

**DETERMINANTS OF INTELLECTUAL CAPITAL  
PERFORMANCE OF GCC LISTED BANKS**

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**DETERMINANTS OF INTELLECTUAL CAPITAL PERFORMANCE OF  
GCC LISTED BANKS**

**BY**

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**Thesis Submitted to  
Othman Yeop Abdullah Graduate School of Business,  
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## ABSTRACT

This study examines the level of intellectual capital (IC) performance of listed banks in the Arab Gulf Cooperation Council (GCC) countries using VAIC methodology and investigates the hypothesized impact of corporate governance variables (namely board diversity and ownership structure), bank specific characteristics (namely bank internationality, financial performance, bank adherence to Islamic Shariah principles, and bank risk), banking industry characteristics (namely banking industry concentration and presence of foreign banks) and macroeconomic environment on IC performance. In addition, this study determines the moderating role of the frequency of board meetings in the relationship between board diversity and IC performance. Multiple regression analyses are used to analyze the data. Hierarchical regression analysis is employed to examine if the frequency of board meetings moderates the relationship between board diversity and IC performance. The results of a survey of a sample of 128 GCC listed banks for the period 2008-2010, show that IC performance of GCC listed banks is low. Findings show that board interlocking, board size, representation of independent directors, family ownership, government ownership (when a government holds a majority of shares that is 51% or more), domestic strategic ownership, and domestic non-strategic ownership have significant relationships with IC performance. In addition, this study provides evidence that except for bank internationality, bank specific characteristics, banking industry characteristics, and macroeconomic environment play important roles in determining IC performance among GCC banks. Furthermore, the results generally do not support the study's hypothesis that the impact of board diversity on IC performance is positive as the frequency of board meetings increases. The result of this study contributes to the body of knowledge in IC-related studies, particularly with regards to the determinants of IC performance. Findings provide some input to investors, managers, regulators and policymakers, as well as researchers in addressing the factors affecting IC performance.

**Keyword:** intellectual capital, IC performance, GCC banks, VAIC

## ABSTRAK

Kajian ini meninjau tahap prestasi modal intelek bank-bank yang tersenarai di negara-negara Majlis Kerjasama Teluk (GCC) dengan menggunakan kaedah VAIC. Kajian ini juga meneliti kesan pemboleh ubah tadbir urus korporat (ciri-ciri kepelbagaian lembaga pengarah, dan struktur pemilikan), ciri-ciri spesifik bank (pengantarabangsaan, prestasi kewangan, pengakuran kepada prinsip Syariah Islam, dan risiko), ciri-ciri industri perbankan (tumpuan industri bank dan kehadiran bank luar negara), dan persekitaran makroekonomi terhadap prestasi modal intelek. Seterusnya, kajian ini turut menentukan peranan kekerapan mesyuarat lembaga pengarah (sebagai penyederhana) dalam mempengaruhi hubungan di antara kepelbagaian lembaga pengarah dan prestasi modal intelek. Analisis regresi berganda digunakan dalam menganalisis data. Analisis regresi berhierarki digunakan untuk meneliti samada kekerapan mesyuarat lembaga pengarah mempengaruhi hubungan antara kepelbagaian lembaga pengarah dengan prestasi modal intelek. Berdasarkan sampel yang terdiri daripada 128 bank GCC bagi tempoh 2008 hingga 2010, kajian mendapati yang tahap prestasi modal intelek di negara-negara tersebut adalah rendah. Kajian mendapati bahawa interlok lembaga pengarah, saiz lembaga pengarah, perwakilan pengarah bebas, pemilikan keluarga, pemilikan kerajaan (apabila kerajaan memegang 51% syer atau lebih), pemilikan strategik dalaman, dan pemilikan bukan-strategik dalaman mempunyai hubungan yang signifikan dengan prestasi modal intelek. Kajian ini juga membuktikan yang kecuali pengantarabangsaan bank, ciri-ciri spesifik bank, ciri-ciri industri perbankan dan persekitaran makroekonomi berperanan penting dalam menentukan prestasi modal intelek bank GCC. Dapatan kajian juga, secara amnya, tidak menyokong hipotesis kajian yang mengatakan kesan kepelbagaian lembaga pengarah terhadap prestasi modal intelek adalah positif apabila kekerapan mesyuarat lembaga pengarah meningkat. Hasil kajian ini menyumbang kepada bidang ilmu mengenai modal intelek, terutamanya yang berkaitan dengan faktor penentu prestasi modal intelek. Dapatan kajian ini juga berguna kepada pelabur, pengurus, pengawal selia, penggubal dasar dan penyelidik bagi membincangkan faktor-faktor yang mempengaruhi prestasi modal intelek.

