 1 United Arab Emirates companies and 0 otherwise.
Kingdom of Saudi Arabia	KSA	Dichotomous with 1 Kingdom of Saudi Arabia companies and 0 otherwise.
Qatar	QA	Dichotomous with 1 Qatar companies and 0 otherwise.
Oman	OM	Dichotomous with 1 Oman companies and 0 otherwise.
Bahrain	BA	Dichotomous with 1 Bahrain companies and 0 otherwise.

#### 4.5 Data Analysis Technique

Several statistical techniques can be used to obtain accurate conclusions about IC disclosure. Accordingly, the data are analyzed using descriptive and inferential statistics. Frequency count and percentage are used in descriptive statistics to define the research data, in keeping with Sekaran (2003), while the statistical tools of maximum, minimum, mean, standard deviation, and variance are appropriate for measuring the central tendency. Correlation and multiple regressions are used for inferential statistics. The Pearson correlation is used to measure the significance of linear bivariate between variables (Babbie, 2004; Zikmund, 2003). To determine the relationship between the independent, moderating and dependent variables, and the direction, degree and strength

of the relationship, hierarchical regressions are used (Hair, Anderson, Tatham, & Black, 1998).

#### **4.5.1 Correlations**

The researcher is also interested in testing the relationship between the variables for the hypotheses. Pearson correlation coefficients establish the relationships among the variables (Babbie, 2004; Zikmund, 2003). Pearson's correlation is used to see any association between the independent variables and the dependent variable. Through Pearson's correlation, the reader can identify whether there is any relationship between the variables. It shows the strength and direction of the relationship. However, as a rule of thumb, multicollinearity may be a problem if the correlation is more than 0.90 or several are more than 0.70 in the correlation matrix formed by all the independent variables (Cohen & Cohen, 1983).

#### **4.6 Regression Model**

As highlighted in chapter one, objectives 2, 4, and 6 of this research are to determine the IC disclosure-characteristics (board of directors and audit committee) and ownership structure and control variables relationship at the individual level. Objectives 3 and 5 are to determine the relationship between the board and audit committee characteristics effectiveness at aggregate levels with IC disclosure in GCC top listed firms. The seventh objective of this research is to investigate if the effectiveness of audit committees moderates the relationship between different types of ownership and IC disclosure. To achieve study objectives 2, 3, 4, 5, and 6, this study uses a multiple regression analysis.

However, multiple hierarchical regression analysis is conducted to test the moderator and to achieve the seventh objective of the study. The data of this study are analyzed using Statistical Package for Social Science (SPSS) version 19.0.

#### **4.6.1 Multiple Regression Analysis**

##### **Model 1:**

This model investigates the association between the characteristics of the board and audit committee at the individual level, and other independent and control variables with IC disclosure.

$$\begin{aligned} \text{ICD} = & \beta_0 + \beta_1 \text{BODIND} + \beta_2 \text{BODSIZ} + \beta_3 \text{BODSH} + \beta_4 \text{BODNA} + \beta_5 \text{BODMD} + \beta_6 \\ & \text{BODMEET} + \beta_7 \text{BODCOM} + \beta_8 \text{ACIND} + \beta_9 \text{ACCI} + \beta_{10} \text{ACSIZ} + \beta_{11} \text{ACFE} + \beta_{12} \\ & \text{ACMD} + \beta_{13} \text{ACMEET} + \beta_{14} \text{ACDILIG} + \beta_{15} \text{GOVOWN} + \beta_{16} \text{FAMOWN} + \beta_{17} \\ & \text{INSOWN} + \beta_{18} \text{INTYP} + \beta_{19} \text{FSIZ} + \beta_{20} \text{ROA} + \beta_{21} \text{LEVER} + \beta_{22} \text{UAE} + \beta_{23} \text{KSA} + \beta_{24} \\ & \text{QA} + \beta_{25} \text{OM} + \beta_{26} \text{BA} + e \end{aligned}$$

Where:

ICD= Intellectual capital disclosure, BODIND= Board independence, BODSIZ= Board size, BODSH= Board shareholdings, BODNA= Board nationality, BODMD= Board multiple directorships, BODMEET= Board meetings, BODCOM= Board committees, ACIND= AC independence, ACCI= AC chairman independence, ACSIZ= AC size, ACFE= AC financial expertise, ACMD= AC multiple directorships, ACMEET= AC meeting, ACDILIG= AC diligence, GOVOWN= Government ownership, FAMOWN=



Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman, BA = Bahrain.

### **Model 2:**

This model examines the association between the score for board and audit committee effectiveness and other independent and control variables with IC disclosure.

$$\begin{aligned} \text{ICD} = & \beta_0 + \beta_1 \text{BoDE\_Score} + \beta_2 \text{ACE\_Score} + \beta_3 \text{GOVOWN} + \beta_4 \text{FAMOWN} + \beta_5 \\ & \text{INSOWN} + \beta_6 \text{INTYP} + \beta_7 \text{FSIZ} + \beta_8 \text{ROA} + \beta_9 \text{LEVER} + \beta_{10} \text{UAE} + \beta_{11} \text{KSA} + \beta_{12} \text{QA} \\ & + \beta_{13} \text{OM} + \beta_{14} \text{BA} + e. \end{aligned}$$

Where:

ICD= Intellectual capital disclosure, BoDE\_Score = Score for effectiveness of board of directors, ACE\_Score = Score for effectiveness of audit committee, GOVOWN= Government Ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman, BA = Bahrain.

### **4.6.2 Hierarchical Regression**

Hierarchical regression determines the order of entry of the variables. F-tests are used to compute the significance of each added variable (or set of variables) to the explanation

reflected in R-square (Cohen & Cohen, 1983). This hierarchical regression procedure is an alternative to comparing betas for the purpose of assessing the importance of the independent variables. In more complex forms of hierarchical regression, Cohen and Cohen (1983) state that the model may involve a series of moderating variables, which are dependent with respect to some independent variables, but are themselves independent with respect to the ultimate dependent variable. Hierarchical multiple regression may then involve a series of regressions for each moderating effect in the relationship between the independent and dependent variables (Babbie, 2004; Zikmund, 2003).

The moderating variable in this study is the effectiveness of the audit committee, which is suggested to moderate the relationship between different types of ownership structure and the IC disclosure. In other words, the relationship between ownership structure and IC disclosure is contingent on the level of audit committee effectiveness. Therefore, to achieve the seventh objective of this study, which is examining whether the audit committee effectiveness moderates the relationship between different types of ownership (e.g. government, family and institutional ownership) and IC disclosure, controlling for Industry type, firm size, ROA and leverage and country, this study uses multiple hierarchical regression analysis. According to Baron and Kenny (1986), hierarchical regression is a suitable method for determining the moderating effect of a quantitative variable on the relationship between other quantitative variables.

Following Baron and Kenny (1986), the data are regressed using multiple hierarchical regression analysis in four steps. In the first step, the control variable (Industry type, firm

size, ROA, leverage and country) are regressed against the dependent variable. In the second step, the independent variables are regressed against the dependent variable. In the third step, the moderator variable is introduced. Finally, the independent variable is multiplied by the moderator and regressed against the dependent variable.

These four models are presented as follows:

Model 1:  $ICD = \alpha + \beta_1 INTYP + \beta_2 FSIZ + \beta_3 ROA + \beta_4 LEVER + \beta_5 UAE + \beta_6 KSA + \beta_7 QA + \beta_8 OM + \beta_9 BA + e.$

Model 2:  $ICD = \alpha + \beta_1 INTYP + \beta_2 FSIZ + \beta_3 ROA + \beta_4 LEVER + \beta_5 UAE + \beta_6 KSA + \beta_7 QA + \beta_8 OM + \beta_9 BA + \beta_{10} GOVOWN + \beta_{11} FAMOWN + \beta_{12} INSTINV + e.$

Model 3:  $ICD = \alpha + \beta_1 INTYP + \beta_2 FSIZ + \beta_3 ROA + \beta_4 LEVER + \beta_5 UAE + \beta_6 KSA + \beta_7 QA + \beta_8 OM + \beta_9 BA + \beta_{10} GOVOWN + \beta_{11} FAMOWN + \beta_{12} INSTINV + \beta_{13} ACE\_Score + e.$

Model 4:  $ICD = \alpha + \beta_1 INTYP + \beta_2 FSIZ + \beta_3 ROA + \beta_4 LEVER + \beta_5 UAE + \beta_6 KSA + \beta_7 QA + \beta_8 OM + \beta_9 BA + \beta_{10} GOVOWN + \beta_{11} FAMOWN + \beta_{12} INSTINV + \beta_{13} ACE\_Score + \beta_{14} GOVOWN \times ACE\_Score + \beta_{15} FAMOWN \times ACE\_Score + \beta_{16} INSTINV \times ACE\_Score + e.$

Where:

ICD= Intellectual capital disclosure, GOVOWN= Government Ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, ACE\_Score = Score for

effectiveness of audit committee, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman, BA = Bahrain.

#### **4.7 Summary**

This chapter discusses in detail sample selection, data sources, and variable measurements. Further, this chapter discusses the techniques that are used to test the hypotheses. The findings of the study are discussed in the following chapter.

## **CHAPTER FIVE**

### **FINDINGS**

#### **5.1 Introduction**

This chapter presents and discusses the results of this study in relation to the theory and past studies. The organization of this chapter is as follows. Section 5.2 presents the descriptive statistics for all the variables that were conducted through the regression model. Section 5.3 discusses the results of the diagnostic test. Additionally, Section 5.4 presents the multiple regression models results. The results of the moderating effect of audit committees' effectiveness are reported in section 5.5. Section 5.6 provides the results of the additional analysis. The overall findings of this study are discussed in Section 5.7. Finally, Section 5.8 ends up with a summary and conclusion of the chapter.

#### **5.2 Descriptive Statistics of Variables**

##### **5.2.1 Descriptive Statistics for IC of overall Categories**

To achieve objective one, the descriptive statistics of intellectual capital (IC) disclosure are reported in Table 5.1. Further, IC disclosure is categorized into three categories and these are: internal, external and human capital. With regard to overall IC disclosure, Table 5.1 reveals that the mean number of IC disclosure sentences disclosed is 153.72. The number of firms providing information is 119 and the number of sentences is 18293. This indicates that all the firms in the sample provided information about IC disclosure. With regard to the relative importance of the three categories of IC disclosure, as shown

Table 5.1, Internal capital is shown as the most reported category among the three categories with a percentage of 45% of the overall IC category. The external capital is graded as the second category with a percentage of 30% and finally human capital with a percentage of 25%.

Table 5.1  
*Descriptive Statistics for IC Categories*

	No of Sentences	Level of Disclosure	No of Firms	Mean Sentences	Std. Deviation
<b>Overall ICD</b>	18293	100.00	119	153.72	93.46
<b>Internal Capital</b>	8182	45.00	119	68.76	34.88
<b>External Capital</b>	5571	30.00	115	46.82	44.87
<b>Human Capital</b>	4540	25.00	115	38.15	36.40

#### 5.2.1.1 Internal Capital

In respect of internal capital items, Table 5.1 shows that 119 firms disclosed internal capital and that the number of sentences is 8182. This indicates that all the top firms in the GCC provide some information about internal capital disclosure. The average disclosure is 68.76 sentences. The result shows that internal capital items is the most reported category in the GCC top capitalization firms, which is similar with the results from prior IC disclosure studies. For instance, Bozzolan *et al.* (2003) find that reporting on the internal capital is the category most disclosed for Italian non-financial companies. Furthermore, Yau *et al.* (2009) find that disclosing information about the internal capital is the category most disclosed for public listed companies in Malaysia.

### 5.2.1.2 External Capital

Further, Table 5.1 also shows that reporting information about external capital is the second category disclosed for GCC top companies. The results reported that the number of companies that disclosed this internal capital is 115 and number of the sentences is 5571: indicating that most of the top companies in the GCC provide some form of external capital disclosure. The average disclosure is 46.82 sentences. This finding is similar with the findings from previous studies. For instance, Bozzolan *et al.* (2003) also find that reporting on the external capital is the second priority for Italian companies. Ali, Khan and Fatima (2008) find that disclosing information about external capital is the second dominant score for Bangladesh companies. Similarly, Wagiciengo and Belal (2012) find out that the external capital is the second most reported category for South African companies. This might be because that the external capital is considered as the most important by firms focusing on the disclosure of those elements of IC which are most related to the stakeholder (Vergauwen *et al.*, 2007).

Flöstrand (2006) points out the nexus between external capital and financial performance. Thus, a possible explanation for the widespread use of the information of external capital is the likelihood of being closely linked to cash flows and earnings. To explain, when a firm has a high market share, reputation and meets the customer needs, the cash flow and earnings will increase in this firm because it will have more customers. Thus, in order to increase the confidence of their customers and shareholders, the firm will disclose more information about the elements of external capital.

### **5.2.1.3 Human Capital**

The human capital is the least reported category. Table 5.1 shows that the average disclosure score for human capital is 38.15 sentences. The results reveal that the number of companies that disclosed internal capital is 115 and the number of sentences is 4540. The small proportion represented by human capital disclosure by GCC top firms might be justified that although managers are aware to offer relevant information to the outside parties, they are much discreet about the risks these information used by competitors (Bozzolan *et al.*, 2003; Yau *et al.*, 2009). Thus, concern about competitors using the information might be the reason that makes the firms in the GCC hesitate to disclose more information about human capital. This result is similar with the findings from prior IC disclosure studies (Bozzolan *et al.*, 2003; Yau *et al.*, 2009).

## **5.2.2 Descriptive Statistics for IC of overall Items**

### **5.2.2.1 Internal Capital Items**

In respect of the IC disclosure categories, Table 5.2 provides information about the nature of disclosure made by the sample firms based on internal capital items. With regard to internal capital categories, Table 5.2 shows that management processes is the most frequently reported among internal capital items. All the firms (119 firms) disclosed this item, where the mean of disclosure score is 27.39 sentences, thus indicating that all companies provide information about management processes. The three subcategories for internal capital most frequently reported after management processes are management philosophy with 14.55 sentences, corporate culture 14.28 sentences and information systems 4.58. However, the lowest disclosed items not only in this category, but also



among all IC disclosure items are patents, copyrights and trademarks. They are reported by only four to seven firms with a lower than average 0.05, 0.11 and 0.11, respectively. This could be due to a lack of knowledge of measuring such items or a lack of consensus about the need for such disclosure.

Table 5.2  
*Descriptive Statistics of Internal Capital Items*

	Sentences	Percent	Firms	Mean	Std. dev.
<b>Internal Capital:</b>					
Patents	6	0.03	4	0.05	0.32
Copyrights	13	0.07	4	0.11	0.75
Trademarks	13	0.07	7	0.11	0.56
Management Philosophy	1731	9.52	118	14.55	9.02
Corporate Culture	1699	9.35	112	14.28	10.80
Management Processes	3259	17.92	119	27.39	16.03
Information Systems	545	3.00	63	4.58	7.19
Networking Systems	470	2.59	89	3.95	3.96
Financial Relations	446	2.45	89	3.75	4.06
<b>Total</b>	8182	45.00		68.76	34.88

### 5.2.2.2 External Capital Items

With regard to external capital categories, Table 5.3 indicates that the company name is the most frequently reported. Most of the companies disclosed this item, with a mean disclosure score of 12.99 sentences (8.33%). The maximum value is 74 sentences and the minimum is 0, which indicates that most of the companies provided some information about company name. This item is followed by customer (11.98 or 7.69%), distribution channels (7.74 or 4.96%), customer loyalty (4.68 or 3.01%) and business collaborations (4.05 or 2.58%), which have a relatively higher disclosure level among the external capital items being reported. However, franchising and licensing agreements are the lowest frequently reported items with a low disclosure of 0.33 and 0.59, respectively.

Table 5.3  
*Descriptive Statistics of External Capital Items*

	Sentences	Percent	Firms	Mean	Std. dev.
<b>External Capital:</b>					
Brand	413	2.22	69	3.47	5.70
Customer	1426	7.68	87	11.98	17.26
Customer Loyalty	557	3.01	73	4.68	6.48
Company Name	1546	8.33	91	12.99	16.16
Favorable Contracts	117	0.63	29	0.98	2.48
Distribution Channels	921	4.96	84	7.74	9.64
Business Collaboration	480	2.58	85	4.05	4.62
Licensing Agreements	70	0.38	32	0.59	1.27
Franchising Agreements	39	0.21	22	0.33	0.87
<b>Total</b>	5571	30.00		46.82	44.868

### 5.2.2.3 Human Capital Items

In relation to the human capital items, Table 5.4 shows that the work related knowledge item and work related competence are the highest rated items with an average of 12.66 and 10.87, respectively. However, know-how and vocational qualifications are the least frequently reported attributes with an average of 0.32 and 0.83 sentences, respectively. These results support researchers in the field of innovation and economists that consider that the GCC States lag behind the developed countries (Jaruzelski & Dehoff, 2009; Rahman, 2010) because of (a) unsuitable climate for business and governance, (b) limitations in the level of education of human capital, (c) inadequate programmer for human capital learning and knowledge technology, and (d) insufficient budget for research and development.

Table 5.4  
*Descriptive Statistics of Human Capital Items*

	Sentences	Percent	Firms	Mean	Std. dev.
<b>Human Capital:</b>					
Know how	38	0.21	21	0.32	0.83
Education	696	3.83	65	5.85	7.66
Vocational Qualifications	99	0.55	32	0.83	1.74
Training	667	3.67	100	5.61	6.23
Work Related knowledge	1506	8.29	75	12.66	15.57
Work Related Competence	1294	7.13	73	10.87	14.09
Entrepreneurial spirit	240	1.32	66	2.02	2.97
<b>Total</b>	4540	25.00		38.15	36.398

### 5.2.3 Descriptive Statistics for IC Disclosure by Industry Type

With regard to the overall IC disclosure, Table 5.5 shows that the percentage of sentences disclosed by financial firms is 177.40 compared to 131.95 by non-financial firms. However, there is a difference between the mean for sentences of financial firms and non-financial firms. Regarding the IC categories, Table 5.5 shows that disclosing information about internal capital is the category most disclosed in the financial and non-financial sectors. All companies in both sectors provide at least some information about their internal capital. Financial and non-financial sectors disclose, on average of 81.67 and 56.89, respectively, of internal capital disclosure (46.00, 43.00 percent) and external capital. Most of the companies in both sectors provide some information about their external capital with an average of 49.58 and 44.27, financial and non-financial, respectively. Finally, human capital with an average of 46.16 and 30.79, for financial and non-financial, respectively.

Table 5.5

*Descriptive Statistics of IC Categories for Industry Class*

	Financial Firms				Non-Financial Firms			
	No	Percent	Mean	Rank	No	Percent	Mean	Rank
<b>Internal Capital</b>	4655	46.00	81.67	1	3527	43.00	56.89	1
<b>External Capital</b>	2826	28.00	49.58	2	2745	34.00	44.27	2
<b>Human Capital</b>	2631	26.00	46.16	3	1909	23.00	30.79	3
<b>Overall ICD</b>	10112	100.00	177.40		8181	100.00	131.95	

**5.2.3.1 Internal Capital Items**

Furthermore, Table 5.6 provides information about the nature of disclosure made by the sample firms based on the IC subcategory. Focusing on the internal capital category, ranking profiles are broadly similar for both sectors, the management process is similar for financial and non-financial firms, and is ranked first in both sectors with the highest percentage 18.67% and 16.70%, respectively. The following item, which is management philosophy, is ranked second (9.44%) in the financial sector and third (9.46%) in the non-financial sector. Corporate culture is ranked third (9.05%) in the financial and second (9.55%) in the non-financial firms, and information system is ranked fourth (3.90%) in the financial sector and sixth (1.83%) in the non-financial sector. However, the lowest rank among the internal capital category is patent, which is ranked ninth (0.01) in the financial sector and eighth (0.06%) in the non-financial sector, copyright is ranked seventh (0.11%) in the financial sector and ninth (0.02%) in the non-financial sector, and, finally, trademarks is ranked eighth (0.07%) in the financial sector and seventh (0.07%) in the non-financial sector.