**Kata kunci:** modal intelek, prestasi modal intelek, bank GCC, VAIC

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## TABLE OF CONTENTS

TITLE PAGE.....	i
CERTIFICATION OF THESIS WORK.....	ii
PERMISSION TO USE.....	iii
ABSTRACT.....	iv
ABSTRAK.....	v
ACKNOWLEDGEMENT .....	vi
TABLE OF CONTENTS.....	vii
LIST OF TABLES .....	xii
LIST OF FIGURES .....	xiv
LIST OF ABBREVIATIONS .....	xv
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>1</b>
1.1 Background of Study .....	1
1.2 Corporate Governance and IC Performance .....	3
1.3 Bank Specific Characteristics, Banking Industry Characteristics, Macroeconomic Environment, and IC Performance.....	11
1.4 Banking Industry in GCC Countries .....	14
1.5 Problem Statement .....	15
1.6 Research Questions .....	21
1.7 Research Objectives .....	22
1.8 Motivation of the Study .....	23
1.9 Significance of the Study .....	25
1.10 Organization of the Thesis .....	30
<b>CHAPTER TWO: AN OVERVIEW OF THE BANKING SECTOR AND CORPORATE GOVERNANCE IN GCC COUNTRIES .....</b>	<b>32</b>
2.1 Introduction.....	32
2.2 Institutional Framework .....	32
2.3 The GCC Banking Sector .....	35
2.4 Corporate Governance in the GCC Banking Industry .....	40
2.5 Challenges of Corporate Governance in the GCC .....	42
2.6 Highlights of the GCC Banking Sector and Corporate Governance Environment in the Individual GCC Countries.....	48
2.7 Summary .....	60

<b>CHAPTER THREE: LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT .....</b>	<b>62</b>
3.1 Introduction .....	62
3.2 Intellectual Capital .....	62
3.2.1 Definition and Classification of Intellectual Capital .....	64
3.2.2 Measurement of Intellectual Capital .....	69
3.2.2.1 Direct IC measurement methods (DIC).....	70
3.2.2.2 Market capitalization methods (MCM) .....	71
3.2.2.3 Scorecard methods (SC) .....	71
3.2.2.4 Return on assets methods (ROA) .....	71
3.2.2.5 Value Added Intellectual Coefficient (VAIC).....	72
3.3 Theories Related to IC Performance .....	76
3.3.1 Resource-Based Theory .....	77
3.3.2 Agency Theory.....	79
3.3.3 Resource Dependency Theory .....	83
3.3.4 The Upper Echelon Theory.....	85
3.3.5 Organizational Learning Theory .....	87
3.3.6 The Cognitive Dissonance Theory.....	88
3.3.7 The Industrial Organization Theory.....	89
3.4 Studies on IC Performance.....	91
3.5 Determinants of IC Performance: literature Review and Hypothesis Development .....	97
3.5.1 Board Diversity .....	97
3.5.1.1 Educational Level Diversity .....	102
3.5.1.2 Nationality Diversity .....	106
3.5.1.3 Board Interlocking.....	110
3.5.1.4 Board Size .....	116
3.5.1.5 The Representation of Independent Directors.....	122
3.5.1.6 The Moderation of the Frequency of Board Meetings .....	129
3.5.2 Ownership Structure .....	132
3.5.2.1 Government Ownership.....	135
3.5.2.2 Family Ownership .....	140
3.5.2.3 Domestic and Foreign Strategic Ownership.....	147
3.5.2.4 Domestic and Foreign non-Strategic Ownership .....	152



3.5.3 Bank Specific Characteristics .....	158
3.5.3.1 Bank Internationality .....	158
3.5.3.2 Financial Performance .....	162
3.5.3.3 The Adherence to Islamic Shariah Principles.....	166
3.5.3.4 Bank Riskiness .....	171
3.5.4 Banking Industry Specific Characteristics.....	174
3.5.4.1 Banking Industry Concentration.....	175
3.5.4.2 Presence of Foreign Banks .....	182
3.5.5 Macroeconomic Environment (Economic Growth).....	187
3.5.6 Control Variable (Bank Size).....	189
3.6 Theoretical Framework .....	190
3.7 Summary .....	192
<b>CHAPTER FOUR: RESEARCH METHODOLOGY .....</b>	<b>193</b>
4.1 Introduction .....	193
4.2 Sample Selection.....	193
4.3 Measurement of Dependent Variable: IC Performance .....	195
4.4 Measurement of Independent Variables.....	199
4.5 Measurement of Moderating Variable .....	209
4.6 Measurement of Control Variable (Bank Size).....	210
4.7 Regression Model .....	213
4.7.1 Multiple Regression Analysis .....	214
4.8 Summary .....	217
<b>CHAPTER FIVE: FINDINGS.....</b>	<b>219</b>
5.1 Introduction .....	219
5.2 Descriptive Statistics.....	219
5.3 Diagnostic Test.....	225
5.3.1 Normality Test .....	226
5.3.2 Multicollinearity .....	227
5.3.3 Linearity .....	230
5.3.4 Heteroscedasticity .....	231
5.3.5 Autocorrelation .....	233
5.3.6 Model Specification .....	233
5.4 Hypotheses Testing .....	234

5.4.1 Regression Results .....	234
5.4.1.1 Board of Directors' Characteristics and Intellectual Capital Performance .....	237
5.4.1.2 Ownership Structure and Intellectual Capital Performance .....	239
5.4.1.3 Bank Specific Characteristics and Intellectual Capital Performance .....	241
5.4.1.4 Banking Industry Specific Characteristics and Intellectual Capital Performance .....	242
5.4.1.5 Macroeconomic Environment and Intellectual Capital Performance .....	243
5.4.1.6 Control Variable (bank size) and Intellectual Capital Performance .....	243
5.5 Regression Results on the Moderating Effect of Frequency of Board Meetings .....	244
5.6 Additional Analysis .....	250
5.7 Discussion of results: .....	270
5.7.1 Board of Directors' Characteristics and IC performance .....	270
5.7.1.1 Educational Level Diversity .....	270
5.7.1.2 Nationality Diversity .....	271
5.7.1.3 Board Interlocking .....	273
5.7.1.4 Board Size .....	274
5.7.1.5 Representation of Independent Directors .....	276
5.7.2 Ownership Structure and Intellectual Capital Performance .....	280
5.7.2.1 Governmental Ownership .....	281
5.7.2.2 Family Ownership .....	283
5.7.2.3 Domestic Strategic Ownership .....	284
5.7.2.4 Foreign Strategic Ownership (SOWF) .....	285
5.7.2.5 Domestic Non-Strategic Ownership .....	288
5.7.3 Bank Specific Characteristics and Intellectual Capital Performance .....	289
5.7.3.1 Bank Internationality .....	289
5.7.3.2 Bank Financial Performance .....	291
5.7.3.3 The Adherence to Islamic Shariah Principles .....	292
5.7.3.4 Bank Riskiness .....	293
5.7.4 Banking Industry Characteristics and Intellectual Capital Performance .....	294
5.7.4.1 Banking Industry Concentration .....	294

5.7.4.2 Presence of Foreign Banks .....	296
5.7.5 Macroeconomic Environment (Economic Growth).....	298
5.7.6 Moderating Effect of Frequency of Board Meetings on the Relationship between Board Diversity and IC Performance .....	299
5.8 Summary .....	302
<b>CHAPTER SIX: SUMMARY, CONCLUSIONS, AND FUTURE WORK .....</b>	<b>307</b>
6.1 Introduction .....	307
6.2 Summary .....	307
6.3 Implications of Study .....	313
6.3.1 Implications for Theory .....	313
6.3.2 Implications for Policy Makers and Regulators.....	316
6.3.3 Implications for Management and Shareholders .....	321
6.3.4 Implications for Academic Researchers .....	323
6.4 Limitations of the Study and Future Research.....	323
6.5 Concluding Remarks .....	326
<b>REFERENCES.....</b>	<b>328</b>