Table 5.6

*Descriptive Statistics of Internal Capital Items for Industry Class*

	Financial Firms				Non-Financial Firms			
	No	Percent	Mean	Rank	No	Percent	Mean	Rank
<b>Internal Capital:</b>								
Patents	1	0.01	0.02	9	5	0.06	0.08	8
Copyrights	11	0.11	0.19	7	2	0.02	0.03	9
Trademarks	7	0.07	0.12	8	6	0.07	0.10	7
Management Philosophy	955	9.44	16.75	2	776	9.46	12.52	3
Corporate Culture	916	9.05	16.07	3	783	9.55	12.63	2
Management Processes	1889	18.67	33.14	1	1370	16.70	22.10	1
Information Systems	395	3.90	6.93	4	150	1.83	2.42	6
Network Systems	224	2.21	3.93	6	246	3.00	3.97	4
Financial Relations	257	2.54	4.51	5	189	2.30	3.05	5
<b>Total</b>	4655	46.00	81.67	1	3527	43.00	56.89	1

**5.2.3.2 External Capital Items**

With regard to external capital items, Table 5.7 shows that the highest rank among the external capital category is customer, which ranks first (7.63%) in the financial and second (8.13%) in non-financial firms, followed by company name, which is ranked second (6.57%) in the financial and first (10.94) in the non-financial firms; distribution channel is ranked third (5.93%, 3.99%) in both sectors. However, the lowest rank among the external capital items, which is favorable contract, is ranked ninth (0.20%) in the financial firms and seventh (1.20%) in the non-financial firms, franchising agreement is ranked eighth (0.25%) in the financial and ninth (0.17%) in the non-financial, and licensing agreements is ranked seventh (0.33%) in the financial and eighth (0.46%) in the non-financial.

Table 5.7

*Descriptive Statistics of External Capital Items for Industry Class*

	Financial Firms				Non-Financial Firms			
	No	Percent	Mean	Rank	No	Percent	Mean	Rank
<b>External Capital:</b>								
Brand	170	1.68	2.98	6	243	3.01	3.92	5
Customer	770	7.63	13.51	1	656	8.13	10.58	2
Customer Loyalty	344	3.41	6.04	4	213	2.64	3.44	6
Company Name	663	6.57	11.63	2	883	10.94	14.24	1
Favorable Contracts	20	0.20	0.35	9	97	1.20	1.56	7
Distribution Channels	599	5.93	10.51	3	322	3.99	5.19	3
Business Collaboration	202	2.00	3.54	5	280	3.47	4.52	4
Licensing Agreements	33	0.33	0.58	7	37	0.46	0.60	8
Franchising Agreements	25	0.25	0.44	8	14	0.17	0.23	9
<b>Total</b>	2826	28.00	49.58	2	2745	34.00	44.27	2

**5.2.3.3 Human Capital Items**

In respect of human capital items, Table 5.8 shows that the highest rank among human capital items is work related knowledge and competence, which rank first and second in both sectors with 8.72% and 7.52% for work related knowledge, and 7.69% and 6.22% for work related competence in financial and non-financial firms, respectively. However, the know-how and vocational are ranked lowest among the human capital items with rank seventh and sixth in the financial and non-financial firms, respectively.

Table 5.8

*Descriptive Statistics of Human Capital Items for Industry Class*

	Financial Firms				Non-Financial Firms			
	No	Percent	Mean	Rank	No	Percent	Mean	Rank
<b>Human Capital:</b>								
Know how	25	0.25	0.44	7	13	0.16	0.21	7
Education	430	4.25	7.54	3	266	3.20	4.29	4
Vocational Qualifications	73	0.72	1.28	6	26	0.31	0.42	6
Training	311	3.07	5.46	4	356	4.29	5.74	3
Work Related knowledge	882	8.72	15.47	1	624	7.52	10.06	1
Work Related Competence	778	7.69	13.65	2	516	6.22	8.32	2
Entrepreneurial spirit	132	1.30	2.32	5	108	1.30	1.74	5
<b>Total</b>	2631	26.00	46.16	3	1909	23.00	30.79	3

#### 5.2.4 Mean of Sentences for IC Disclosure by Industry Type

For the purpose of comparing between the financial firms and non-financial firms for the years 2011, an independent-samples t-test was conducted. Table 5.9 presents the results of testing whether there is any difference between the financial firms and non-financial firms for IC disclosure. Table 5.9 shows that the mean of sentences disclosed by financial firms is 177.40 compared to 131.95 by non-financial firms. However, the results of the t-test, as shown in Table 5.9, imply that the difference between the mean of sentences of financial firms and non-financial firms is significant ( $p > 0.05$ ). In terms of IC categories, internal capital and human capital, the results indicate that there are significant differences between financial firms and non-financial firms. Conversely, external capital, as shown in Table 5.9, implies that the difference between the mean of sentences of financial firms and non-financial firms is not significant ( $p < 0.05$ ). Overall, despite the difference in the number of firms between the two groups (financial and non-financial firms), in general, the results of the t-test indicate that the differences are significant. Thus, based on the findings of the t-test, it could be summarized that the level of IC disclosure is higher in the financial firms than in the non-financial firms.

Table 5.9  
*Mean of Sentences for IC Disclosure by Industry Type*

	<b>Industry</b>	<b>Mean</b>	<b>T-test</b>
<b>Internal Capital</b>	Financial	81.67	-4.09
	Non-financial	56.98	
<b>External Capital</b>	Financial	49.58	-0.64
	Non-financial	44.27	
<b>Human Capital</b>	Financial	46.16	-2.31
	Non-financial	30.79	
<b>Overall ICD</b>	Financial	177.40	-2.72
	Non-financial	131.95	

### **5.2.5 Board of Directors' Characteristics**

As shown in Table 5.10 the average of board independence reported in this study is 0.63. This average indicates that the GCC listed firms adhered to the established recommendations set out by the GCC Code of Corporate Governance, for the firms to have at least one third of the board consisting of independent directors. This average is similar with that reported by Al-Musalli and Ku Ismail (2012a), who find that the average representation of independent directors in GCC banks is five directors (0.63). However, this average for board independence in GCC listed firms is considered slightly higher in comparison with what has been found in other studies in other countries. For example the average of board independence is 0.34 for Hong Kong firms (Ho & Wong, 2001), 0.24 for china (Huafang & Jianguo, 2007) and 0.43 for Malaysia (Haniffa & Cooke, 2005).

In terms of board size, Table 5.10 indicates that the average board size reported in this study is 9 with a minimum of 5 and a maximum of 13 directors. Chahine (2007), Arouri *et al.*, (2011) and Al-Musalli and Ku Ismail (2012a) also revealed a similar average for GCC listed banks. However, this average for board size in GCC listed firms is considered slightly higher in comparison with what has been found in other studies in other countries.



Table 5.10  
*Descriptive Statistics for Continuous Variables*

	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Med.</b>	<b>No of firms above Med.</b>	<b>No of firms below Med.</b>	<b>Std. Dev.</b>
Board Independence	0.11	1.00	0.63	0.57	57	62	0.27
Board Size	5	13	8.86	9	41	78	1.67
Board Shareholdings	0.00	0.82	0.22	0.18	58	61	0.23
Board Nationality	0.00	0.57	0.11	0.00	48	71	0.16
Board Multiple Directorships	0	82	21.45	17	59	60	16.35
Board Meeting	2	12	6.37	6	43	76	2.07
Board Committees	0	1	0.54	1	64	55	0.50
Board Effectiveness	0.00	1.00	0.45	0.43	41	78	0.18

The statistics indicate that the average for board shareholding of the board of directors is 0.22 with a minimum of 0 and a maximum of 0.82 board shareholding directors in the GCC listed companies. This average is similar to that revealed by Madi (2012) for Malaysian listed firms for the period 2006 and 2009. He reported an average of 20 for 2006 and 22 for 2009. With respect to board nationality, the diversity measure varies from 0 to 0.57, with a mean of 0.11 and a standard deviation of 0.15. This indicates that, on average, national diversity tends to be low. This average is smaller than the figure reported by Al-Musalli & Ku Ismail (2012b) for GCC banks for period 2008-2010. Al-Musalli & Ku Ismail (2012b) reported an average of 0.22 for board nationality in GCC banks. Therefore, the smaller average of board nationality found in this study compared to prior research could be contributed to different sample characteristics.

In terms of board multiple directorships, top capitalization listed companies have, on average, 22 multiple directorship with a maximum value of 82 multiple directorship. This average is smaller than the figure reported by Al-Musalli & Ku Ismail (2012b) for GCC banks for the period 2008-2010. Al-Musalli & Ku Ismail (2012b) reported an average of

29 for board multiple directorships in GCC listed banks. Therefore, the smaller average of board multiple directorships found in this study compared to prior research could be contributed to different sample characteristics.

With regards to the frequency of board meetings, the statistics indicate that the average number of board meetings of the board of directors is six in the GCC top capitalization companies. Although the average number of board meetings of the board of directors provides evidence that, generally, the companies in the GCC follow the GCC Code of Corporate Governance recommendations (at least four times a year), some boards of directors hold fewer meetings than what the code recommends. This average was also reported by Barros *et al.* (2013). In terms of board committees, Table 5.11 presents the frequencies and percentage of firms that have board committees. Consistent with the important role of committees (audit, nominating, and compensation) in improving the quality of corporate voluntary disclosure, the statistics indicate that most of the firms, 64 (53.8%), have the three committees, while only 55 (46.2%) of the firms do not have the three committees.

Table 5.11  
*Board Committees*

	Total Firms	Percentage
Have three board committees	64	53.8
Not have three board committees	55	46.2
<b>Grand Total</b>	<b>119</b>	<b>100</b>

Regarding the board of directors' effectiveness, the average score for the effectiveness of the board of directors is 0.45 with the maximum score 1.00 and the minimum score 0.00

### 5.2.6 Audit Committee Characteristics

Based on the descriptive statistics ran on audit committee characteristics, the average audit committee independence is 0.67 as displayed in Table 5.12. This average indicates that GCC top capitalization listed companies have complied with the requirements of the GCC Code of Corporate Governance stating that independent directors should be predominant in the audit committee. This average is similar to that reported by Abeysekera (2010) for firms listed in Kenya for the period 2008-2010. Abeysekera (2010) reported an average of 3 for audit committee independence in Kenyan firms, which is equal to 0.76. In terms of board size, Table 5.12 displays the average obtained for the size of audit committee, which is 3.55 (minimally 2 and maximally 6 members). This average is similar to the studies done by Ghabayen (2012) for GCC listed firms. This average indicates that GCC top capitalization listed companies have adhered to the Code of Corporate Governance recommended for the GCC countries that the size of audit committee should have a minimum of three members.

Table 5.12  
*Descriptive Statistics for Continuous Variables*

	Min	Max	Mean	Med.	No of firms above Med.	No of firms below Med.	Std. Dev
AC independence	0.00	1.00	0.76	0.80	58	61	0.28
AC chair independence	0	1	0.76	1	90	29	0.43
AC Size	2	6	3.55	3	55	64	0.77
AC Expertise	0.00	1.00	0.52	0.33	57	62	0.28
AC Multiple Directorship	0	23	6.58	5	54	65	5.45
AC Meetings	1	12	5.00	5	36	83	1.81
AC Diligence	0.30	1.00	0.87	0.90	54	65	0.13
AC Effectiveness	0.00	0.86	0.49	0.43	52	67	0.21

With regards to financial expertise of audit committee members, on average, 0.52 of the members of the audit committee have expertise in finance. The zero minimum value for the financial expertise on their audit committee indicates that some companies had no financial expert on their audit committee. This outcome suggests that although it is recommended by the Code on Corporate Governance in GCC countries for companies that there should be at least one audit committee member expert in finance, some companies did not adhere to the rules. This average is smaller than that reported by Akhtaruddin and Haron (2010) for 124 public listed companies in Malaysia for 2002. In respect of audit committee multiple directorships, Table 5.12 shows that the average for the audit committee multiple directorships reported in this study is 7 with a minimum of 0 and a maximum of 23 multiple directorships. The results indicate that less than the half of the audit committee members have three or more directorships in other firms.

In addition, the annual meeting of the audit committee in GCC companies is over four times a year on average, as displayed in Table 5.12. This statistic indicates that although the average number of meetings for the audit committee in the majority of GCC companies is five, as recommended by the Code on Corporate Governance, some audit committees have fewer meetings than what the code recommends. The average consistent with the study conducted by Li *et al.* (2012) for UK listed firms.

In terms of audit committee diligence, the average, as presented in Table 5.12, is 86.57. This average is similar with the study conducted by Barros *et al.* (2013). The result suggests that more than the half of the audit committee members' participate in audit committee meetings. Regarding audit committee effectiveness as the independent

variable as well as the moderating variable, the average score for the effectiveness of the audit committee is 0.49 with the maximum score 0.86 and the minimum score 0.00.

Based on Table 5.13, the descriptive statistics show that 90 firms (75.6) had an independent audit committee chairman, while 29 firms (24.4) had a non-independent audit committee chairman. Generally, the results for audit committee chairman independence indicate that the audit committee comprises a high proportion of independent chairmen. The results indicate that most of the GCC listed firms have adhered to the Code of Corporate Governance recommendations in GCC countries that the audit committee chairman should be an independent director.

Table 5.13  
*Audit Committee Chairman Independence*

	<b>Total Firms</b>	<b>Percentage</b>
AC chairman independence	90	75.6
AC chairman non-independence	29	24.4
<b>Grand Total</b>	<b>119</b>	<b>100</b>

### **5.2.7 Ownership Structure**

In respect of ownership structure, Table 5.14 shows the percentage of government ownership for the sample, which ranges from 0 to 89%, and an average shareholding of 0.17. This result is similar with the one reported by Al-Musalli and Ku Ismail (2012a), who find that the average of government ownership in GCC listed banks is 0.18 for the period 2008 to 2010. In addition, for family ownership, the percentage varies from 0 to about 0.45 with an average of 0.07. Such an average is similar to the one revealed by Al-Musalli and Ku Ismail (2012a); they find that the average for family ownership in GCC

banks is 0.08. In terms of institutional ownership, the percentages range from 0 to 85%, with an average of 0.14%. Such an average is close to the one reported by Haniffa and Cooke (2002), who find that the average of institutional ownership in Malaysian listed companies is 0.15.

Table 5.14  
*Descriptive Statistics for Ownership Structure*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Government Ownership	0.00	0.89	0.17	0.22
Family Ownership	0.00	0.45	0.07	0.11
Institutional Ownership	0.00	0.85	0.14	0.20

### 5.2.8 Control Variables

In terms of the control variables, Table 5.15 indicates that 57 financial firms are represented in this study with a percentage of 52.1%, and 62 non-financial firms with a percentage of 47.9. This indicates that there is an equal number between financial and non-financial firms.

Table 5.15  
*Industry Type*

	<b>Total Firms</b>	<b>Percentage</b>
Financial	57	52.1
Non-financial	62	47.9
<b>Total</b>	<b>119</b>	<b>100</b>

With respect to country, Table 5.16 presents the frequency and percentage of the number of firms in each country. The sample consists of 119 listed firms, 19 (16%) firms from Bahrain, 32 (26.9%) from Oman, 9 (7.9%) from Qatar, 30 (25.2%) from Saudi Arabia and 29 (24.4%) from UAE.

Table 5.16  
*Descriptive Statistics of Countries*

	<b>Total Firms</b>	<b>Percentage</b>
Bahrain	19	16.0
Oman	32	26.9
Qatar	9	7.6
Kingdom of Saudi Arabia	30	25.2
United Arab Emirates	29	24.4
<b>Total</b>	<b>119</b>	<b>100</b>

With respect to firm size, Table 5.17 indicates that the maximum total assets of firms is 10.91, whereas, the minimum total assets is 5.8. On average, the total assets is 8.9. This average is similar with Al-Musalli and Ku Ismail's (2012a), (2012b) for GCC listed banks. As shown in Table 5.17, the maximum value of ROA is 0.12, whereas the minimum value of ROA is -0.07. The average ROA is 0.05. The negative sign of the ROA implies that some firms experience a loss during the investigation period. Finally, the sample has an average leverage level of 0.56.

Table 5.17  
*Descriptive Statistics for Control Variables*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Firm size	5.80	10.92	8.88	1.11
Profitability (ROA)	-0.07	0.21	0.05	0.05
Leverage	0.00	0.96	0.56	0.27

### 5.3 Diagnostic Test

Before each model was tested, regression diagnostics test are run to confirm that the multiple regression assumptions are achieved to avoid erroneous results. The assumptions are outliers, normality, linearity, and multicollinearity. All of these tests are tested accordingly.

### 5.3.1 Outliers

Outliers are observations that have unique characteristics that make them different from other observations (Hair, Black, Babin, Anderson, & Tatham, 2006). There are several methods to check outliers. Standardized residual, which is a widely used method to detect any outliers, is used in this study. Observations with a high standardized residual, which have the potential to be influential outliers, are identified and removed (Hair *et al.*, 2006).

### 5.3.2 Normality Test

Normality, being the fundamental assumption in data analysis, refers to the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution. Hair *et al.* (2006) term it as the benchmark for statistical methods. As it is a requirement to use the F and t statistics, the variation from the normal distribution needs to be small. For large variations, this renders all statistical tests resulting from the analysis invalid. There are several ways in which one could describe the distribution if it differs from the normal distribution.

In other words, the normality for each variable may be checked in a number of ways, such as using a histogram with a normality plot and the Kolmogorov-Smirnov, skewness and kurtosis value. As the Kolmogorov-Smirnov normality test is very sensitive, the standard skewness and kurtosis have been adapted in this study. Skewness and kurtosis are among the most popular approaches in describing the shapes or distribution of a dataset. The data are said to be normal if the standard skewness is within  $\pm 1.96$  and standard kurtosis is between  $\pm 3.0$  (Haniffa & Hudaib, 2004; Rahman & Ali, 2006). The



results from this approach (see Table 5.18) lead to the conclusion that the dataset has no serious violation of the normality assumption; therefore, it is assumed that the data are normally distributed.

Table 5.18  
*Normality Test*

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Intellectual capital disclosure	0.601	0.222	-0.316	0.440
Board independence	0.051	0.222	-1.281	0.440
Board size	0.020	0.222	-0.761	0.440
Board shareholdings	0.547	0.222	-0.933	0.440
Board nationality	1.198	0.222	0.238	0.440
Board multiple directorships	1.069	0.222	0.949	0.440
Board meetings	0.860	0.222	0.557	0.440
Board of directors' effectiveness	0.384	0.222	0.193	0.440
Audit committee independence	-1.016	0.222	0.168	0.440
Audit committee size	0.758	0.222	0.706	0.440
Audit committee financial expertise	0.640	0.222	-1.008	0.440
Audit committee multiple directorships	1.046	0.222	0.557	0.440
Audit committee meetings	0.918	0.222	1.614	0.440
Audit committee diligence	-1.224	0.222	2.084	0.440
Audit committee effectiveness	0.078	0.222	-0.542	0.440
Government ownership	1.387	0.222	1.027	0.440
Family ownership	1.766	0.222	2.614	0.440
Institutional ownership	1.604	0.222	1.877	0.440
Firm size	-0.384	0.222	-0.127	0.440
ROA	0.989	0.222	1.321	0.440
Leverage	-0.279	0.222	-1.133	0.440

### 5.3.3 Linearity

The association between the dependent variable and the independent variables should be linear. The regression model's linearity assumption was tested through the plotting of a histogram of the distribution of residuals. According to the distribution line, a normal curve exists indicating normal distribution of data. The linearity of the relationship between the dependent and independent variables represents the degree to which the

change in dependent variables is associated with the independent variables (Hair *et al.*, 1998). Therefore, in regression, nonlinearity is not a problem if the standard deviation of the dependent variables is more than the standard deviation of the residuals. Table 5.19 shows that the standard deviation of the dependent variables is more than the standard deviation of the residuals.

Table 5.19  
*The Standard Deviation of IC Disclosure and the Residuals*

Variable	Standard Deviation	
	Model 1	Model 2
IC Disclosure	93.46	93.46
Residual	63.52	69.19

#### 5.3.4 Multicollinearity

The situation in which the independent variables are highly correlated among themselves is referred to as multicollinearity (Hair *et al.*, 2006). The existence of multicollinearity is a serious problem in multiple regression because the effect of each independent variable on the dependent variable becomes difficult to identify. The Pearson correlation test is conducted to explore the correlations between the independent variables and to indicate whether multicollinearity could cause estimation problems. The Pearson correlation coefficients among the independent variables are presented in Table 5.20. The Table shows that the correlation coefficients are less than 0.7. According to Hair *et al.* (2006), the correlation between the independent variables is not a concern until it exceeds 0.7. Thus, this suggests that multicollinearity is not a problem in the regression procedure.

Further checks for possible multicollinearity are conducted using the variance inflation factor (VIF) for each independent variable. According to Kline (2005), and Silver (1997),

a VIF value of less than 10 indicates little or no multicollinearity. However, both Table 5.20 and Table 5.21 show the correlation matrix for the dependent, independent and control variables. The correlation coefficients between the variables are obtained from the Pearson tests. Overall, there are a number of statistically significant correlations between board characteristics, audit committee characteristics, ownership structure, and the control variables and the correlation is no more than 0.70. Thus, Table 5.20 and Table 5.22 indicate that there is no multicollinearity problem. Further, the results of the standard tests on the VIFs in Table 5.22 indicate that there is no multicollinearity problem, as the VIFs are below the threshold value of 10.

Table 5.20  
Correlations Model One

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ICD	1														
2 BODIND	-.06	1													
3 BODSIZ	.19*	-.22**	1												
4 BODSH	-.18*	-.20*	.05	1											
5 BODNA	.16*	-.04	-.04	.00	1										
6 BODMD	.50**	-.21*	.35**	-.07	.10	1									
7 BODMEET	.28**	.24**	-.06	-.22**	-.21*	.04	1								
8 BODCOM	.15	-.21*	.07	.02	-.06	.23**	.00	1							
9 ACIND	-.02	.57**	-.20*	.00	.21**	-.10	-.09	-.09	1						
10 ACCI	-.10	.55**	-.11	-.14	.01	-.13	.05	-.09	.61**	1					
11 ACSIZ	.03	.09	.36**	.03	-.26**	-.07	.06	-.13	-.02	-.00	1				
12 ACFE	.01	.07	-.19*	.01	.18*	-.04	-.07	-.10	.06	.04	-.17*	1			
13 ACMD	.39**	-.03	.11	-.24**	.03	.64**	.14	.07	-.07	-.07	.07	-.07	1		
14 ACMEET	.00	.08	.07	-.16*	-.12	.03	.31**	.16*	.03	.13	.15	.03	-.01	1	
15 ACDILIG	-.06	.00	.04	.02	.11	-.12	-.10	.08	-.00	-.05	-.10	.20*	-.18*	.07	1
16 GOVOWN	.27**	-.02	.12	-.15	-.06	.18*	.41**	.11	-.14	-.02	.14	-.121	.12	.25**	-.01
17 FAMOWN	-.24**	-.09	.13	.28**	-.10	-.02	-.21*	-.05	.07	-.02	.10	.02	-.16*	.03	.12
18 INSOWN	.02	-.01	-.06	-.06	.15	.06	-.13	.059	.07	.02	-.17*	.30**	.01	-.06	.11
19 INTYP	.24**	.00	.18*	-.06	.13	.39**	-.01	-.09	.08	.04	-.05	.09	.22**	-.07	-.03
20 FSIZ	.08	.06	.08	-.15*	-.08	-.02	-.02	.18*	.04	.03	.16*	.02	.06	.27**	.01
21 ROA	-.20*	.11	-.01	.02	-.20*	-.23**	.05	.03	.03	.23**	.06	-.17*	-.16*	.08	.08
22 LEVER	.12	.05	.05	-.08	.32**	.12	.003	-.07	.17*	-.02	-.04	.19*	.04	.14	.08
23 UAE	.01	.18*	-.15	-.30**	-.07	.19*	.15*	.25**	.10	.14	-.15	-.05	.41**	.20*	-.13
24 KAS	-.24**	-.41**	.24**	.43**	-.14	-.20*	-.21*	.38**	-.09	-.26**	.07	-.13	-.39**	.03	.14
25 QA	.23**	-.01	.04	-.17*	.05	.18*	.16*	-.12	-.12	-.06	.003	-.09	.28**	-.09	-.18*
26 OM	-.24**	.54**	-.21*	-.07	.13	-.44**	-.06	-.54**	.31**	.34**	.112	.21*	-.31**	-.02	.1
27 BA	.40**	-.37**	.12	.04	.06	.42**	.02	-.01	-.30**	-.23**	-.041	.02	.15	-.18*	-.07

Table 5.20 (Continued)

	16	17	18	19	20	21	22	23	24	25	26	27
<b>16 GOVOWN</b>	1											
<b>17 FAMOWN</b>	-.32**	1										
<b>18 INSOWN</b>	-.29**	-.22**	1									
<b>19 INTYP</b>	.04	.00	.35**	1								
<b>20 FSIZ</b>	-.02	-.03	-.03	.14	1							
<b>21 ROA</b>	.07	.01	-.31**	-.51**	-.15	1						
<b>22 LEVER</b>	.04	-.01	.08	.39**	.25**	-.43**	1					
<b>23 UAE</b>	.10	-.10	.04	-.03	.20*	-.09	.01	1				
<b>24 KAS</b>	-.02	.26**	-.14	-.13	.13	.05	.04	-.33**	1			
<b>25 QA</b>	.01	-.18*	-.13	.17*	.31**	-.13	-.02	-.16*	-.17*	1		
<b>26 OM</b>	-.17*	.00	-.01	-.13	-.18*	.24**	.11	-.34**	-.35**	-.17*	1	
<b>27 BA</b>	.10	-.07	.23**	.23**	-.40**	-.16*	-.17*	-.25**	-.25**	-.12	-.26**	1

\*. Correlation is significant at the 0.05 level (1-tailed). \*\*. Correlation is significant at the 0.01 level (1-tailed).

ICD= Intellectual capital disclosure, BODIND= Board independence, BODSIZ= Board size, BODSH= Board shareholdings, BODNA= Board nationality, BODMD= Board multiple directorships, BODMEET= Board meetings, BODCOM= Board committees, ACIND= AC independence, ACCI= AC chairman independence, ACSIZ= AC Size, ACFE= AC financial expertise, ACMD= AC multiple directorships, ACMEET= AC meetings, ACDILIG= AC Diligence, GOVOWN= Government ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= Leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman, BA = Bahrain.

Table 5.21  
*Correlations Model Two*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>1 ICD</b>	1														
<b>2 BODE_Score</b>	.39**	1													
<b>3 ACE_Score</b>	.11	.28**	1												
<b>4 GOVOWN</b>	.27**	.19*	.14	1											
<b>5 FAMOWN</b>	-.24**	-.06	-.02	-.32**	1										
<b>6 INSOWN</b>	.02	.02	.10	-.29**	-.22**	1									
<b>7 INTYP</b>	.24**	.24**	.03	.04	-.00	.35**	1								
<b>8 FSIZ</b>	.08	.14	.21*	-.02	-.03	-.03	.14	1							
<b>9 ROA</b>	-.20*	-.14	.08	.07	.02	-.31**	-.51**	-.15	1						
<b>10 LEVER</b>	.12	.20*	.10	.04	-.01	.08	.39**	.25**	-.43**	1					
<b>11 UAE</b>	.01	.20*	.21*	.10	-.10	.04	-.04	.20*	-.09	.01	1				
<b>12 KAS</b>	-.24**	-.00	-.25**	-.02	.27**	-.14	-.13	.13	.05	.04	-.33**	1			
<b>13 QA</b>	.23**	.10	.070	.01	-.18*	-.13	.17*	.31**	-.13	-.02	-.16*	-.17*	1		
<b>14 OM</b>	-.24**	-.27**	.20*	-.17*	.00	-.01	-.13	-.18*	.24**	.11	-.34**	-.35**	-.17*	1	
<b>15 BA</b>	.40**	.06	-.24**	.10	-.07	.23**	.23**	-.40**	-.16*	-.17*	-.25**	-.25**	-.13	-.26**	1

\*. Correlation is significant at the 0.05 level (1-tailed). \*\* Correlation is significant at the 0.01 level (1-tailed).

ICD= Intellectual capital disclosure, BoDE\_Score= Board of directors' effectiveness score, ACE\_Score = Effectiveness of audit committee score, GOVOWN= Government ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman, BA = Bahrain.

Table 5.22  
*The Results of Standard Tests on VIF*

	Collinearity Statistics			
	Model 1		Model 2	
	Tolerance	VIF	Tolerance	VIF
Board independence	0.305	3.276		
Board size	0.542	1.844		
Board shareholding	0.672	2.489		
Board nationality	0.634	1.578		
Board multiple directorships	0.284	3.524		
Board meetings	0.570	1.757		
Board committee	0.477	2.098		
Board of directors effectiveness			0.737	1.357
Audit committee independence	0.374	2.675		
Audit committee chairman independence	0.461	2.168		
Audit committee size	0.566	1.765		
Audit committee financial expertise	0.751	1.331		
Audit committee multiple directorships	0.371	2.693		
Audit committee meetings	0.659	1.517		
Audit committee diligence	0.793	1.261		
Audit committee effectiveness			0.627	1.596
Government ownership	0.513	1.949	0.589	1.697
Family ownership	0.577	1.735	0.622	1.609
Institutional ownership	0.491	2.036	0.515	1.951
Industry type	0.455	2.196	0.532	1.881
Firm size	0.509	1.966	0.627	1.595
ROA	0.499	2.005	0.562	1.779
Leverage	0.495	2.022	0.597	1.675
United Arab Emirates	0.250	3.993	0.361	2.761
Kingdom of Saudi Arabia	0.213	4.686	0.357	2.800
Qatar	0.408	2.452	0.476	2.102
Oman	0.165	6.074	0.319	3.136

## 5.4 Regression Results

### 5.4.1 Results of Model One

In this section, the results of the analysis of the association between IC voluntary disclosure (dependent variable), and characteristics of board of directors and audit committee, ownership structure (independent variables), and industry type, firm size, ROA, leverage and country (a control variable) via multiple regression analysis, with the results presented in Table 5.23.

Table 5.23

*Multiple Regression Results Model One*

ICD =  $\beta_0 + \beta_1 \text{BODIND} + \beta_2 \text{BODSIZ} + \beta_3 \text{BODSH} + \beta_4 \text{BODNA} + \beta_5 \text{BODMD} + \beta_6 \text{BODMEET} + \beta_7 \text{BODCOM} + \beta_8 \text{ACIND} + \beta_9 \text{ACCI} + \beta_{10} \text{ACSIZ} + \beta_{11} \text{ACFE} + \beta_{12} \text{ACMD} + \beta_{13} \text{ACMEET} + \beta_{14} \text{ACDILIG} + \beta_{15} \text{GOVOWN} + \beta_{16} \text{FAMOWN} + \beta_{17} \text{INSOWN} + \beta_{18} \text{INTYP} + \beta_{19} \text{FSIZ} + \beta_{20} \text{ROA} + \beta_{21} \text{LEVER} + \beta_{22} \text{UAE} + \beta_{23} \text{KSA} + \beta_{24} \text{QA} + \beta_{25} \text{OM} + \beta_{26} \text{BA} + e$

Variables	Predicted sign	Coefficients	T	Sig.
(Constant)			-1.649	0.102
BODIND	+	-0.048	-0.373	0.710
BODSIZ	+	0.129	1.350	0.180*
BODSH	+	-0.045	-0.524	0.602
BODNA	+	0.096	1.085	0.281
BODMD	+	0.180	1.358	0.178*
BODMEET	+	0.280	2.997	0.003***
BODCOM	+	0.187	1.830	0.070**
ACIND	+	0.264	2.287	0.024***
ACCI	+	-0.115	-1.110	0.270
ACSIZ	+	0.004	0.045	0.964
ACFE	+	0.050	0.621	0.536
ACMD	+	0.109	0.940	0.350
ACMEET	+	-0.096	-1.104	0.272
ACDILIG	+	0.030	0.380	0.705
GOVOWN	+	0.055	0.558	0.578
FAMOWN	-	-0.117	-1.265	0.209
INSOWN	+	-0.120	-1.193	0.236
INTYP	+	-0.038	-0.368	0.714
FSIZ	+	0.228	2.310	0.023***
ROA	+	-0.076	-0.759	0.450
LEVER	+	0.013	0.134	0.894
UAE	+	-0.545	-3.874	0.000***
KSA	+	-0.565	-3.702	0.000***
QA	+	-0.217	-1.964	0.053**
OM	+	-0.399	-2.295	0.024***
Adjusted R Square	0.414			
F	4.335			
Sig	0.000			

\*, \*\*, \*\*\* = p-value < .10, .05, .01, respectively, one-tailed

ICD= Intellectual capital disclosure, BODIND= Board independence, BODSIZ= Board size, BODSH= Board shareholdings, BODNA= Board nationality, BODMD= Board multiple directorships, BODMEET= Board meetings, BODCOM= Board committees, ACIND= AC independence, ACCI= AC chairman independence, ACSIZ= AC Size, ACFE= AC financial expertise, ACMD= AC multiple directorships, ACMEET= AC meetings, ACDILIG= AC Diligence, GOVOWN= Government ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman



#### **5.4.1.1 Board of Directors' Characteristics and IC Disclosure**

Table 5.23 reveals that four among the seven boards of directors' characteristics are significantly related to IC disclosure. In the results displayed in Table 5.23, it is evident that a significant relationship is obtained between board size (BOSIZ), board multiple directorships (BODMD), board meetings (BODMEET), board committees (BODCOM) and IC disclosure. There is no evidence that board independence (BODIND), board shareholding (BODSH) or board nationality (BODNA) are related to IC disclosure in a significant way.

As shown in Table 5.23, there is no significant relationship between board independence (BODIND) and IC disclosure; the t-value ( $t = -0.373$ ,  $P > 0.10$ ). This result means that the level of IC disclosure is not significantly related to board independence. Therefore, the result is contradictory to H1, which predicted that independent directors on the board could significantly influence the level of IC disclosure. This result goes against the empirical results revealed by previous studies, for example, Barako *et al.* (2006), Barros *et al.* (2013), Cerbioni and Parbonetti (2007), Eng & Mak (2003), Ahmed Haji and Mohd Ghazali (2013), Jaffar *et al.* (2013), Khodadadi *et al.* (2010), Li *et al.* (2008), Samaha *et al.* (2012), Uyar *et al.* (2014). However, this result is consistent with Gan *et al.* (2013), Taliyang and Jusop (2011), and Moeinfar *et al.* (2013) who report that the independence of the board of directors is insignificantly related to IC disclosure in Malaysia and Iran, respectively. Furthermore, the result is similar with the results of Alhazaimah *et al.*

(2014), Bukair and Rahman (2015), Dhouibi and Mamoghli (2013), Saha and Akter (2013), and Sartawi *et al.* (2014) on voluntary disclosure.

This study revealed a positive significant relationship between board size (BODSIZ) and IC disclosure ( $t = 1.350$ ,  $P < 0.10$ ). Hence, hypothesis H2 is supported. The result is in line with the resource dependency theory and provides evidence that large board size will provide firms with critical information, diverse, ideas and resources that will facilitate IC development and enhance its disclosure (Abeysekera, 2010). This is aligned with recent findings concluded by Ahmed Haji and Mohd Ghazali (2013), Hidalgo *et al.* (2010), and Moeinfar *et al.* (2013), which suggest that larger boards are related to IC disclosure in a significant and positive way in Malaysia, Mexico and Iran individually.

As shown in Table 5.23, no significant association was found between board shareholding (BODSH) and IC disclosure;  $t$ -value ( $t = -0.524$ ,  $P > 0.10$ ). This result means that the IC disclosure level is not associated with board shareholding in a significant manner. Therefore, hypothesis H3 is not supported. This finding is similar with prior empirical studies that found that board ownership is insignificantly related to the level of voluntary disclosure, such as Dewi *et al.* (2014), Donnelly and Mulcahy (2008), Gul and Leung (2004), Huafang and Jianguo (2007), Jaffar *et al.* (2013), and Yanesari *et al.* (2012).

The relationship between board nationality (BODNA) and IC disclosure is insignificant ( $t = 1.085$ ,  $P > 0.10$ ). Thus, hypothesis H4 is not supported. However, the

result is consistent with prior findings by Barako and Brown (2008) who find the association between board nationality and voluntary disclosure to be insignificant. Other studies, such as Wallace and Naser (1996) also report an insignificant relationship between board nationality and disclosure (in terms of mandatory disclosure).

Consistent with the expectation, a positive and significant association ( $t=1.358$ ,  $P<0.10$ ) is revealed between board multiple directorships (BODMD) and IC disclosure. Hence, hypothesis H5 is supported. The result is in line with the resource dependency theory and provides evidence that a high number of board multiple directorships will provide firms with skills, expertise and knowledge brought by directors additional directorships, which would improve board effectiveness with respect to an increased level of IC disclosure. This result is consistent with Azman and Kamaluddin (2012) who find a significant association between the cross-leadership of the chairperson and voluntary disclosure in Malaysian listed firms.

Consistent with the expectation, a positive and significant ( $t=2.997$ ,  $P<0.01$ ) association is found between board meetings (BODMEET) and IC disclosure. This indicates that as the number of meetings increases, the level of IC disclosure will increase. Thus, H6 is supported. This result is consistent with Barros *et al.* (2013) and Ahmed Haji and Mohd Ghazali (2013) who find a significant relationship between board meetings and voluntary disclosure in French and Malaysian listed firms.

Consistent with the expectation, this study finds a positive significant ( $t=1.830$ ,  $P<0.05$ ) association between board committee (BODCOM) and IC disclosure. This result means that the level of IC disclosure in firms that have audit, nominating and compensation committees is higher than firms that do not have all these committees. Hence, H7 is supported. Thus, this result supports the idea that the board committees (audit, nominating and compensation) assist in corporate governance and in enhancing the corporate voluntary disclosure in its entirety (Cerbioni & Parbonetti, 2007; Fama & Jensen, 1983; Menon & Deahl Williams, 1994; Vafeas, 2000).

#### **5.4.1.2 Audit Committee Characteristics and IC Disclosure**

Table 5.23 reveals that one out of the seven characteristics of audit committee relates significantly to IC disclosure. Moreover, it shows the existence of a significant relationship between audit committee independence (ACIND) and IC disclosure. No evidence is found that audit committee chairman independence (ACCI), audit committee size (AC Siz), audit committee financial expertise (ACFE), audit committee multiple directorships (ACMD), audit committee meetings (ACMEET) and audit committee diligence (ACDILIG) are significantly associated with IC disclosure.

Consistent with the expectation, this study finds a positive significant ( $t=2.287$ ,  $P<0.01$ ) association between audit committee independence (ACIND) and IC disclosure. This means that as the independent directors on the audit committee increase, the level of IC disclosure increases. Hence, hypothesis H9 is supported.

The result is in line with the resource dependency theory and provides evidence that a high number of independent audit committee members will provide the committee with a greater pool of expertise, skills, experience, and better contact with others (Goodstein *et al.*, 1994). In addition, the results are consistent with the studies that suggested and found that the proportion of independent members on the audit committee has a complementary effect on voluntary disclosure (e.g. Barros *et al.*, 2013; Madi *et al.*, 2014; Nekhili *et al.*, 2010; Persons, 2009).

As shown in Table 5.23, there is no significant relationship between audit committee chairman independence (ACCI) and IC disclosure; t-value ( $t = -1.110$ ,  $P > 0.10$ ). This result means that the level of IC disclosure is not significantly related to audit committee chairman independence. Hence, the result is contradictory to H10, which predicted that if the chairman of the audit committee is an independent director, they could positively affect the level of IC disclosure.

The relationship between audit committee size (ACSIZ) and IC disclosure is insignificant ( $t=0.045$ ,  $P>0.10$ ). This indicates that the level of IC disclosure is not significantly related to audit committee size. Hence, the result is contradictory to H11, which predicted that as the number of directors on the audit committee increases, the level of IC disclosure will increase. This finding is, however, in contrast with the recent findings by Gan *et al.* (2013), Hidalgo *et al.* (2010), and Li *et al.* (2008), which show that larger audit committees are significantly and positively associated with IC disclosure. However, the result is consistent with prior findings

by Mangena and Pike (2005) who find that the size of the audit committee is not related to interim financial disclosure in UK firms. Furthermore, the result is consistent with the findings of Othman *et al.* (2014) on voluntary ethics disclosure, and Taliyang and Jusop (2011) on IC disclosure.