## LIST OF TABLES

Table	Page
Table 2.1 The recent corporate governance developments in GCC	42
Table 2.2 Summary Statistics of Banking Sector for Each Country of GCC Countries	59
Table 2.3 Summary of Corporate Governance Code`s Requirements for Board of Directors in Each Country of GCC Countries	60
Table 3.1 Definition of Intellectual Capital	66
Table 4.1 Numbers and Types of GCC Banks Included in this Study	194
Table 4.2: Summary of the Operationalization of the Study Variables	211
Table 5.1 Descriptive Statistics of Continuous Variables	220
Table 5.2 Descriptive Statistics of Dichotomous Variables	224
Table 5.3 Average (Mean) VAIC Scores of Conventional and Islamic Banks	225
Table 5.4 Descriptive Statistics for Human Capital Efficiency (HCE), Capital Employed Efficiency (CEE), Structural Capital Efficiency (SCE), and Value Added Intellectual Coefficient (VAIC)	225
Table 5.5 Normality Test	227
Table 5.6 Pearson Correlation	229
Table 5.7 The Results of Standard Tests on VIF	230
Table 5.8 The Standard Deviation of IC Performance and the Residuals	231
Table 5.9 White Test for Heteroskedasticity	232
Table 5.10 Multiple Regression Results- Basic Model	236
Table 5.11 The Moderating Effect of Frequency of Board Meetings on the Relationship Between Board Diversity and IC Performance	247
Table 5.12 Multiple Regression Results- The Number of Foreign Board Members to the Total Number of Board Members	252
Table 5.13 Multiple Regression Results- The Natural Logarithm of Total Number of Board Members	254
Table 5.14 Multiple Regression Results- Board Size Measured Using Dummy	255
Table 5.15 Multiple Regression Results- The Natural Logarithm of Number of Independent Directors	257
Table 5.16 Multiple Regression Results- The Proportion of Independent Directors to the Total Number of Board Members	258
Table 5.17 Multiple Regression Results- Representation of Independent Directors using Dummy (majority independence: equals or more than 51%)	260
Table 5.18 Multiple Regression Results-Representation of Independent Directors Using Dummy (Above the Sample Median)	261
Table 5.19 Multiple Regression Results- Government Ownership Using Dummy	263

Table 5.20 Multiple Regression Results- Global Financial Crisis Using Dummy	264
Table 5.21 Multiple Regression Results-ICE	266
Table 5.22 The Moderating Effect of Frequency of Board Meetings on The Relationship Between Board Diversity and IC Performance Using Alternative Measurement of IC Performance	268
Table 5.23 The Moderating Effect of Frequency of Board Meetings on The Relationship between Board Diversity and IC Performance-Global Financial Crisis	269
Table 5.24 Summary of Hypotheses Testing	303

## LIST OF FIGURES

Figure	Page
Figure 3-1 Theoretical Framework	191
Figure 5-1 Graphical test for heteroscedasticity	232
Figure 5-2 The relationship between representation of independent directors and IC performance with frequency of board meetings as the moderator	249
Figure 5-3 The relationship between board nationality diversity and IC performance with frequency of board meetings as the moderator	250

## LIST OF ABBREVIATIONS

ABB	FULL LIST
AAOIFI	The Accounting and Auditing Organization for Islamic Financial Institutions
BCBS	Basel Committee on Banking Supervision
CE	Capital Employed
CEE	Capital Employed Efficiency
CEO	Chief Executive Officer
CIBAFI	The General Council for Islamic Banks and Financial Institutions
EC	European Commission
ES	Efficient Structure
ESCA	Emirates Securities and Commodities Authority
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
HC	Human Capital
HCE	Human Capital Efficiency
IC	Intellectual Capital
ICE	Intellectual Capital Efficiency
ICMA	Institute of Certified Management Accountants
IPO	Initial Public Offerings
IT	Information Technology
MBBG	Major British Banks Group
MENA	Middle East and North Africa
MESDAQ	Malaysian Exchange of Securities Dealing and Automated Quotation
OECD	Organization for economic cooperation and development
QCMA	Qatar Capital Market Authority
QL	The Quiet Life
R&D	Research and Development
ROA	Return on Assets
ROE	Return on Equity
SAMA	Saudi Arabian Monetary Agency
SC	Structural Capital
SCE	Structural Capital Efficiency
SCP	Structure- Conduct- Performance
SME	Small and Medium Enterprises
TNI	The National Investor
UAE	United Arab Emirates
UK	United Kingdom
US	United States
VA	Value Added
VAIC	Value Added Intellectual Coefficient
WTO	World Trade Organization

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

There is a general consensus among researchers and accounting practitioners that, with the advent of knowledge-based economy, intellectual capital (IC), rather than physical and financial capital, becomes the main factor in driving firm value and sustaining its competitive advantage (Ahuja & Ahuja, 2012; Wang, 2011; Zeghal & Maaloul, 2010). Wang and Chang (2005), for example wrote “*IC can be viewed as the most valuable asset and the most powerful competitive weapon in business*” (p.222). One of the strong evidence of the increasing role of IC is the large and the growing discrepancy between market values and book values of firms which is often attributed to IC (Chen, Cheng, and Hwang, 2005; Goh, 2005). Brennan and Connel (2000) reported that IC assets constitute a substantial proportion of the discrepancy between book and market value. It is estimated that 80 percent of the Standard& Poor’s 500 firms’ value is attributed to knowledge-based assets or IC whereas tangible assets constitute the rest (Lev, 2001).