With regards to audit committee financial expertise (ACFE), this study finds that the relationship between audit committee financial expertise (ACFE) and IC disclosure is not statistically significant even at 10% ( $t=0.621$ ,  $P>0.10$ ). Thus, hypothesis H12 is rejected and this result is aligned with those revealed by previous studies like Akhtaruddin and Haron (2010), Ismail *et al.* (2008), Madi *et al.* (2014), Othman *et al.* (2014), and Persons (2009) highlighted that financial expertise of audit committee members are not significantly associated with corporate voluntary disclosure. Moreover, Li *et al.* (2012) on IC disclosure.

Table 5.23 shows that the multiple directorships of the audit committee is not significantly related to IC disclosure;  $t$  value ( $t = 0.940$ ,  $P > 0.10$ ). This indicates that the multiple directorships of the audit committee that oversees the process of financial reporting are not strict enough to impact on IC disclosure. Hence, H13 is not supported. The study findings are inconsistent with those reported by prior findings that investigated the impact of the presence of multiple directorships on the audit committee with voluntary disclosure, such as Ismail *et al.* (2008), Madi *et al.* (2014), and Othman *et al.* (2014). However, the result is consistent with the findings of Persons (2009) on earlier voluntary ethics disclosure.

Moreover, in contrast to the assumptions, the present study finds an insignificant relationship between audit committee meetings (ACMEET) and IC disclosure ( $t=-1.104$ ,  $P>0.10$ ). Hence, hypothesis H14 is not supported. This finding implies that the frequency of the meetings of the audit committee does not enhance the monitoring role of such a committee in improving IC disclosure. This finding is opposite to the findings by Allegrini and Greco, (2011), Azman and Kamaluddin (2012), Taliyang & Jusop (2011), Barros *et al.* (2013), and Persons (2009) with respect to Italian, Malaysian, French, and US firms, respectively. All the studies suggest that a significant positive relationship exists between audit committee meetings and voluntary disclosure. However, the results are in line with Ismail *et al.* (2008), Madi *et al.* (2014), and Othman *et al.* (2014) who find that audit committee meetings are not associated with voluntary disclosure in Malaysian listed firms.

Table 5.23 shows that the relationship between audit committee diligence (ACDILI) and IC disclosure is insignificant and positive ( $t=0.380$ ,  $P>0.10$ ); thus, hypothesis H15 is not supported, which suggests that IC voluntary disclosure in annual reports increases with participation in the audit committee of director meetings. However, the result is inconsistent with prior findings by Barros *et al.*, (2013) who find that audit committee meetings diligence is associated with decreased disclosure in terms of corporate voluntary disclosure in French listed firms.

#### **5.4.1.3 Ownership Structure and IC Disclosure**

As for ownership structure, no significant relationship is found between the variables and IC disclosure. From the analyses conducted, it is found that ownership structure (government ownership (GOVOWN), family ownership (FAMOWN), and institutional ownership (INSOWN) show insignificant associations with IC disclosure.

Regarding government ownership (GOVOWN), this study finds that the coefficient is not statistically significant ( $t=0.558$ ,  $P>0.10$ ). Hence, hypothesis H17 is not supported. The result is consistent with the prior findings by Huafang and Jianguo (2007), Mohd Ghazali and Weetman (2006), and Samaha and Dahawy (2011), which show an insignificant association between government ownership and corporate voluntary disclosure in Chinese, Malaysian and Egyptian listed companies. Furthermore, this finding is in line with Juhmani (2013) who finds an insignificant relationship between government ownership and voluntary disclosure in Bahrain.

The relationship between family ownership (FSOWN) and IC disclosure is statistically insignificant even at 10% ( $t=-1.265$ ,  $P>0.10$ ). This implies that family ownership does not have any influence on IC disclosure. This finding is contradictory to our prediction. Hence, hypothesis H17 is not supported. The result, however, is consistent with the prior findings by Hidalgo *et al.* (2010) and Md Nor *et al.* (2010) who find an insignificant association between family ownership and IC disclosure in Mexico and Malaysia. In terms of GCC Countries, Al-Shammari and



Al-Sultan (2010) report an insignificant relationship between family members on the board percentage and voluntary disclosure in the context of Kuwaiti listed firms.

As shown in Table 5.23, no relationship is found between institutional ownership and IC disclosure. The t-value ( $t = -1.193$ ,  $P > 0.10$ ) indicates that the level of IC disclosure is not significantly related to institutional ownership. Hence, the result is contradictory to H19, which predicted that institutional ownership has a significant positive relationship with IC disclosure. The result is consistent with prior findings by Ahmed Haji and Mohd Ghazali (2013) and Md Nor *et al.* (2010) who reported an insignificant relationship between institutional ownership and IC disclosure for Malaysian listed companies.

#### **5.4.1.4 Control Variables and IC Disclosure**

Table 5.23 reveals that two out of the five control variables are related to IC disclosure in a significant manner. The results displayed in Table 5.23 reveal a significant relationship among firm size (FSIZ), countries (COUNTRY) and IC disclosure. There is no evidence that industry type (INTYP), profitability (ROA), or leverage (LEVER) are significantly associated with IC disclosure.

Table 5.23 shows that the industry type is not significantly related to IC disclosure. The t value ( $t = -0.368$ ,  $p > 0.10$ ) thus implies that financial firms are not strong enough to influence IC disclosure, even though they should be associated with higher IC disclosure. However, the results are in line with Bozzolan *et al.* (2003) and

García-Meca and Martínez, (2005) who find no significant relationship between the industry type and IC disclosure in UK and Spanish listed firms, respectively.

Consistent with the agency theory, this study finds a positive relationship between the log of firms' total assets and IC disclosure. The t value ( $t = 2.310$ ,  $P < 0.01$ ) indicates that the level of IC disclosure is significantly positively related to the log of total assets. This result is consistent with prior studies that investigated the relationship between IC disclosure in corporate annuals reports and firm size and find a significant positive relationship, see for example Li *et al.* (2012, 2008).

The results reported in Table 5.23 show that ROA is not significantly related to IC disclosure; t value ( $t = -0.759$ ,  $P > 0.10$ ). This finding suggests that ROA is not associated with IC disclosure. This finding is, however, in contrast with the recent findings of Li *et al.* (2012) and (2008) in the UK, which suggest that profitability is significantly and positively associated with IC disclosure. However, the finding of this study is consistent with the results of García-Meca *et al.* (2005) and Oliveira *et al.* (2006) who find that board profitability has an insignificant relationship with IC disclosure in Spain and Portugal, respectively.

As reported in Table 5.23, leverage is not associated with IC disclosure as the p value is higher than 0.10 ( $t = 0.134$ ,  $P > 0.10$ ). This result is in line with the previous empirical studies by García-Meca *et al.* (2005), Oliveira *et al.* (2006), and Whiting and Woodcock (2011) who find that leverage has an insignificant association with the level of IC disclosure.

Inconsistent with expectations, this study finds a negative significant association between United Arab Emirates (UAE), Kingdom of Saudi Arabia (KSA), Qatar (QA), Oman (OM) and IC disclosure. Most coefficients, in this regard, were negative, which suggests that a country's environment in this area has little positive influence on the regularity of disclosure. However, the current empirical findings are consistent with the findings of Debreceeny and Rahman (2005) who reported a significant negative association between country and corporate disclosures. They suggest that a country's environment in this area has little positive influence on the regularity of disclosure.

## 5.4.2 Results of Model Two

In this section, the results of the analysis of the relationship between IC disclosure (dependent variable) and the scores of board of directors effectiveness, audit committee effectiveness and ownership structure (independent variables), and industry type, firm size, ROA, leverage and country (a control variable) are presented employing multiple regression analysis. The multiple regression results are presented in Table 5.24.

Table 5.24

### *Multiple Regression Results Model Two*

$$ICD = \beta_0 + \beta_1 BoDE\_Score + \beta_2 ACE\_Score + \beta_3 GOVOWN + \beta_4 FAMOWN + \beta_5 INSOWN + \beta_6 INTYP + \beta_7 FSIZ + \beta_8 ROA + \beta_9 LEVER + \beta_{10} UAE + \beta_{11} KSA + \beta_{12} QA + \beta_{13} OM + \beta_{14} BA + e$$

Variables	Coefficients	t-stat	Sig.
(Constant)		0.970	0.334
BoDE_Score	0.270	3.213	0.002***
ACE_Score	0.098	1.073	0.286
GOVOWN	0.065	0.692	0.490
FAMOWN	-0.147	-1.604	0.112*
INSOWN	-0.126	-1.250	0.214
INTYP	-0.020	-0.198	0.843
FSIZ	0.148	1.625	0.107**
ROA	-0.054	-0.556	0.580
LEVER	0.099	1.061	0.291
UAE	-0.587	-4.887	0.000***
KSA	-0.665	-5.505	0.000***
QA	-0.216	-2.059	0.042**
OM	-0.628	-4.906	0.000***
Adjusted R Square	0.384		
F	6.663		
Sig	0.000		

\*, \*\*, \*\*\* = p-value < .10, .05, .01, respectively, one-tailed

ICD= Intellectual capital disclosure, BoDE\_Score= Board of directors' effectiveness score, ACE\_Score = Effectiveness of audit committee score, GOVOWN= Government ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman

#### **5.4.2.1 Board of Directors and Audit Committee Effectiveness Score**

In this section, to measure the board and audit committee effectiveness, a score is created using the board and audit committee characteristics to test if there is an aggregated effect of these characteristics on IC disclosure. This method is based on the idea that there is a complementary effect of internal governance mechanisms on corporate disclosure. In as much as an increase (decrease) of the characters that enhance the board and audit committee effectiveness leads to an increase (decrease) in the level of voluntary disclosure. In addition, this method is based on the idea that the effectiveness of corporate governance may be achieved via different channels (Cai, Qian, & Liu, 2008) and that a particular mechanism's effectiveness may depend on the effectiveness of others (Davis & Useem, 2002). Similarly, O'Sullivan *et al.* (2008) argue that investigating the overall corporate governance mechanisms is a more effective means of measurement than just examining them individually.

As discussed in Chapter Four, the score construction adopted here is similar to that used by Brown and Caylor (2006), Chobpichien *et al.* (2008) and Singh and Zahn (2009) who aggregate the number of characteristics of corporate governance to produce an aggregate corporate governance score. Following the same notion, the present study investigates whether or not the characteristics of the board of directors and those of the audit committee, encapsulate their aggregate relationship with firms, and are related with IC disclosure.

As hypothesized, the study revealed a positive and significant relationship between board of directors' effectiveness ( $t=3.213$ ,  $P<0.01$ ) and IC disclosure. Thus, hypothesis H8 is supported. This finding indicates that as the level of the effectiveness increase the level of IC disclosure in firm annual reports increase. The result is consistent with prior findings by Chobpichien *et al.* (2008) who find a significant association between board of directors' quality and voluntary disclosure index.

In terms of audit committee effectiveness, it is measured by creating a score for audit committee characteristics to test if there is an aggregate effect of these characteristics on IC disclosure. The hypothesis of audit committee effectiveness states that a positive relationship exists between the effectiveness of audit committee and IC disclosure. As reported in Table 5.24, the relationship between audit committee effectiveness (ACE\_Score) and IC disclosure is insignificant ( $t=1.073$ ,  $P>0.10$ ); thus, hypothesis H16 is not supported. However, the results of the other independent variables and control variables support the results of the primary regression except the family ownership, which is significant at 10 percent.

### **5.5 Moderating Effect of Audit Committee Effectiveness**

This section examines the moderating effect of audit committee effectiveness on the relationship between different types of ownership (government, family and institutional ownership) and IC disclosure. The results provide the answer to the seventh question of this study, that is: Does the effectiveness of the audit committee

influence the relationship between the different types of ownership (government, family and institutional ownership) and a firm's IC disclosure?

In order to test the effect of audit committee effectiveness as a moderator on the relationship between different types of ownership (government, family and institutional ownership) and IC disclosure, hierarchical regression is utilized. Hierarchical regression analysis is a commonly used technique for identifying the moderating effects (Auh & Menguc, 2005; Baron & Kenny, 1986; Frazier, Tix, & Barron, 2004; Kim, Al-Shammari, Kim, & Lee, 2009). According to Baron and Kenny (1986), hierarchical regression is suggested as being a suitable method for determining the moderating effect of a quantitative variable on the relationship between other quantitative variables. In addition to being a fairly straight forward procedure for testing hypotheses about the moderating effects (Aguinis & Gottfredson, 2010), hierarchical regression analysis is one of the most popular, if not the most popular, approaches for testing hypotheses about interaction (moderating) effects.

The steps start with the control variable followed by an estimation of the unmoderated equation, and then the moderated relationship. As highlighted in chapter 4, only the change in  $R^2$  would indicate that there is a significant moderator (Hair *et al.*, 1998). In cases where the variable is a moderator variable, a post-hoc graph would then be drawn to show the effect of the moderator in the relationship between the predictor and criterion variables. Hence, the test will be able to achieve

the seventh objective of this study, which is to examine if the effectiveness of the audit committee influences the association between different types of ownership structure (namely, government, family and institutional) and a firm`s IC disclosure.

As shown in Table 5.25, when the industry type, firm size, ROA, leverage and country are entered as a control variable into the regression model in the first step, the coefficient of determination ( $R^2$ ) is 0.328, indicating that 32.8% of the level of IC disclosure can be explained by the industry type, firm size, ROA, leverage and country. By adding the independent variables in step 2,  $R^2$  increased to 0.374. This  $R^2$  change (0.04) is significant because the F change is significant. This implies that the additional 4.5 percent of variation in IC disclosure is explained by the different types of ownership. The family ownership has a significant and negative relationship with IC disclosure at the 0.05 level of significance. These results provide support for the argument that there is a negative relationship between the family ownership and IC disclosure. Table 5.25 also shows that by adding audit committee effectiveness as a moderator variable in Step 3,  $R^2$  is not significantly changed. This result indicates that there is no major effect from audit committee effectiveness on IC disclosure. In the final step when the interaction is entered,  $R^2$  increases from 0.396 to 0.429. This  $R^2$  change (0.050) is significant. This indicates that the effectiveness of the audit committee moderates the relationship between the type of ownership and IC disclosure. Because there is a significant change in  $R^2$  in the last step and the change in  $R^2$  in the third step is not significant, this means that audit committee effectiveness is a pure moderator.



Following Kim *et al.* (2009) and Noor (2010), the beta coefficient for interaction terms has been inspected to determine whether the type of ownership structure, and audit committee effectiveness moderate its relationship with IC disclosure. It is worth mentioning that when interpreting the results, one should interpret the unstandardized beta rather than the standardized beta regression coefficients because, in equations that include interaction terms, the beta coefficients for the interaction terms are not properly standardized and thus are not interpretable (Frazier *et al.*, 2004).

Only one interaction out of the three interactions produces a significant relationship. The interactions between government ownership and audit committee effectiveness produce significant results. From Table 5.25 it can be seen that the beta coefficient for the interaction between the effectiveness of the audit committee and government ownership is positive and significant at 0.05. This suggests that the effectiveness of the audit committee positively moderates the relationship between government ownership and IC disclosure. This means that, as the level of audit committee effectiveness increases in the company, the high percentage of government ownership leads to an increase in the level of IC disclosure. Thus, H20 is supported.

Table 5.25

*The Moderating Effect of Audit Committee Effectiveness on the Relationship between Different Types of Ownership and IC Disclosure*

	Step 1 CV	Step2 IV	Step 3 MV	Step 4 MV*IV
INTYP	-0.010 (-0.101)	0.022 (0.221)	0.018 (0.176)	0.044 (0.425)
FSIZ	0.152 (1.574)*	0.162 (1.706)**	0.142 (1.504)*	0.128 (1.347)*
ROA	0.048 (0.480)	-0.011 (-0.111)	-0.033 (-0.330)	-0.050 (-0.501)
LEVER	0.206 (2.105)**	0.158 (1.618)*	0.151 (1.567)*	0.139 (1.454)*
UAE	-0.512 (-4.095)***	-0.511 (-4.153)***	-0.585 (-4.606)***	-0.611 (-4.653)***
KSA	-0.710 (-5.587)***	-0.665 (-5.196)***	-0.678 (-5.363)***	-0.709 (-5.386)***
QA	-0.133 (-1.272)*	-0.166 (-1.534)*	-0.218 (-1.980)**	-0.214 (-1.929)**
OM	-0.700 (-5.576)***	-0.643 (-5.082)***	-0.733 (-5.519)***	-0.747 (-5.531)***
GOVOWN		0.134 (1.422)*	0.085 (0.885)	0.079 (0.819)
FAMOWN		-0.116 (-1.238)	-0.155 (-1.634)*	-0.134 (-1.419)*
INSOWN		-0.087 (-0.862)	-0.145 (-1.392)*	-0.133 (-1.282)*
ACE_Score			0.179 (1.983)**	0.207 (2.284)***
GOVOWN* ACE_Score				0.193 (2.206)**
FAMOWN* ACE_Score				-0.014 (-0.157)
INSOWN* ACE_Score				0.048 (0.543)
R <sup>2</sup>	0.328	0.374	0.396	0.429
Adjusted R <sup>2</sup>	0.280	0.309	0.328	0.345
R <sup>2</sup> change	0.328	0.045	0.022	0.033
F change	6.724	2.568	3.933	1.968
Significant F change	0.000	0.058	0.050	0.123

Note: CV - Control Variables, IV- Independent Variables, MV- Moderator Variables.

\*, \*\*, \*\*\* = p-value < .10, .05, .01, respectively, one-tailed.

Variables: INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =OMAN, GOVOWN= Government Ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, ACE\_Score = Effectiveness of audit committee score.

The moderating effect of audit committee effectiveness on the relationship between the government ownership and IC disclosure is illustrated in Figure 5.1. It appears from the figure that a higher level of the effectiveness of the audit committee is associated with higher IC disclosure. When the percentage of government ownership is low, the level of IC disclosure is low in companies with high and low levels of effectiveness of the audit committee. However, when the percentage of government ownership is high the level of IC disclosure is high in companies either with high and low levels of effectiveness of the audit committee but the effect of the government ownership on IC disclosure in firms with a high level of audit committee effectiveness is stronger than with a low level of audit committee effectiveness.

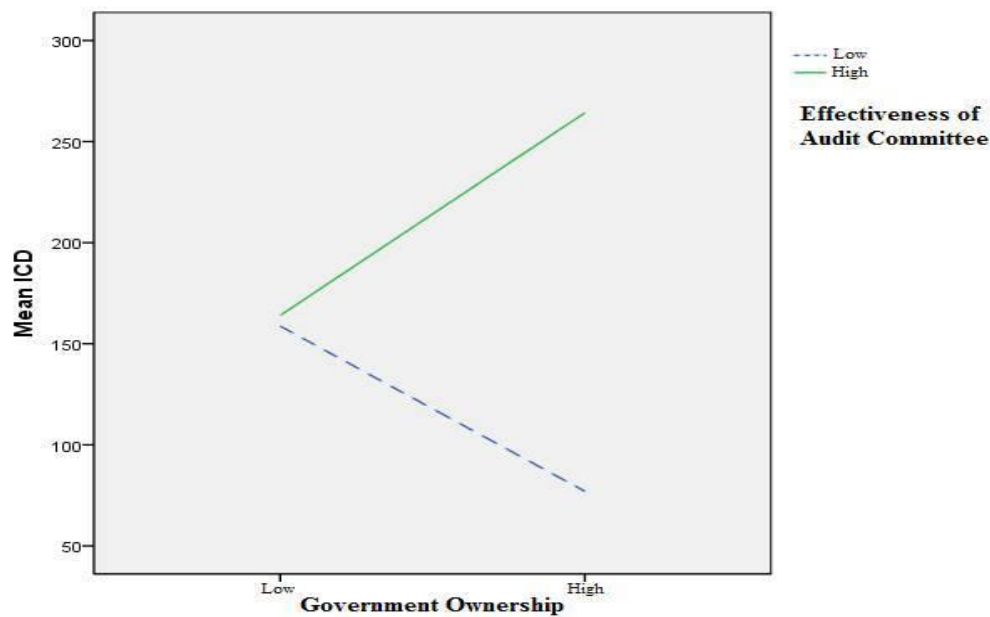


Figure 5.1  
*The Moderating Effect of Effectiveness of Audit Committee on the Relationship between Government Ownership and IC Disclosure*

## **5.6 Additional Analysis**

In order to determine the initial analysis credibility, several tests are conducted to identify the sensitivity of the results and the robustness of the findings (regression models 1 and 2). This study re-runs the multiple regression analysis by introducing alternative measures of board independence, board nationality, ownership structure, audit committee effectiveness, and board of director's characteristics, audit characteristics, ownership structure with different categories of IC disclosure.

### **5.6.1 Alternative Measurements for Board of Independent Directors**

In respect to board independent directors, the results displayed in Table 5.26 indicate that higher board independence, as measured using the proportion of independent directors, is not effect in IC disclosure level. This finding contradicts the prediction that independent directors, who provide strong governance, more resources, information, and legitimacy to a firm, positively affect IC disclosure. The credibility of the results are confirmed through the repetitive carrying out of the regression model with alternative measures of independence – number of independent board directors (Abeysekera, 2010), above-median threshold (DeFond *et al.*, 2005), and the natural logarithm of number of independent directors (Garg, 2007). Table 5.26 shows the results in which the number of independent directors, dummy variable (above the sample median) and the number of independent directors' natural logarithm are used as an alternative measure of board independence. They report an

insignificant relationship between independent board directors and IC disclosure.

The other variables results closely resemble those of the initial analysis.

Table 5.26

*Multiple Regression Results- Alternative Measurements for Board of Independent Directors*

ICD =  $\beta_0 + \beta_1 \text{BODIND} + \beta_2 \text{BODSIZ} + \beta_3 \text{BODSH} + \beta_4 \text{BODNA} + \beta_5 \text{BODMD} + \beta_6 \text{BODMEET} + \beta_7 \text{BODCOM} + \beta_8 \text{ACIND} + \beta_9 \text{ACCI} + \beta_{10} \text{ACSIZ} + \beta_{11} \text{ACFE} + \beta_{12} \text{ACMD} + \beta_{13} \text{ACMEET} + \beta_{14} \text{ACDILIG} + \beta_{15} \text{GOVOWN} + \beta_{16} \text{FAMOWN} + \beta_{17} \text{INSOWN} + \beta_{18} \text{INTYP} + \beta_{19} \text{FSIZ} + \beta_{20} \text{ROA} + \beta_{21} \text{LEVER} + \beta_{22} \text{UAE} + \beta_{23} \text{KSA} + \beta_{24} \text{QA} + \beta_{25} \text{OM} + \beta_{26} \text{BA} + e$

Variables	No of Independent			Above Median			Natural Logarithm		
	Coeffic	t-test	Sig.	Coeffic	t-test	Sig.	Coeffic	t-test	Sig.
(Constant)		-1.79	0.076		-1.63	0.106		-1.33	0.185
BODIND	-0.094	-0.76	0.451	-0.019	-0.17	0.863	0.027	0.218	0.828
BODSIZ	0.175	1.53	0.129*	0.127	1.331	0.186*	0.125	1.309	0.194*
BODSH	-0.045	-0.52	0.604	-0.047	-0.54	0.589	-0.046	-0.53	0.596
BODNA	0.088	0.987	0.326	0.098	1.084	0.281	0.106	1.203	0.232
BODMD	0.180	1.362	0.177*	0.18	1.364	0.176*	0.180	1.363	0.176*
BODMEET	0.288	3.129	0.002***	0.271	3.019	0.003**	0.263	2.807	0.006***
BODCOM	0.194	1.905	0.060**	0.183	1.794	0.076**	0.176	1.722	0.088**
ACIND	0.28	2.477	0.015***	0.252	2.257	0.026**	0.233	2.007	0.048**
ACCI	-0.112	-1.08	0.284	-0.118	-1.14	0.259	-0.121	-1.16	0.250
ACSIZ	0.005	0.053	0.958	0.003	0.037	0.971	0.002	0.025	0.980
ACFE	0.051	0.634	0.528	0.051	0.621	0.536	0.050	0.61	0.543
ACMD	0.104	0.903	0.369	0.112	0.972	0.333	0.116	0.992	0.324
ACMEET	-0.099	-1.14	0.257	-0.093	-1.08	0.285	-0.091	-1.05	0.298
ACDILIG	0.032	0.409	0.683	0.029	0.367	0.715	0.028	0.356	0.723
GOVOWN	0.054	0.547	0.585	0.055	0.562	0.575	0.055	0.557	0.579
FAMOWN	-0.121	-1.30	0.196	-0.116	-1.25	0.214	-0.116	-1.25	0.214
INSOWN	-0.122	-1.22	0.227	-0.119	-1.19	0.239	-0.117	-1.16	0.250
INTYP	-0.035	-0.34	0.737	-0.042	-0.4	0.690	-0.044	-0.42	0.675
FSIZ	0.234	2.364	0.020***	0.226	2.294	0.024***	0.225	2.278	0.025**
ROA	-0.082	-0.82	0.414	-0.074	-0.74	0.460	-0.072	-0.72	0.471
LEVER	0.009	0.089	0.929	0.017	0.173	0.863	0.019	0.194	0.846
UAE	-0.532	-3.82	0.000***	-0.556	-4.05	0.000***	-0.571	-4.02	0.000***
KAS	-0.571	-3.74	0.000***	-0.563	-3.69	0.000***	-0.562	-3.69	0.000***
QA	-0.211	-1.92	0.057**	-0.22	-1.99	0.050**	-0.230	-2.06	0.042**
OM	-0.371	-2.17	0.033**	-0.417	-2.48	0.015**	-0.444	-2.62	0.010***
Adjusted R2	0.417			0.413			0.413		
F	4.372			4.325			4.327		
Sig	0.000			0.000			0.000		

\*, \*\*, \*\*\* = p-value < .10, .05, .01, respectively, one-tailed

ICD= Intellectual capital disclosure, BODIND= Board independence, BODSIZ= Board size, BODSH= Board shareholdings, BODNA= Board nationality, BODMD= Board multiple directorships, BODMEET= Board meetings, BODCOM= Board committees, ACIND= AC independence, ACCI= AC chairman independence, ACSIZ= AC Size, ACFE= AC financial expertise, ACMD= AC multiple directorships, ACMEET= AC meetings, ACDILIG= AC diligence, GOVOWN= Government ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman.

### 5.6.2 Alternative Measurement for Board Nationality

In the basic model, this study does not find any significant association between board nationality, measured by the proportion of foreign national directors to the total directors on the board, and IC disclosure. The present study looks into the potential of foreign directors' influence on IC disclosure in the case where the board constitutes a number of foreign nationals to the total number of members as indicators of the diversity of board nationality. The diversity of board nationality findings may have displayed better results when the variable is measured as a number of foreign board members on the board members in the firm's board of directors or Blau's index by calculating the following mathematical equation:

$$\text{Nationality diversity} = 1 - \sum (P_i)^2$$

Where: p = the percentage of board members in each nationality category

i= is the number of different nationality categories represented on the board.

However, this additional analysis identifies two categories to capture the diversity of nationalities – locals and foreigners. This measurement is similar to that used by Al-Musalli and Ku Ismail (2012a) and Darmadi, (2011). It is evident from Table 5.27 that the overall findings along with the individual ones show no change in model one. It appears that board nationality (The number of foreign board members and Blau's index) does not influence IC disclosure significantly.

Table 5.27

*Multiple Regression Results: Alternative Measurement for Board Nationality*

ICD =  $\beta_0 + \beta_1 \text{BODIND} + \beta_2 \text{BODSIZ} + \beta_3 \text{BODSH} + \beta_4 \text{BODNA} + \beta_5 \text{BODMD} + \beta_6 \text{BODMEET} + \beta_7 \text{BODCOM} + \beta_8 \text{ACIND} + \beta_9 \text{ACCI} + \beta_{10} \text{ACSIZE} + \beta_{11} \text{ACFE} + \beta_{12} \text{ACMD} + \beta_{13} \text{ACMEET} + \beta_{14} \text{ACDILIG} + \beta_{15} \text{GOVOWN} + \beta_{16} \text{FAMOWN} + \beta_{17} \text{INSOWN} + \beta_{18} \text{INTYP} + \beta_{19} \text{FSIZ} + \beta_{20} \text{ROA} + \beta_{21} \text{LEVER} + \beta_{22} \text{UAE} + \beta_{23} \text{KSA} + \beta_{24} \text{QA} + \beta_{25} \text{OM} + \beta_{26} \text{BA} + e$

Variables	Predicted sign	No of foreign members			Blau's index		
		Coeffic	t-test	Sig.	Coeffic	t-test	Sig.
(Constant)			-1.587	0.116		-1.573	0.119
BODIND	+	-0.043	-0.334	0.739	-0.044	-0.337	0.737
BODSIZ	+	0.118	1.209	0.230	0.128	1.329	0.187*
BODSH	+	-0.045	-0.520	0.604	-0.049	-0.567	0.572
BODNA	+	0.096	1.084	0.281	0.082	0.916	0.362
BODMD	+	0.180	1.360	0.177*	0.180	1.359	0.177*
BODMEET	+	0.278	2.983	0.004***	0.272	2.934	0.004***
BODCOM	+	0.188	1.846	0.068**	0.191	1.875	0.064**
ACIND	+	0.262	2.260	0.026**	0.269	2.323	0.022***
ACCI	+	-0.117	-1.130	0.261	-0.124	-1.193	0.236
ACSIZE	+	0.004	0.047	0.962	0.001	0.013	0.990
ACFE	+	0.050	0.615	0.540	0.053	0.650	0.518
ACMD	+	0.109	0.942	0.348	0.107	0.926	0.357
ACMEET	+	-0.095	-1.095	0.276	-0.094	-1.074	0.285
ACDILIG	+	0.032	0.402	0.688	0.027	0.342	0.733
GOVOWN	+	0.053	0.536	0.593	0.058	0.593	0.555
FAMOWN	-	-0.120	-1.289	0.201	-0.118	-1.272	0.207
INSOWN	+	-0.125	-1.239	0.218	-0.121	-1.203	0.232
INTYP	+	-0.042	-0.398	0.691	-0.040	-0.384	0.702
FSIZ	+	0.227	2.295	0.024***	0.223	2.263	0.026**
ROA	+	-0.079	-0.789	0.432	-0.078	-0.780	0.437
LEVER	+	0.015	0.148	0.883	0.018	0.183	0.855
UAE	+	-0.545	-3.871	0.000***	-0.551	-3.911	0.000***
KSA	+	-0.565	-3.701	0.000***	-0.567	-3.691	0.000***
QA	+	-0.216	-1.961	0.053**	-0.217	-1.954	0.054**
OM	+	-0.398	-2.294	0.024***	-0.396	-2.276	0.025**
Adjusted R <sup>2</sup>		0.414			0.412		
F		4.334			4.306		
Sig		0.000			0.000		

\*, \*\*, \*\*\* = p-value < .10, .05, .01, respectively, one-tailed

ICD= Intellectual capital disclosure, BODIND= Board independence, BODSIZ= Board size, BODSH= Board shareholdings, BODNA= Board nationality, BODMD= Board multiple directorships, BODMEET= Board meetings, BODCOM= Board committees, ACIND= AC independence, ACCI= AC chairman independence, ACSIZE= AC Size, ACFE= AC financial expertise, ACMD= AC multiple directorships, ACMEET= AC meetings, ACDILIG= AC diligence, GOVOWN= Government ownership, FAMOWN= Family ownership, INSOWN= Institutional ownership, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman.

### **5.6.3 Alternative Measurement for Ownership Structure**

In the earlier analysis, different types of ownership (namely, government, family and institutional ownership) are considered as continuous variables and it seems that utilizing the ratio of the number of total shares held by different types of ownership over the total shares is not significantly associated with IC disclosure in models 1 or 2 except family ownership in model 2. Accordingly, this study examines the potential of the ownership structure to impact IC disclosure in case the dummy variables are used to identify three different types of ownership structure. For example, a company will have institutional ownership when institutions' shareholding accounts for the majority of the top-five shareholdings (Jiang & Habib, 2009). It is notable that the use of a dummy variable to measure different types of ownership changes the result of the relationship between family ownership, institutional ownership in models one and two and IC disclosure as reported earlier. As predicted, the results presented in Table 5.28 show that the variable FAMCON is negative and significant at the 10 percent level (one tail) in both models. In addition, INSCON is negative and significant but at the 1 percent level (one tail) in models one and two. However, the results of the other independent and control variables support the results of the primary regression in model one and two except board size and audit committee effectiveness. The results indicate that family ownership and institutional ownership generate a negative and significant impact on IC disclosure when they hold a majority of the shares.



Table 5.28  
*The Results of Models One and Two with Ownership Control*

Variables	Predicted sign	Model One			Model Two		
		Coeffic	t-test	Sig.	Coeffic	t-test	Sig.
(Constant)			-1.391	0.168		1.482	0.141
BODIND	+	0.035	0.27	0.788			
BODSIZ	+	0.096	1.024	0.309			
BODSH	+	-0.043	-0.506	0.614			
BODNA	+	0.119	1.387	0.169*			
BODMD	+	0.22	1.719	0.089**			
BODMEET	+	0.274	3.036	0.003***			
BODCOM	+	0.168	1.695	0.094**			
BoDE_Score	+				0.285	3.44	0.001***
ACIND	+	0.239	2.133	0.036			
ACCI	+	-0.126	-1.242	0.218			
ACSIZ	+	0.03	0.337	0.737			
ACFE	+	0.065	0.825	0.411			
ACMD	+	0.092	0.82	0.415			
ACMEET	+	-0.079	-0.937	0.351			
ACDILIG	+	0.04	0.528	0.599			
ACE_Score	+				0.119	1.394	0.166*
GOVCON	+	-0.145	-1.03	0.306	-0.14	-1.008	0.316
FAMCOM	-	-0.23	-1.997	0.049**	-0.233	-2.046	0.043**
INSTCON	+	-0.36	-2.46	0.016***	-0.375	-2.573	0.011***
INTYP	+	-0.005	-0.045	0.964	0.012	0.129	0.898
FSIZ	+	0.215	2.228	0.028**	0.139	1.558	0.122*
ROA	+	-0.062	-0.64	0.524	-0.052	-0.553	0.582
LEVER	+	0.009	0.094	0.925	0.099	1.085	0.28
UAE	+	-0.552	-4.046	0.000***	-0.59	-5.071	0.000***
KAS	+	-0.566	-3.882	0.000***	-0.699	-6.023	0.000***
QA	+	-0.225	-2.136	0.035**	-0.222	-2.293	0.024**
OM	+	-0.437	-2.585	0.011*	-0.625	-5.18	0.000***
Adjusted R <sup>2</sup>	0.440				0.406		
F	4.706				7.203		
Sign	0.000				0.000		

\*, \*\*, \*\*\* = p-value < .10, .05, .01, respectively, one-tailed

ICD= Intellectual capital disclosure, BODIND= Board independence, BODSIZ= Board size, BODSH= Board shareholdings, BODNA= Board nationality, BODMD= Board multiple directorships, BODMEET= Board meetings, BODCOM= Board committees, BoDE\_Score= Board of directors' effectiveness score, ACIND= AC independence, ACCI= AC chairman independence, ACSIZ= AC Size, ACFE= AC financial expertise, ACMD= AC multiple directorships, ACMEET= AC meetings, ACDILIG= AC Diligence, ACE\_Score = Effectiveness of audit committee score, GOVCON= Government control, FAMCON= Family control, INSCON= Institutional control, INTYP= Industry type, FSIZ= Firm size, ROA= Return on assets, LEVER= leverage, UAE =United Arab Emirates, KSA = Kingdom of Saudi Arabia, QA= Qatar, OM =Oman

#### 5.6.4 Alternative Measurement for Audit committee Effectiveness

As reported in Table 5.24, audit committee effectiveness (measured by proportion score) has an insignificant relationship with IC disclosure. For a detailed explanation on the issue, the present study examines the potential impact of audit committee effectiveness IC disclosure when dummy variables are used (above the median) (DeFond *et al.*, 2005), and the score number to identify audit committee effectiveness. However, as evident in Table 5.29, the overall findings and individual ones do not significantly change in model two. Only the insignificant relationship between institutional ownership and IC disclosure becomes weak significant at 10% when we use a dummy score.

Table 5.29

*Multiple Regression Results- Effectiveness Measured by Above the Median Dummy and Number Score*

$$ICD = \beta_0 + \beta_1 BoDE\_Score + \beta_2 ACE\_Score + \beta_3 GOVOWN + \beta_4 FAMOWN + \beta_5 INSOWN + \beta_6 INTYP + \beta_7 FSIZ + \beta_8 ROA + \beta_9 LEVER + \beta_{10} UAE + \beta_{11} KSA + \beta_{12} QA + \beta_{13} OM + \beta_{14} BA + e$$

Variables	Dummy score			Number score		
	Coeffic	t-test	Sig.	Coeffic	t-test	Sig.
(Constant)		1.878	0.063		0.981	0.329
BoDE_Score	0.280	3.475	0.001***	0.271	3.219	0.002***
ACE_Score	0.095	1.145	0.255	0.096	1.054	0.294
GOVOWN	0.068	0.733	0.465	0.066	0.697	0.487
FAMOWN	-0.142	-1.548	0.125*	-0.147	-1.600	0.112*
INSOWN	-0.146	-1.468	0.145*	-0.125	-1.245	0.216
INTYP	0.004	0.038	0.970	-0.020	-0.202	0.840
FSIZ	0.144	1.581	0.117*	0.148	1.627	0.107*
ROA	-0.042	-0.435	0.664	-0.053	-0.555	0.580
LEVER	0.098	1.037	0.302	0.100	1.064	0.290
UAE	-0.557	-4.645	0.000***	-0.586	-4.879	0.000***
KSA	-0.651	-5.353	0.000***	-0.664	-5.496	0.000***
QA	-0.209	-2.006	0.047**	-0.215	-2.053	0.043**
OM	-0.608	-4.727	0.000***	-0.626	-4.888	0.000***
Adjusted R Square	0.378			0.384		
F	6.514			6.659		
Sig	0.000			0.000		

### **5.6.5 Board and Audit Committee, Ownership with Different Types of IC Disclosure**

The basic model reports the empirical findings of the board and audit committee characteristics and ownership structure influence on the level of IC disclosure. Therefore, it is important to examine how board and audit committee characteristics and ownership structure would contribute in determining different categories of IC disclosure (internal, external and human capital).

As reported in Table 5.23, in terms of board of director's characteristics, the results reported in the initial model that the board of directors with independence, shareholding and nationality are not significantly related to the level of IC disclosure. Consistently, the results presented in Table 5.30 indicate that board independence, shareholding and nationality are insignificant in determining all categories of IC disclosure. It appears from the results that board independence, shareholding and nationality do not have a significant influence on the level of IC disclosure in the annual report. Thus, board independence, shareholding and nationality are ineffective in overseeing corporate disclosure. Similar to the initial model, board meeting is positive and significant in explaining all types of IC disclosure. Consistent with the prediction of the agency theory, these results indicate that board meetings can play a significant role in determining IC disclosure. Inconsistent with the basic model results, the empirical results show that board multiple directorships is strongly positively associated with human capital information but not with internal and external capital. Inconsistent with the basic

model result, the empirical results show that board multiple directorships is strongly positively related with capital information but that it has no notable impact on capital (internal and external).

With respect to audit committee variables, the results reported in the initial model that audit committee size, financial expertise, and multiple directorships, meetings and meeting diligence are not significantly related to the level of IC disclosure. Consistently, the results presented in Table 5.29 indicate that audit committee size, financial expertise, multiple directorships, meetings and meeting diligence do not have a significant influence on the level of IC disclosure in the annual reports. This implies that the audit committee size, financial expertise, and multiple directorships, meetings and meeting diligence to oversee the financial reporting process are not strong enough to influence IC disclosure.

In terms of ownership structure, the basic model shows that government ownership, family and instructional ownership had no impact on IC disclosure. Therefore, further analysis is conducted to examine the association between ownership structure and different types of IC disclosure. Consistent with the basic model, the results reported in Table 5.30 indicate that government, family and institutional ownership are not statistically significant in determining any category of IC disclosure. This implies that the type of ownership structure (e.g. government, family and institutional) is not strong enough to influence IC disclosure.

Table 5.30

*Multiple Regression Results Model One Different Types of IC Disclosure items*

ICD =  $\beta_0 + \beta_1 \text{BODIND} + \beta_2 \text{BODSIZ} + \beta_3 \text{BODSH} + \beta_4 \text{BODNA} + \beta_5 \text{BODMD} + \beta_6 \text{BODMEET} + \beta_7 \text{BODCOM} + \beta_8 \text{ACIND} + \beta_9 \text{ACCI} + \beta_{10} \text{ACSIZE} + \beta_{11} \text{ACFE} + \beta_{12} \text{ACMD} + \beta_{13} \text{ACMEET} + \beta_{14} \text{ACDILIG} + \beta_{15} \text{GOVOWN} + \beta_{16} \text{FAMOWN} + \beta_{17} \text{INSOWN} + \beta_{18} \text{INTYP} + \beta_{19} \text{FSIZ} + \beta_{20} \text{ROA} + \beta_{21} \text{LEVER} + \beta_{22} \text{UAE} + \beta_{23} \text{KSA} + \beta_{24} \text{QA} + \beta_{25} \text{OM} + \beta_{26} \text{BA} + e$

Variables	Internal Capital			External Capital			Human Capital		
	Coeffic	t-test	Sig.	Coeffic	t-test	Sig.	Coeffic	t-test	Sig.
(Constant)		-0.81	0.42		-2.57	0.01		0.23	0.82
BODIND	-0.08	-0.68	0.50	-0.17	-1.11	0.27	0.16	1.26	0.21
BODSIZ	0.07	0.73	0.47	0.19	1.71	0.09**	0.03	0.31	0.76
BODSH	-0.07	-0.82	0.41	-0.03	-0.33	0.74	-0.01	-0.11	0.91
BODNA	0.07	0.88	0.38	0.08	0.72	0.47	0.08	0.91	0.36
BODMD	0.10	0.80	0.43	0.05	0.33	0.74	0.30	2.22	0.03**
BODMEET	0.17	1.93	0.06**	0.27	2.46	0.02***	0.22	2.30	0.02***
BODCOM	0.13	1.30	0.20	0.23	1.92	0.06**	0.07	0.70	0.48
ACIND	0.33	2.98	0.00***	0.30	2.21	0.03**	-0.01	-0.08	0.94
ACCI	-0.24	-2.44	0.02***	-0.07	-0.60	0.55	0.03	0.26	0.79
ACSIZE	0.01	0.09	0.92	0.09	0.77	0.44	-0.10	-1.07	0.29
ACFE	0.07	0.89	0.38	0.00	0.04	0.97	0.06	0.71	0.48
ACMD	0.15	1.37	0.17*	0.06	0.45	0.65	0.06	0.49	0.62
ACMEET	-0.02	-0.27	0.79	-0.13	-1.27	0.21	-0.06	-0.72	0.47
ACDILIG	0.06	0.78	0.44	0.08	0.82	0.41	-0.07	-0.92	0.36
GOVOWN	0.12	1.27	0.21	0.03	0.26	0.79	-0.01	-0.11	0.91
FAMOWN	-0.08	-0.85	0.40	-0.13	-1.20	0.23	-0.07	-0.70	0.48
INSOWN	-0.11	-1.19	0.24	-0.14	-1.19	0.24	-0.02	-0.23	0.82
INTYP	0.13	1.31	0.19*	-0.12	-0.94	0.35	-0.08	-0.77	0.44
FSIZ	0.17	1.77	0.08**	0.18	1.56	0.12*	0.20	2.00	0.05*
ROA	0.06	0.62	0.54	-0.07	-0.61	0.54	-0.16	-1.59	0.12*
LEVER	0.12	1.23	0.22	0.05	0.45	0.65	-0.14	-1.41	0.16*
UAE	-0.70	-5.20	0.00***	-0.14	-0.83	0.41	-0.56	-3.89	0.00***
KAS	-0.61	-4.18	0.00***	-0.22	-1.23	0.22	-0.59	-3.81	0.00***
QA	-0.26	-2.41	0.02***	0.03	0.22	0.83	-0.35	-3.08	0.00***
OM	-0.41	-2.47	0.02***	-0.15	-0.72	0.47	-0.45	-2.52	0.01***
Adjusted R <sup>2</sup>	0.46			0.19			0.39		
F	5.06			2.08			4.02		
Sig	0.00			0.01			0.00		

## **5.7 Discussion of Results:**

### **5.7.1 Board of Directors' Characteristics and IC Disclosure**

#### **5.7.1.1 Board Independence**

In contrast to the agency theory, the results reported by previous studies (Akhtaruddin *et al.*, 2009; Cerbioni & Parbonetti, 2007; Li *et al.*, 2008), board independence shows an insignificant association with IC disclosure in both the basic and alternative models. This finding is inconsistent with the prior research findings of Ahmed Haji and Mohd Ghazali (2014), Cerbioni and Parbonetti (2007), and Li *et al.* (2008) who find a significant positive association between board independence and IC disclosure in Malaysia, European companies and the UK, respectively.

However, the findings of this study are consistent with the results of Gan *et al.* (2013), Hidalgo *et al.* (2010) and Moeinfar *et al.* (2013) who find an insignificant association between board independence and IC disclosure in Malaysia, Iran and Mexican companies, respectively. Furthermore, this finding is in line with Al-Shammari and Al-Sultan (2010) who find an insignificant relationship between board independence and voluntary disclosure in the companies listed in Kuwait. They conclude that the proportion of non-executive directors does not seem to influence disclosure, possibly because most non-executive directors in Kuwait are not selected because of their know-how and experience, but for their contacts. These directors may not contribute to independent monitoring and the reduction of agency conflicts.

A possible explanation for the insignificant relationship between board independence and IC disclosure may be attributed to the fact that non-executive directors are not always independent. According to Al-Musalli and Ku Ismail (2012a) most of the board of directors' members in the GGC bank are not truly independent directors. In addition, the concept of independent directors is a comparatively novel one in the GCC region, and, in this regard, challenges are related to the recruitment of suitable directors on the board (Mujtaba, 2011). It appears that independent directors fill board positions to adhere to the mandated requirements of the GCC codes of corporate governance, but they might be incapable of exercising their power.

#### **5.7.1.2 Board Size**

The result is aligned with the expectation that a positive significant relationship is found between board size and IC disclosure, supporting the contention that a large board size will provide the firm with critical information, diverse ideas and resources (Abeysekera, 2010; Akhtaruddin *et al.*, 2009). Hence, these factors may enhance and improve corporate disclosure practices. In GCC firms, this study argues that larger boards of directors play a key role in overseeing the information provided in the annual report.

The study finding is consistent with the resource dependence theory, indicating that larger boards allow firms to bring diverse and vital resources into the board that can make the board's decision-making effective and efficient directly or indirectly in meeting the challenges in the globalized business environment (Abeysekera, 2010;

Parum, 2005). Overall, this result is consistent with Akhtaruddin *et al.* (2009) who find that the size of the board is positively related to voluntary disclosure in Malaysia firms. In addition, in terms of IC disclosure, Abeysekera (2010), Ahmed Haji and Mohd Ghazali (2014), Hidalgo *et al.* (2010), and Moeinfar *et al.* (2013) who find that the size of the board is positively related to IC disclosure in firms listed in Kenya, Malaysia, Mexico and Iran.

#### **5.7.1.3 Board Shareholding**

The results contradicted the prediction of the agency theory as no significant relationship was found between board shareholding and IC disclosure. This implies that companies owned by non-executive independent directors are less likely to improve the level of IC disclosure. The coefficient of non-executive independent directors' ownership is negatively associated with the level of IC voluntary disclosure. This indicates that companies owned by non-executive independent directors are less likely to improve the level of IC disclosure, thereby supporting the entrenchment hypothesis. This finding is inconsistent with the prior research findings of Akhtaruddin *et al.* (2009), Mohd Ghazali and Weetman (2006), and Nasir and Abdullah (2004) who find an significant association between board shareholding and the extent of voluntary disclosure in Malaysia.

However, the finding of this study is consistent with the results of Huafang and Jianguo (2007), and Jaffar *et al.* (2013) who show that the percentage of outside directors' ownership is not a predictor of the level of voluntary disclosure by



Chinese and Indonesian listed firms, respectively. They conclude that if the proportion of outside directors' ownership is too low it cannot affect the level of voluntary disclosure. Similarly, the descriptive analysis of this study indicates an average of only 22% of outside directors' ownership. Thus, the percentage of outside directors' ownership on the board could possibly have rendered the insignificant influence of outside directors' ownership on the level of IC disclosure.

Another explanation for the insignificant association between outside directors' ownership and the level of IC disclosure could be that the appointment of outside directors on the boards is not made appropriately on the basis of their potential contribution to monitor the management. Rather, they might have been appointed to the board principally on the basis of their "networks". Thus, the process of their appointment could possibly have caused the insignificant influence of outside directors' ownership on the level of IC disclosure.

The insignificant finding between board ownership and IC disclosure may be attributed to the fact that GCC companies have a high information asymmetry problem (Chahine, 2007). In addition, Morck *et al.* (1988) added that higher board ownership would cause the moral hazard and asymmetric problem between the management or directors and investors, which, in turn, creates difficulties for board shareholding to access and acquire strategic information, such as that related to IC. Therefore, the percentage of outside directors' ownership on the board could

possibly have rendered the insignificant influence of outside directors' ownership on the level of IC disclosure.

#### **5.7.1.4 Board Nationality**

Contradictory to the resource dependency theory assumptions, this study did not reveal a significant relationship between board nationality and IC disclosure in either the basic or the alternative model. Thus, this study concludes that including foreign members on the boards of GCC firms does not lead to higher IC disclosure. This finding is inconsistent with the prior research findings of Alhazaimeh *et al.* (2014), Haniffa and Cooke (2005), and Khan (2010) who find a significant association between nationality diversity and voluntary disclosure in Jordan, Malaysia and Bangladesh, respectively.

However, the results of this study are consistent with Baraka and Brown (2008) who find an insignificant relationship between board nationality and corporate social reporting in the Kenyan banking sector. They argue that board nationals on the board often represent the interests of foreign owners, thus their very presence on the board may act as substitute for enhanced disclosure. Therefore, the foreign member on the board acts as a substitute and is not complementary for enhancing IC disclosure.

Another justification for the insignificant result obtained between board nationality and IC disclosure may be attributed to the fact that GCC firms have a high information asymmetry problem (Chahine, 2007), which, in turn, creates difficulties for foreign directors to access and acquire strategic information, such as those related

to IC. Although this information asymmetry problem affects both foreign and local directors, there are differences in the level of information asymmetry between these two types of director (Zaheer, 1995). Foreign directors have larger asymmetries of information about firm activities than domestic directors, because, as foreigners, they are not as well embedded in the networks of information in the host country (Zaheer, 1995). Hence, due to their poor knowledge of firm-specific information, foreign directors in GCC companies may be unable to make significant contributions related to IC development.

Another plausible reason is that the social psychological dynamics of locals may lead to a resistance toward foreign directors (Al-Musalli & Ku Ismail, 2012b). Due to their common cultural and social ties, local directors may categorize themselves as the national group and foreign directors as foreigners group. In making decisions, local directors may favor the national group due to their commonality. Given the power of locals in the decision-making and resource allocation processes of the firm, the effect of self-categorization by local directors is that the decisions of foreign directors will be given limited consideration or ignored completely. Therefore, due to different cultural and social ties, foreign directors in GCC companies may be unable to make significant contributions related to IC disclosure.

Another explanation for the insignificant finding may be due to the low number of foreign directors on the boards of GCC firms. The descriptive analysis of this study indicates that the average is only 11% of foreign members on the board.

Furthermore, Al-Musalli and Ku Ismail (2012b) argue that the lack of any relationship between national diversity and IC performance may be due to the low number of foreigners on the boards of GCC companies. Therefore, foreign directors are still a minority in the boardroom.

#### **5.7.1.5 Board Multiple Directorships**

The present study results reveal a significant board multiple directorship-IC disclosure relationship, supporting the contention that a high number of board multiple directorships will provide the firm with critical information, ideas and resources (Al-Musalli & Ku Ismail, 2012b; Haniffa & Hudaib, 2006; Hillman & Dalziel, 2003) that may facilitate IC development and thus enhance its disclosure.

The result is in line with the resource dependency theory and provides evidence that a high number of board multiple directorships will provide firms with skills, expertise, experience and knowledge that would lead to improve board effectiveness with respect to an increased level of IC disclosure. Therefore, this study contends that high multiple directorships on the board strongly influence IC disclosure in GCC companies. This result is consistent with Azman and Kamaluddin (2012) who find a significant association between the cross-leadership of the chairperson and voluntary disclosure in Malaysian listed firms

#### **5.7.1.6 Board Meetings**

The study reveals a positive significant relationship between board meeting frequency and IC disclosure, this result supports the contention that the higher the frequency of board meetings the greater the control over the managers, and an improvement in voluntary disclosure (Barros *et al.*, 2013). Therefore, a higher frequency of meetings implies greater pressure on managers to provide supplementary information, and improve IC disclosure.

The result of this study is consistent with Barros *et al.* (2013) who find a significant positive relationship between board meetings with voluntary disclosure in 206 non-financial French listed firms. Furthermore, in terms of IC disclosure, this result is consistent with Ahmed Haji and Mohd Ghazali (2013) who find a significant positive relationship between the frequency of board meetings and IC disclosure in the top companies listed on Bursa Malaysia based on their market capitalization for the years 2008, 2009 and 2010.

#### **5.7.1.7 Board Committees**

The present study reveals a positive significant relationship between board committees and IC disclosure, supporting the contention that the IC disclosure level in firms having committees (audit, nominating and compensation) is higher than companies that do not have all three committees. Therefore, this result supports the idea that the board committees help to improve sound corporate governance that plays a key role in the enhancement of corporate voluntary disclosure (Fama &

Jensen, 1983; Menon & Deahl Williams, 1994; Vafeas, 1999). Therefore, this study argues that board committees (i.e. audit committee, nomination committee and compensation committee) have a key role in enhancing corporate voluntary disclosure in the context of the companies in the GCC.

In addition, the significant association between board committees and IC disclosure in GCC firms indicates that most of the firms comply with the rules and regulations established by the Code of Corporate Governance in GCC countries in terms of the adoption of board committees, in particular, audit, compensation and nomination committees. This result is consistent with Cerbioni and Parbonetti (2007) who find that board committees are positively related to IC disclosure in European biotechnology companies. In addition, the result is consistent with the findings of Fauzi and Locke (2012) concerning firm performance.

## **5.7.2 Audit Committee Characteristics and IC Disclosure**

### **5.7.2.1 Audit Committee Independence**

The study result is consistent with the hypothesis that a positive significant relationship is found between audit committee independence and IC disclosure, thereby supporting the contention that the presence of independent directors on the audit committee provides it with a greater pool of expertise, skills, experience, and better contact with others (Li *et al.*, 2008). This, in turn, enhances the audit committee's ability to perform its duties effectively. In GCC companies, this study argues that a high proportion of independent directors on audit committees plays an

important role in overseeing the information provided in the annual report, and, hence, may influence IC disclosure.

The finding of this study supports both the agency and resource dependency theories, which suggests that independent directors could help in enhancing IC disclosure. According to Li *et al.* (2008), the wider expertise and experience of independent directors on the board will encourage management to take a disclosure position beyond a ritualistic, uncritical adherence to prescribed norms, to a more proactive position reflecting the value relevance of IC to stakeholders. Furthermore, the findings of this study are consistent with the results of other accounting research that found that independent directors enhance the monitoring role of the audit committee directors and provide such a committee with a greater pool of expertise, skills, experience, and better contact with others. For example, it has been found that independent directors on the audit committee increase voluntary disclosure (Akhtaruddin & Haron, 2010; Barros *et al.*, 2013; Madi *et al.*, 2014; Patelli & Prencipe, 2007; Persons, 2009) and that there is a significant positive association between the independence of the audit committee and R&D voluntary disclosure in French companies (Nekhili *et al.*, 2010).

#### **5.7.2.2 Audit Committee Chairman Independence**

This study does not find a significant association between audit committee chairman independence (ACCI) and IC disclosure in the basic model. As the coefficient for audit committee chairman independence is positive, it supports the contention that

when the chairman of the audit committee is an independent director, they could positively affect the level of IC disclosure. Thus, this study concludes that if the chairman of the audit committee is independent in GCC firms it does not lead to increased IC disclosure. This result is inconsistent with Chobpichien *et al.* (2008) who hypothesized that if the chairman of the audit committee is an independent non-executive director, he could positively affect the level of voluntary disclosure.

The insignificant result indicates that audit committee chairmen are not playing a sufficient role in providing adequate and quality information despite the fact that the earlier descriptive analysis found that the audit committees of most (78%) GCC companies have an independent chairman. One of the explanations for this finding might be due to the low experience of audit committee chairmen. The descriptive analysis indicates that an average of only 50% of audit committee members have financial expertise. Directors who are not experienced in accounting numbers may not know which questions to ask or how to comprehend the answers, which could explain the study's insignificant results.

Another explanation for the insignificant relationship between the audit committee chairman independence and firm's IC disclosure in the GCC might be due to there being no regulations in the GCC that determine and illustrate the vital role of audit committee members. For example, Al-janadi, Rahman and Omar (2013) examine the relationship between corporate governance mechanisms and voluntary disclosure in Saudi Arabia. They argue that the reason why independent audit committees in Saudi



Arabia (one of the GCC countries) do not play a sufficient role in providing adequate and quality information is because there are no regulations in Saudi companies that determine and illustrate the vital role of audit committee members.

#### **5.7.2.3 Audit Committee Size**

Contradictory to the resource dependence theory, no significant association is found between audit committee size and IC disclosure. Thus, this study concludes that larger audit committees in GCC firms do not lead to higher IC disclosure. Thus, this study's results contradict the study by Li *et al.* (2008) who find a significant and positive relationship between audit committee size and IC disclosure in UK listed firms.

However, the findings of this study are consistent with the results of Mangena and Pike (2005) who find that audit committee size does not have a significant relationship with interim financial disclosure in the UK. Furthermore, this finding is in line with Arouri *et al.* (2011) who find an insignificant relationship between size and bank performance in the GCC countries in terms of board size. They conclude that the absence of a real application for the appropriate principles and standards of corporate governance in listed GCC banks might explain the effect of board size on bank performance.

Another explanation for the insignificant relationship between the audit committee size and firm's IC disclosure in the GCC is that the number of directors on the audit

committee might not reflect the directors' skill and knowledge, which are more valuable for an audit committee to function effectively or it has not shown serious attention to IC disclosure. Hence, it can be concluded that the need for a member of the committee to be a financial expert does not lead to higher IC disclosure. Thus, it could be said that the audit committee size does not matter if the members of such a committee have the relevant skills of oversight over the process of financial reporting.

#### **5.7.2.4 Audit Committee Financial Expertise**

Contradictory to the assumptions of the resource dependence theory, the present study does not reveal a significant audit committee financial expertise-IC disclosure relationship. Thus, this study concludes that including members on the GCC firm audit committee with financial expertise to oversee the financial reporting process is not strong enough to influence IC disclosure. This finding is not consistent with prior research that examined the relationship between the presence of a financial expert on the audit committee with financial reporting quality, such as Mangena and Pike (2005) who find a significant positive association between interim disclosure and audit committee financial expertise.

However, the results are in line with Li *et al.* (2012) who do not find a significant relationship between the audit committee financial expertise and IC disclosure in UK listed firms. They conclude that financial expertise is more relevant for financial related issues than for IC reporting issues. Some of the IC elements (for example,

R&D, quality management and improvement) might require other specialist knowledge instead of financial expertise to understand.

The insignificant finding between audit committee financial expertise and IC disclosure may be attributed to the fact that most of the directors of the audit committee do not have financial expertise. The descriptive analysis indicates that an average of only 50% of audit committee members have financial expertise. It has been contended that directors who do not possess accounting skills may not be able to ask the right questions and comprehend the answers, which, in turn, could be the reason behind the insignificant findings of the present study.

Another explanation for the insignificant findings may be the measurement variable, as the present study only concentrated on audit committee members who are qualified or have experience in accounting/finance. The members may have varying professional backgrounds that could add firm value; for instance, in a related study, Choi, Park and Yoo (2007) concentrate on various professional backgrounds of Korean directors to examine the impact of director's quality upon the performance of the firm. They investigate the external directors' different professional backgrounds, where they were lawyers, accountants, bankers, politicians, government officials, academicians and executives of both affiliated and non-affiliated companies. They reveal a positive influence of executives from non-affiliated firms and academicians upon firm performance. According to the resource dependency theory, insiders as well as outsiders comprising the board constitute valuable human capital who can

contribute advice and counsel (Hillman & Dalziel, 2003). In other words, various professionals, such as lawyers, financial representatives, top management from other companies, marketing specialists, ex-government officials all contribute to providing advice and counsel as they are experts in their field and may add experience and skills (Hillman & Dalziel, 2003). Future research can extend the finding by investigating the different professional backgrounds of directors.

#### **5.7.2.5 Audit Committee Multiple Directorships**

Table 6.10 shows that a high number of multiple directorships on the audit committee is not significantly related to IC disclosure. This is contradictory to the prediction of the resource dependency theory, which argues that directors with high multiple directorships might transfer their knowledge and experience across firms. This implies that audit committees that have a high number of multiple directorships will not be able to improve the monitoring of quality financial reporting and will not influence IC disclosure. Although outside directors should be associated with strong governance, the findings in this study suggest that high multiple directorship on the audit committee are ineffective.

Nevertheless, this finding is inconsistent with prior research that has examined the relationship between audit committee multiple directorships and voluntary disclosure, such as Ismail *et al.* (2008), and Haniffa and Cooke (2005). They find a significant positive relationship between audit committee multiple directorships and corporate social reporting, and financial reporting quality, respectively, in Malaysian

listed firms. However, the results of this study are consistent with Persons (2009) who find an insignificant relationship between audit committee multiple directorships and earlier voluntary ethics disclosure among fraud and no-fraud firms.

One of the explanations of the insignificant relationship between audit committee multiple directorships and IC disclosure is due to the limited time and commitment for audit committee members. According to Song and Windram (2000), audit committees with members with a high number of multiple directorships may cause limitations of time and commitment for audit committee members from performing effectively. In addition, audit committee members who hold director posts of too many companies may have limited time in fulfilling their responsibilities (Core *et al.*, 1999). Therefore, members of the audit committee with a high number of multiple directorships have limitations in terms of time and commitment, which may prevent them from performing effectively.

#### **5.7.2.6 Audit Committee Meetings**

Contradictory to the hypothesis, this study finds an insignificant relationship between the frequency of audit committee meetings and IC disclosure. This finding suggests that a higher frequency of audit committee meetings is not associated with IC disclosure, which is not consistent with the prior studies of Li *et al.* (2012) and (2008) in the UK who find that audit committee meetings are significantly and positively associated with IC disclosure. This finding is also inconsistent with the earlier study by Persons (2009) who finds a significant positive relationship between

the frequency of audit committee meetings with earlier voluntary ethics disclosure in 154 USA companies. However, the results of this study are consistent with Barros *et al.* (2013) who find an insignificant relationship between audit committee meetings and voluntary disclosure in non-financial French listed firms.

A possible explanation for the insignificant negative finding between the frequency of audit committee meetings and IC disclosure because of the lower number of audit committee meetings. The descriptive analysis indicates an average frequency of only 40% for audit committee meetings. Beasley *et al.* (2000) provide evidence that a lower frequency of audit committee meetings is associated with a higher likelihood of financial statement fraud. Therefore, it is argued that a lower frequency of audit committee meetings results in less effective monitoring, and, hence, lower IC disclosure, which may possibly explain the insignificant relationship.

Another reason why the frequency of audit committee meetings insignificant affects IC disclosure may be due to the limited time that outside directors spend together. According to Vafeas (1999), board meetings are not necessarily useful because the limited time that outside directors spend together is not used for the meaningful exchange of ideas among themselves or with management. Thus, the limited time of audit committee meetings leads to an ineffective audit committee, and, hence, influences the level of IC disclosure.

Another apparent reason that contributes to the insignificant findings of this study is attributed to the directors of the audit committee having personal ties with insider directors. According to Barros *et al.* (2013), audit committee directors are more likely to establish personal ties with the firm insiders they are supposed to monitor when they participate frequently in audit committee meetings, which can reduce the effectiveness of monitoring, including that pertaining to disclosure decisions. It is argued that when audit committee directors have personal ties with insider directors they are less effective monitors, which leads to lower IC disclosure. In addition, according to Barros *et al.* (2013), audit committees that meet frequently with all their members sends a signal of continuous monitoring to the market, and reduces the need for public information disclosure in annual reports.

#### **5.7.2.7 Audit Committee Diligence**

Contradictory to the prediction, this study does not find any significant association between audit committee diligence and IC disclosure. Thus, this study concludes that a higher percentage of participation in audit committee meetings in GCC firm audit committees does not lead to higher IC disclosure. This finding is inconsistent with the prior research findings of Barros *et al.* (2013) who find a significant negative association between audit committee diligence and voluntary disclosure.

A possible explanation for the insignificant finding between audit committee diligence and IC disclosure is the significant dominance of directors on audit committees who do not have sufficient financial expertise to provide useful advice,

share points of view, and benefit from each other's experience. The descriptive analysis indicates that an average of only 50% of audit committee members have financial expertise. It is argued that the directors on the audit committee do not have financial expertise to share advice, share knowledge, and experience. Consequently, they do not understand the accounting numbers, and may not be able to ask the right questions or understand the answers. Hence, attending audit committee meetings is meaningless for the committee, which may possibly explain the insignificant association between IC disclosure and audit committee diligence.

### **5.7.3 Ownership Structure and IC Disclosure**

#### **5.7.3.1 Government Ownership**

Contradictory to the prediction of the hypotheses, this study does not find any significant association between government ownership and IC disclosure. Thus, this study concludes that government ownership in GCC firms does not influence the level of IC disclosure. This finding is inconsistent with the prior research findings of Jiang and Habib (2009) who find a significant positive association between governmental ownership and voluntary disclosure in New Zealand.

However, the findings of this study are consistent with the results of Huafang and Jianguo (2007), Mohd Ghazali and Weetman (2006), and Samaha and Dahawy (2011) who find that government ownership does not have a significant relationship with voluntary disclosure. Furthermore, this finding is in line with Al-Musalli and Ku Ismail (2012a) who find an insignificant relationship between government



ownership and bank IC performance in the GCC. They conclude that the insignificant finding between government ownership and IC performance is that, although the GCC governments invested in GCC firms, they allowed control over key aspects of the firms to be retained by the private partners.

A possible explanation for the insignificant finding between government ownership and IC disclosure is due to the dispersion of ownership concentration. According to Al-Shammari *et al.* (2008) and Naser, Al-Hussaini, Al-Kwari and Nuseibeh (2006) most of the firms in the GCC countries owned by number of government, family and institutional ownership. Therefore, these government firms would have little incentive to disclose voluntary information. A similar situation applies to companies the majority of whose shares are owned by the family or institution. In this case, dominant government, families and the institution can obtain information through direct contact with the company.

In addition, the government`s nominees on the board are typically bureaucrats with minimal expertise in company matters and IC-related issues. The directors often lack appropriate skills and knowledge to provide good advice and counsel or exercise effective controls over senior executives in respect to IC related decisions. Thus, they are less likely to be engaged in IC-related discussions with no impact on IC disclosure. The OECD-Hawkamah Survey revealed that the existing board nomination procedures followed by GCC firms lack the transparency and are affected by the influence of major shareholders, which, in turn, lead to selecting

firm's directors with inadequate skills and poor understanding of company matters (OECD, 2009). Even if some government bureaucrats have expertise and understanding of IC-related issues, they tend to have weak incentives to invest the time and effort required to monitor managerial performance and participate effectively in structuring and formulating IC-related strategies and policies.

#### **5.7.3.2 Family Ownership**

Using the ratio of the total number of shares held by the family over the total shares as a measurement of family ownership, this study does not find a significant relationship between family ownership and IC disclosure. This result is consistent with that reported by Md Nor *et al.* (2010), which went against the theoretical model and the hypothesis that predicted a negative association between family ownership and IC disclosure. Nevertheless, the study reveals notable findings when using a dummy variable (sum largest shareholders) to explore the possibility of the influence of family ownership on IC disclosure. This study documents a negative significant relationship between family ownership and IC disclosure when the family has a majority of the shares.

This finding supports the argument of Chau and Gray (2010) that the significant negative impact of family ownership on the level of voluntary disclosure appears when the family holds a majority of shares. They argue that at high levels of family shareholding (above 25%), the entrenchment effect becomes dominant and causes the level of voluntary disclosure to increase.

However, the findings of this study are consistent with the results of Md Nor *et al.* (2010) who find that government ownership does not have a significant relationship with voluntary disclosure. Furthermore, this finding is in line with Al-Shammari and Al-Sultan (2010) who find an insignificant relationship between family ownership and bank voluntary disclosure in Kuwait (one of the GCC countries) listed companies, arguing that family ownership discourages their companies from disclosing information over and above what is required by Law, IFRSs and stock exchange listing requirements. Therefore, companies in GCC countries have little incentive to disclose IC information.

#### **5.7.3.3 Institutional Ownership**

Contradictory to the expectations, this study does not find any significant association between institutional ownership and IC disclosure. Thus, this study concludes that institutional ownership in GCC firms does not lead to higher IC disclosure. This finding is inconsistent with the prior research findings of Barako *et al.* (2006), Huafang and Jianguo (2007) and Khodadadi *et al.* (2010) who support their argument by revealing a positive relationship between institutional ownership and the extent of voluntary disclosure of companies listed in Kenya, China and Iran, respectively.

Nonetheless, interesting findings are shown when the study uses a dummy variable (sum largest shareholders) to explore the possibility of the influence of institutional ownership on IC disclosure. This study documents a negative significant relationship

between institutional ownership and IC disclosure when the institution has a majority of the shares. This finding supports the argument of Jiang and Habib (2009) that the significant negative impact of institutional ownership on the level of voluntary disclosure appears when the institution holds the majority of shares. They argue that at high levels of institutional ownership (sum largest shareholders), the conflict-of-interest or private benefit hypothesis becomes dominant and causes the level of voluntary disclosure to decrease. In addition, they mention several potential reasons for the reduced voluntary disclosure. Firstly, companies may have less incentive to make voluntary disclosure if concentrated owners provide the bulk of the capital; second, private information acquisition by financial institutions could suppress disclosure incentives of portfolio companies; and, finally, the conflict of interest and strategic alignment between management and majority financial shareholders motivate the cooperation of both parties' in "covering up" their expropriation of minority shareholders' interests by reduced corporate disclosure.

However, the findings of this study are consistent with the results of Ahmed Haji and Mohd Ghazali (2013), Md Nor *et al.* (2010), and Matoussi and Chakroun (2009) who find that institutional ownership does not have a significant relationship with voluntary disclosure in Malaysia and Tunisia, respectively. Furthermore, this finding is in line with Naser *et al.* (2006) who find an insignificant relationship between institutional ownership and corporate social disclosure in Qatar (one of the GCC countries). They argue that most of the companies listed on the Doha Stock Exchange belong to specific families, and, therefore, these stakeholders can use their

power by requesting information directly from the company management. In this case, the possibility of forcing management to make IC disclosure in the annual report is remote. More importantly, the concentration of company ownership in the hands of a number of families and the government makes accountability a minor issue. Hence, companies have little incentive to voluntarily disclose IC information.

#### **5.7.4 Board and Audit Committee Effectiveness**

Consistent with expectation, this study finds a positive and significant relationship between board of directors' effectiveness and IC disclosure. This finding indicates that as the level of the effectiveness increases the level of IC disclosure in the firm annual reports increase. The result is consistent with prior findings by Chobpichien *et al.* (2008) who find a significant association between board of directors' quality and voluntary disclosure index.

In terms of the effectiveness of the audit committee, this study finds an insignificant relationship between board of directors' effectiveness and IC disclosure. This finding indicates that the level of audit committee effectiveness is not strong enough to influence IC disclosure. A possible explanation for the insignificant relationship between the effectiveness of the audit committee and IC disclosure may be attributed to the fact that most of the audit committee characteristics (independence, chairman, size, financial expertise, multiple directorships, frequency of meetings and meeting diligence) have an insignificant relationship with IC except audit committee independence, which is considered to be an important resource for audit committee

effectiveness, as reported in Table 5.23. Furthermore, the descriptive analysis of this study provides evidence of the low level of audit committee effectiveness in GCC companies, since the average of audit committee effectiveness on GCC companies is 49%. Therefore, audit committee effectiveness does not play a sufficient role in providing adequate and quality information in terms of IC disclosure.

Another explanation for the insignificant relationship between the audit committee effectiveness and IC disclosure in GCC companies is because there are no regulations in the GCC that determine and illustrate the vital role of audit committee members. For example, Al-janadi *et al.* (2013) examine the relationship between corporate governance mechanisms and voluntary disclosure in Saudi Arabia. They argue that the independence of the audit committee in Saudi Arabia (one of the GCC countries) is not playing a sufficient role in providing adequate and quality information due to there being no regulations in Saudi companies that determine or illustrate the vital role of audit committee members.

The fact that audit committee effectiveness has no influence on the level of voluntary disclosure in highly concentrated ownership firms could be because the majority of listed firms in GCC countries are government, family or institutional where the appointment of board members is made by those in control of the companies (Al-Shammari *et al.*, 2008). Family controlled firms are more effective at creating wealth (Chen & Nowland, 2010). Adams and Ferreira (2009) show that the increased monitoring mechanisms (board and audit committee) would make management less

effective or ineffective in creating wealth because the resources are dedicated to increasing the monitoring role at the expense of the creation of wealth (Chen & Nowland, 2010). The family controlled ownership structure could lead to higher agency problems as well as information asymmetry between the family group (major shareholders) and the minority shareholders, as the major shareholders are able to expropriate wealth from the minority shareholders through related party transactions, manipulation of accounting earnings, and special dividends. Therefore, the effectiveness of the audit committee is unable to reduce the agency problems since family members are more controlling.

#### **5.7.5 Moderating Effect of Audit Committee Effectiveness on the Relationship between Ownership Structure and IC Disclosure**

This study hypothesizes that the relationship between different types of ownership structure (government, family and institutional ownership) and IC disclosure would be more pronounced under certain contextual conditions. This study theorizes that the effectiveness of the audit committee is recognized as being a corporate governance mechanism to regulate the agency problem and enhance corporate voluntary disclosure. Audit committee effectiveness performs the function of decreasing the asymmetry of information, reducing managerial opportunism, and enhancing the quality of disclosure. More specifically, Hypotheses 20-22 predict that audit committee effectiveness would positively moderate the relationship between ownership structure and IC disclosure.

The findings of this study indicate little support for the contingency arguments of audit committee effectiveness. The interactions between government ownership and the effectiveness of the audit committee positively significantly affect IC disclosure. The interaction effects of audit committee effectiveness and other different types of ownership (family and institutional) tested in this study do not significantly influence firms IC disclosure.

A possible explanation for the insignificant moderating effect of audit committee effectiveness on the relationship between ownership structure, namely, family and institutional ownership and IC disclosure, may be attributed to the fact that most of the audit committee characteristics (independence, chairman, size, financial expertise, multiple directorships, frequency of meetings and meeting diligence) have an insignificant relationship with IC, except audit committee independence, which is considered to be an important resource for audit committee effectiveness. Furthermore, the effectiveness of the audit committee in the second model has a insignificant relationship with IC disclosure. Overall, the descriptive analysis of this study provides evidence of the low level of audit committee effectiveness in GCC companies, since the average for audit committee in GCC companies is 49%, which, in turn, limits the audit committee effectiveness to monitor management, and, hence, affects the level of IC disclosure.

Another explanation for the insignificant moderating of audit committee effectiveness on the relationship between ownership structure and IC disclosure



could be the highly concentrated ownership in GCC countries. According to Al-Musalli & Ku Ismail (2012a), and Al-Shammari *et al.* (2008), most of the listed GCC companies are controlled by a few rich families or governments and institutional ownership. Therefore, the effectiveness of the audit committee is unable to reduce the agency problems since the concentration of ownership is more controlling.

## **5.8 Summary**

This chapter finalizes the empirical investigation and demonstrates new evidence with regard to the effects of board and audit committee characteristics, and ownership structure on IC disclosure in model one. In addition, the board and audit committee effectiveness as a score on IC disclosure is provided in the second model. Furthermore, this chapter finalizes the empirical investigation and demonstrates new evidence with regard to the moderating effects of audit committee effectiveness on the relationship between ownership structure and IC disclosure. In addition, in this chapter, a number of additional analyses including using different measurements of board independence, board nationality diversity, ownership structure, and effectiveness of audit committee are conducted. In addition, Additional analysis is conducted to examine the impact of board and audit committee characteristics and ownership structure on IC disclosure categories; namely, internal capital, external capital and human capital. The results are as summarized in Table 5.31. The next

chapter draws the conclusions, implications, limitations as well as suggestions for future research of the study.

Table 5. 31

*Summary of Hypotheses and Results*

	<b>Description of hypothesis</b>	<b>Findings</b>	<b>Additional analysis</b>
	<u>Board independence</u>		
H1	There is a positive relationship between independent non-executive directors on the board and the level IC disclosure.	Not Supported	Not Supported
	<u>Board size</u>		
H2	There is a positive relationship between board size and the level of IC disclosure.	Supported	
	<u>Board shareholding</u>		
H3	There is a positive relationship between board shareholding and the level of IC disclosure.	Not Supported	
	<u>Board Nationality</u>		
H4	There is a positive relationship between proportion of foreign nationals on the board and the level of IC disclosure.	Not Supported	Not Supported
	<u>Board multiple directorships</u>		
H5	There is a positive relationship between the number of multiple directorships on the board and the level of IC disclosure.	Supported	
	<u>Board meetings</u>		
H6	There is a positive relationship between the frequency of board meetings and the level of IC disclosure	Supported	
	<u>Board committees</u>		
H7	There is a positive relationship between board committees and the level of IC disclosure.	Supported	
	<u>Board of Directors Effectiveness</u>		
H8	There is a positive relationship between the score of the effectiveness of the board of directors and the level of IC disclosure.	Supported	Supported
	<u>Audit committee independence</u>		
H9	There is a positive relationship between the proportion of the independent directors on the audit committee and the level of IC disclosure.	Supported	
	<u>Audit committee chairman independence</u>		
H10	There is a positive relationship between the independence of audit committee chairman and the level of IC disclosure.	Not Supported	

Table 5.31(continued)

	Description of hypothesis	Findings	Additional analysis
	<u>Audit committee size</u>		
H11	There is a positive relationship between audit committee size and the level of IC disclosure.	Not Supported	
	<u>Audit committee financial expertise</u>		
H12	There is a positive relationship between the proportion of the financial expertise on the audit committee and the level of IC disclosure.	Not Supported	
	<u>Audit committee multiple directorship</u>		
H13	There is a positive relationship between the number of multiple directorships among the members of audit committee and the level of IC disclosure.	Not Supported	
	<u>Audit committee meetings</u>		
H14	There is a positive relationship between the frequency of audit committee of meetings and the level of IC disclosure.	Not Supported	
	<u>Audit committee diligence</u>		
H15	There is a positive relationship participation of audit committee of director meetings and the level of IC disclosure.	Not Supported	
	<u>Audit committee effectiveness</u>		
H16	There is a positive relationship between the score of the effectiveness of the audit committee and the level of IC disclosure.	Not Supported	Supported
	<u>Government ownership</u>		
H17	There is a positive relationship between government ownership and the level of IC disclosure.	Not Supported	Not Supported
	<u>Family ownership</u>		
H18	There is a negative relationship between family ownership and the level of IC disclosure.	Not Supported	Supported
	<u>Institutional ownership</u>		
H19	There is a positive relationship between institutional ownership and the level of IC disclosure.	Not Supported	Supported
	<u>Moderating effect of effectiveness of audit committee on the relationship between government ownership and IC disclosure</u>		
H20	The effectiveness of the audit committee positively moderates the relationship between government ownership and the level of IC disclosure.	Supported	

Table 5.31 (continued)

	Description of hypothesis	Findings	Additional analysis
H21	<u>Moderating effect of effectiveness of audit committee on the relationship between family ownership and IC disclosure</u> The effectiveness of the audit committee positively moderates the relationship between family ownership and the level of IC disclosure.	Not Supported	
H22	<u>Moderating effect of effectiveness of audit committee on the relationship between institutional ownership and IC disclosure</u> The effectiveness of the audit committee positively moderates the relationship between institutional ownership and the level of IC disclosure	Not Supported	

## **CHAPTER SIX**

### **SUMMARY AND CONCLUSION AND FUTURE WORK**

#### **6.1 Introduction**

The purpose of this chapter is to reflect on the findings and discuss the contribution and limitations of this study as well as suggestions for future research. This chapter is organized as follows: Section 6.2 summarizes the overall findings of this study. Section 6.3 addresses the theoretical contribution of the study. Section 6.4 provides the potential practical and policy implications. Section 6.5 discusses the research limitations and offers several possible avenues for further research. Finally, Section 6.6 concludes the chapter.

#### **6.2 Summary of the Study**

As stated by many researchers (Li *et al.*, 2012; Li *et al.*, 2008; Tayles *et al.*, 2007) IC disclosure is increasingly recognized as having much greater significance in creating and maintaining competitive advantage and shareholder value. Therefore, this study aims to identify the level of IC disclosure of GCC top listed firms and to contribute to the current debate about the possible factors contributing to or limiting IC disclosure. Further, this study examines the effect of the board and audit committee characteristics, and ownership structure on the IC disclosure of the GCC top listed companies. This study further investigates the hypothesized impact of audit

committee effectiveness in moderating the relationship between ownership structure (namely, government, family, and institutional) and IC disclosure.

To measure IC disclosure, this study adopts and employs Sujan and Abeysekera's framework who developed their framework based on Guthrie and Petty (2000), which is considered as being one of the best frameworks for top capitalization companies (April *et al.*, 2003; Bozzolan *et al.*, 2003; Brennan, 2001; Gan *et al.*, 2013; Guthrie *et al.*, 2006; Ahmed Haji & Mohd Ghazali, 2013; Yau *et al.*, 2009). A multiple regression analysis is adopted to test the hypotheses. Furthermore, this study uses hierarchical regression to examine the moderating effect of audit committee effectiveness on the relationship between the ownership structure (namely, government, family and institutional) and IC disclosure.

The first research objective examines the level of IC disclosure among GCC listed firms. To achieve this objective, the researcher conducted descriptive statistics of IC disclosure. Therefore, the results indicate that internal capital is shown as the most reported category among the three categories with a percentage of 45% of the overall IC category and the external capital is graded as the second category with a percentage of 30% and finally human capital with a percentage of 25%.

The second, fourth and sixth research objectives examined the influence of board and audit committee characteristics and ownership structure on IC disclosure. Several important findings emerged, firstly, in terms of board of directors characteristics, the results of this study show that board size, board multiple

directorship, board meetings and board committees have a positive and significant relationship with IC disclosure. However, the study fails to find any significant relationship between board independence, board shareholdings, and board nationality and IC disclosure. This might be due to the low number of independent directors, shareholding, and foreign directors on the GCC firm boards, and the high level of information asymmetry and high ownership concentration that characterizes GCC firms, which may be the main factors that limit the ability of foreign directors to significantly contribute in enhancing IC disclosure.

Secondly, in terms of the relationship of the audit committee characteristics with IC disclosure, the results show that audit committee independence has a positive and significant relationship with IC disclosure. However, the study fails to find any significant relationship between audit committee chairman independence, audit committee size, audit committee financial expertise, audit committee multiple directorships, audit committee meetings and audit committee diligence, and IC disclosure. This might be due to the members of the audit committee not reflecting the directors' skill and knowledge, which are more valuable for audit committees to function effectively or it has not shown serious attention to IC disclosure. In addition, in terms of the relationship of the audit committee characteristics with IC disclosure, the study fails to find any significant evidence to show that the audit committee helps to solve the agency problem by increasing the level of IC disclosure except audit committee independence. This might be due to the lack of explicit and

detailed guidelines about the monitoring duties of the audit committee (Al-Abbas, 2009; Arouri *et al.*, 2011).

Thirdly, regarding ownership structure, none of the variables are significantly related to IC disclosure. From the analyses conducted, it is found that ownership structure (e.g. government, family and institutional) show insignificant associations with IC disclosure. In line with the findings of Al-Musalli and Ku Ismail (2012), this study finds that government ownership has an insignificant impact on IC disclosure. This suggests that the government acts as a passive investor with no impact on firm operations, particularly, on the strategic plans of a firm. Additionally, this study finds that family ownership does not influence IC disclosure. This study suggests that the negative impact of family ownership on IC disclosure only takes place when a family holds a majority of shares in a firm. Otherwise, family ownership discourages their companies from disclosing information over and above what is required by Law, IFRSs and stock exchange listing requirements (Al-Shammari & Al-Sultan, 2010). Consistent with family ownership, this study finds that institutional ownership has an insignificant relationship with IC disclosure but only takes place when institutions hold the majority of shares in a firm. Otherwise, institutional investors are passive with respect to disclosure in general, or, alternatively, they have more efficient and timely channels for extracting value relevant information.

To achieve the third and the fifth research objectives, when the characteristics of the board and audit committee are combined together (i.e. score) and examined with IC



disclosure. The results show that board of directors' effectiveness has a positive and significant relationship with IC disclosure. The results indicate that as the level of the score of the effectiveness of the board of directors increases the level of IC disclosure in the company annual reports increases. However, audit committee effectiveness has an insignificant relationship with IC disclosure. This might be due to members of the audit committee not reflecting the directors' skill and knowledge, which are more valuable for the audit committee to function effectively or it has not shown serious attention to IC disclosure.

In addition, the results show that most of the audit committee characteristics have an insignificant relationship with IC disclosure, and the study fails to find any significant evidence to show that the characteristics of the audit committee help to solve the agency problem by increasing the level of IC disclosure except audit committee independence. This might be due to the lack of explicit and detailed guidelines about the monitoring duties of the audit committee (Al-Abbas, 2009; Arouri *et al.*, 2011). However, the results of the other independent variables support the results of the primary regression except that family ownership is weak and significant at 10 percent.

The seventh research objective examined the moderating effect of audit committee effectiveness on the relationship between each type of ownership structure (e.g. government, family, and institutional) and the level of IC disclosure. Interestingly, this study finds a significant positive moderating effect of audit committee

effectiveness on the relationship between government ownership and IC disclosure. However, this study finds an insignificant moderating effect of audit committee effectiveness on the relationship between family and institutional ownership with IC disclosure. This finding is inconsistent with the hypothesis. It has been argued that many family and institutional ownership directors do not fully understand the firm's operations due to the high information asymmetry problem and the lack of financial sophistication and expertise in firms matters. This might be due to members of the audit committee not reflecting the directors' skill and knowledge, which are more valuable for audit committees to function effectively or it has not shown serious attention to IC disclosure. In addition, This might be due to the lack of explicit and detailed guidelines about the monitoring duties of the audit committee (Al-Abbas, 2009; Arouri *et al.*, 2011).

### **6.3 Theoretical Contribution**

This study explicitly investigates the relationship between the characteristics of the board and the audit committee and their effectiveness. In addition, this study examines the moderating effect of the effectiveness of the audit committee between ownership structure and IC disclosure. In doing so, this study contributes to the extant literature and provides further evidence on the characteristics of the board and audit committee and their effectiveness that increases the level of IC disclosure among the top listed companies in GCC countries. Although many studies have addressed the issue of corporate governance using the agency theory, most focused

on the developed and emerging countries, which have a different environment from the non-developed countries. Most importantly, this study has added to the understanding of the agency theory in a developing country, such as the GCC countries, where companies are controlled by concentrated ownership, in which the agency relationships are complex.

Additionally, the findings of this study show that board independence, board shareholding and board nationality are not related to IC disclosure. Thus, the study fails to support the agency theory in terms of board independence and shareholding, and do not support the resource dependency theory in terms of board nationality and IC disclosure. However, the significant impact of board multiple directorships on IC disclosure supports the resource dependency theory, which suggests that board multiple directorships is one of the mechanisms through which a firm can access resources (ideas, information, capital) from the external environment (e.g. Al-Musalli & Ku Ismail, 2012; Haniffa & Hudaib, 2006). The theory argues that board multiple directorships on another board may acquire additional contextual background, skills, experience, and knowledge to conduct their oversight responsibilities, and, thus positively influence disclosure. Furthermore, this study shows that board meetings and board committees are significantly related to IC disclosure. Thus, the study supports the agency theory, which suggests that board meetings and committees conduct particular roles in the decision-making procedure. In addition, Cerbioni and Parbonetti (2007) argue that the board of directors should

have board committees in order to be more effective, which, in turn, affects the amount and quality of voluntary disclosure.

In terms of audit committee characteristics, the findings of this study show that audit committee chairman independence, financial expertise, multiple directorships, meetings and meeting diligence have an insignificant relationship with IC disclosure. Thus, the study fails to support the agency theory. However, the significant impact of audit committee independence on IC disclosure supports the agency theory, which suggests that independent directors on the audit committee, who are motivated by the desire to maintain their reputational capital, have an incentive to exercise stronger control over managerial decisions than dependent directors to protect the shareholders' interests and restrain managerial opportunism.

With regards to ownership structure, the results of this study show that none of the types of ownership structure (e.g. government, family and institutional) have a significant relationship with IC disclosure. Thus, the study fails to support the agency theory, which suggests that the ownership structure can influence the level of monitoring and thereby the level of IC disclosure. This suggests a promising area for future research, exploring the different types of ownership that need to be considered in terms of the impact on ownership structure and IC disclosure.

Based on the multiple regression analysis in model two, the results show that board of directors' effectiveness (i.e. a combination of board characteristics), as one of the important corporate governance mechanisms, has a significant relationship with IC

disclosure. This supports the hypothesis that suggests that when the characteristics that enhance the effectiveness of the board of directors increase, the level of IC disclosure also increases. The significant effect of the board of directors' effectiveness on the level of IC disclosure suggests that the directors are efficiently monitoring IC disclosure. The aggregated analysis shows that individual board of director characteristics need to be aggregated together to be effective in reducing the agency cost. These aggregated findings demonstrate the importance of the application of the agency theory in GCC settings. In contrast to audit committee effectiveness, the results show that audit committee effectiveness, as one of the important internal corporate governance mechanisms, does not affect IC disclosure. Therefore, this does not support the agency theory, which suggests that the effectiveness of the audit committee, as a significant internal corporate governance mechanism, can control the agency problem and improve disclosure. This suggests that a promising area for future research would be to explore the various aspects of the audit committee that need to be considered in terms of the impact on audit committee effectiveness and IC disclosure.

This study also provides limited support for the hypothesized moderation effect. It appears that audit committee effectiveness does not provide a contextual condition under which the two types of ownership structure (i.e. family and institutional) can positively affect IC disclosure. However, it seems that the effectiveness of the audit committee increases the positive relationship between government ownership and IC disclosure. Overall, the findings lend support for firms with a higher level of

government ownership to include a higher level of audit committee effectiveness to increase the IC disclosure levels and reduce the information asymmetry between the firm management and the investors. This suggests a promising area for future research, exploring the various characteristics of the audit committee that make audit committee effectiveness high.

Overall, the findings of this study lend support to the notion that board and audit committee characteristics play an important role in determining IC disclosure. The findings add further to the view that no single theory explains the nexus between board and audit committee characteristics and voluntary disclosure (Lopes & Rodrigues, 2007). Thus, adopting a multi-theoretical approach that includes several theories, such as the resource dependency theory, stewardship theory, institutional theory and agency theory, will help researchers to obtain a deeper understanding of the relationship between the corporate governance mechanism and IC disclosure.

#### **6.4 Practical and Policy Implications**

This study should be of potential interest to policymakers, investors, creditors and researchers, especially concerning issues relating to IC disclosure and corporate governance characteristics.

The insignificant relationship between board attributes (e.g. board independence, shareholdings and nationality) and IC disclosure suggests that those attributes are not a good mechanism for mitigating the agency problems between the large and small

shareholders by disclosing more information about IC disclosure. Therefore, the findings of this study also provide evidence for policymakers through prevent directors who have a family relationship or shareholding from sitting on the board as independent directors. Furthermore, a policy implication from this finding is that more research is needed to understand whether board independence, shareholding, and foreign members promote better corporate governance and improve IC disclosure. In addition, the regulators in GCC countries should impose stricter nomination procedures for selecting truly independent directors.

The positive impact of board size, board multiple directorships, board meetings and board committees on IC disclosure confirms the hypothesis that larger board size, the number of multiple directorships, more frequent meetings and the existence of board committees can increase IC disclosure. Thus, the results of this study do not necessitate the imposition of stringent limits on multiple positions of directors, board size, board meetings, or the existence of board committees in institutional contexts akin to GCC companies.

The positive significant relationship between board of directors' effectiveness and IC disclosure indicates that as the level of the effectiveness increases the level of IC disclosure in the firm annual reports increases and that the mechanism mitigates the agency problems between the large and small shareholders by disclosing more information about IC disclosure. Policymakers may use the findings regarding IC disclosure in relation to governance practice to recognize the important roles played

by the effectiveness of the board of directors as one of the fundamental characteristics of the corporate governance system in the GCC, since their monitoring effects improve the IC disclosure in GCC firms. Therefore, policymakers should assume that the board of directors is a good corporate governance mechanism to protect the interests of shareholders in top listed firms. Thus, the policymakers should look to board effectiveness as a good mechanism that can be used to protect the interests of shareholders in environments like the GCC countries.

Regarding the insignificant relationship of audit committee effectiveness on IC disclosure, this study warrants further investigation of the nature of the roles played by independent directors, size, financial expertise, multiple directorships, meetings, and the attendance of meetings in respect of IC disclosure. Since the GCC audit committee members are argued to have a lack of expertise, skills and knowledge to understand the financial reporting details, it is important for policymakers to ensure that all the directors are fully independent and have expertise or accounting certification to enhance the competency and professionalism of the directors in performing their duties more effectively. This study may provide feedback to the policymakers in the stock markets in the GCC countries concerning the importance of corporate governance practices in providing adequate information. Additionally, this study also provides policymakers with information concerning the effectiveness of corporate governance mechanisms. Consistent with the findings in this study, the regulators could improve the corporate governance mechanisms that were found to be ineffective, such as the effectiveness of the audit committee. Such improvement



can be done by issuing rules that clarify the roles of audit committee members. In addition, the findings of this study also provide evidence for policymakers that the functions of the audit committee need to be strengthened. It is argued that many firms establish an audit committee to meet the listing recommendations and refuse to disclose further information about the members of the committee. Therefore, audit committees in GCC firms are still developing and the GCC regulators need to strengthen the role of audit committees.

There is an insignificant relationship between ownership structure (government, family, institutional) and IC disclosure. This indicates that ownership structure is not strong enough to affect IC disclosure. Thus, GCC policymakers should commit to optimizing the ownership structure, while expanding the number and size of companies listed. However, the negative relationship between family ownership, institutional ownership, and IC disclosure appears when family and institutions own the majority of firm shares, which enable it to exercise control over the key decisions of the firm.

Creditors will also benefit from the findings in this study because they have a better understanding of how the board and audit committee effectiveness, and ownership structure affect IC disclosure. Based on the results of this study, the creditors should be aware that they could not simply rely on audit committee effectiveness as one of the important corporate governance mechanisms in an environment such as the GCC countries.

The findings of this study might be useful to corporate governance academic researchers who emphasize the issues relating to the agency conflict between the minority and controlling shareholders. This study provides evidence that board and audit committee effectiveness and ownership structure influence IC disclosure. Furthermore, this study investigates the moderating effect of audit committee effectiveness on the relationship between each type of ownership structure (namely government, family, and institutional) and the level of voluntary IC disclosure and provides evidence that the effect of different types of ownership structure on IC disclosure depends on the level of effectiveness of the audit committee. Therefore, corporate governance researchers for developed countries like Arab countries should give more attention to the issue of minority shareholders based on the institutional aspects of the company and country being researched.

### **6.5 Limitations of the Study and Future Research**

As with any research, this study has some limitations that should be highlighted in order to warrant a fair interpretation of the results. First, the sample of this study used only represents the top capitalization firms. Hence, this study does not consider the influence of industry specific factors in IC disclosure. For example, services and financial or technology and communication based firms may disclose more IC as they rely more on non-tangible assets in economic value creation, the mix of industry sectors in the one sample may have influenced results. Consequently, the results of this study cannot be generalized to the IC disclosure of all GCC firms. Secondly, this

study only collected information from the annual reports. Thus, other variables that may affect IC disclosure are not examined. For instance, the qualitative nature of the board and audit committee characteristics are not examined. Furthermore, the relationship between members of the board with those of the audit committee or shareholders is not explored. As such, the effectiveness of their activities, the scope of reference for the audit committee or support given by the internal auditor on the audit committee, which may have an impact on the IC disclosure, are not included in this study. Finally, this study only investigated IC disclosure for year 2011. Further studies should try to have a larger span of time in order to better understand the long-term relationship between the board and audit committee characteristics, ownership structure, and IC disclosure in GCC countries.

Nevertheless, the above limitations highlight room for improvement in future IC disclosure studies. An extension to the current study is possible in the following areas:

- 1- This study did not examine the influence of other characteristics of audit and board because of the lack of information. It has been argued that directors who have strong industry backgrounds increase the understanding of the business environment, thus, helping to improve the quality of financial reporting. According to Cohen, Hoitash, Krishnamoorthy and Wright (2013) audit committee members with industry expertise can improve the effectiveness of the audit committee in overseeing financial reporting

because accounting guidance, estimates, and internal controls are often linked to a company's operations within a particular industry. Therefore, audit committee members with industry expertise is likely to help the committee members to understand and evaluate industry specific estimates.

- 2- This study did not divide institutional ownership into foreign investors and domestic institutional investors. It has been argued that the ability of domestic institutional investors to monitor the management and reduce the agency problem is usually affected by existence of ties and networks in the domestic business environment (Chahine & Tohmé, 2009). However, foreign institutional investors have superior strategies in monitoring managers as compared to domestic investors because they bring with them different cultural, ethical values and norms that might produce changes in the corporate internal controls and ethical practices (Al-Musalli & Ku Ismail, 2012a). Thus, future research should consider which institutional ownership works as a monitoring mechanism protects the interests of shareholders by enhancing the financial reporting quality.
- 3- This study could be replicated in institutional environments having characteristics similar to that of the present study. For example, features, such as concentrated ownership structure as well as top companies, also exist in other Arab countries, such as Egypt, Jordan, and Tunisia. Perhaps, replicating this study in these countries can provide more powerful test of the relationships examined in the study.

- 4- Finally, future studies could conduct a comparative analysis, for example, between GCC countries and another nation. In order to know the indication of convergence in disclosure practices (the average amount of IC disclosure) in the countries under scrutiny.

## **6.6 Conclusion**

The study examines the internal corporate mechanisms, namely, board and audit committee effectiveness and ownership structure on IC disclosure in GCC top listed companies. In addition, the study provides evidence that the relationship between government ownership and the level of IC disclosure is affected by audit committee effectiveness. Generally, this study suggests that these internal mechanisms (e.g. board of directors and audit committee) do matter in the GCC. However, not all characteristics of measured effectiveness of the board of directors and audit committee are important as the study finds no evidence that board independence, shareholding, nationality or most of the audit committee characteristics except audit committee independence are not significantly related to IC disclosure. Nevertheless, the study provides support for the role of the elements of the measured effectiveness of the board of directors when aggregated together to enhance the level of IC disclosure in GCC top listed companies. Contrary to audit committee effectiveness, an insignificant relation with IC disclosure was found. In addition, this study does not find any significant relationship between the different types of ownership structure (namely, government, family and institutional) and IC disclosure.

The insignificant role of audit committee effectiveness as a moderator for the relationship between the different types of ownership and IC disclosure, as well as its characteristics, suggests that corporate governance mechanisms, acknowledged in the Western world as portraying best practice, are not appropriate for the business environment in the GCC. Moreover, these findings demonstrate that because of the different institutional environments, diverse countries display different governance structures. Thus, simply adopting the styles for corporate governance structures from the UK and US in emerging countries like the GCC countries should be reviewed.

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