As a result, there is now a growing awareness that the potential for creating competitive advantage and long-term corporate value lies more importantly in efficient management of IC than in tangible assets (Ting & Lean, 2009; Proctor, 2006; Wang & Chang, 2005). This is especially so in knowledge intensive industries such as the banking industry as its key resources are intangible and intellectual in nature (Shih, Chang, and Lin, 2010; Kujansivu & Lonnqvist, 2007). Ahuja and Ahuja (2012) argue that an efficient utilization of IC is more crucial for



accomplishing success in banking than other industries, asserting that delivering of high quality services by a bank depends on its investment in items related to IC such as its human resources, brand building, systems and processes. Therefore, it becomes necessary for banks to manage their IC as efficiently as possible.

As a result of the increasing importance of IC, the study of IC performance and its determinants have been identified as an important research area and have attracted numerous researchers. However, despite its importance, the study of determinants of IC performance is still in its infancy (Swartz & Firer, 2005; Saleh, Abdul Rahman, and Hassan, 2009). Only a handful number of studies have been conducted to address this issue. These previous studies documented that corporate governance, firm-related characteristics and industry-related characteristics are important determinants of IC performance. However, empirical research to date has focused on the mature capital markets such as the UK, Sweden and Australia (Joshi, Cahill, and Sidhu, 2010; El-Bannany, 2008; Ho & Williams, 2003) and emerging markets such as Malaysia (Abidin, Kamal, and Jusoff, 2009; Saleh *et al.*, 2009) and South Africa (Swartz & Firer, 2005).

These studies mainly reflect the experiences from developed and emerging markets which have different culture, socio-economic situations, and political norms from those predominant in Arab countries, particularly, Arab Gulf Cooperation Council (GCC) countries. As far as the researcher concerns, there is no study documented IC performance level and its determinants in GCC region. The GCC countries that are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and Arab Emirates, all share some common economic, cultural, and political

similarities, which by far outweigh any differences they might have (Al-Muharrami & Matthews, 2009).

Furthermore, prior research principally considers determinants of IC performance at the bank and industry level. There is no investigation of the effect of the macroeconomic environment on IC performance. Macroeconomic environment factor would be more important for banks than for other firms because banks' exposure to business cycle fluctuations may be larger than for other firms (Gropp & Heider, 2009). Thus, this study aims to examine the level and determinants of IC performance of GCC listed banks. This study extends previous research on determinants of IC performance by considering corporate governance variables (board educational level diversity, board nationality diversity, board interlocking, domestic and foreign strategic institutional ownership, and domestic and foreign non-strategic institutional ownership), bank specific characteristics (bank internationality and bank adherence to Islamic Shariah principles) banking industry characteristics (banking industry concentration and presence of foreign banks) and macroeconomic environment captured by economic growth in relationship to IC performance.

## **1.2 Corporate Governance and IC Performance**

Corporate governance is considered to be an important determinant of IC performance. According to Safieddine, Jamali and Noureddine (2009) and Keenan and Aggestam (2001), corporate governance and IC are connected. Keenan and Aggestam (2001) wrote: "*Corporate governance is responsible for creating,*

*developing, and leveraging the IC residing in the people, structures, and processes of the firm” (p.259).*

Board of directors (being the most important internal mechanism of corporate governance) is viewed as an important tool to create, develop, leverage, and manage the IC of a firm and thus, affect its performance (Abidin *et al.*, 2009; Ho & Williams, 2003; Williams, 2001). According to Williams (2001), board of directors can structure relevant strategies and policies on how to obtain and best utilize the required resources underlying IC. Williams (2001) argues that a firm's board of directors can influence the formation of IC- related strategies and policies and ultimately performance.

Theoretically, it has been argued that the management of IC will require greater innovation, perceptions and flexibility in decision-making process of a firm's directors and management (Williams, 2001). These characteristics (i.e., greater innovation, perceptions and flexibility in decision -making process) are more likely to be existed in a board with greater diversity (Talke, Salomo, and Rost, 2010; Wincent, Anokhin, and Ortqvist, 2010; Williams, 2001; Goodstein, Gautam, and Boeker, 1994). The Upper echelon theory suggests that diversity among board members help them to be more innovative, develop more effective strategies and produce high quality innovative decisions that improve in the end, the quality of actions taken by the firm (Rivas, 2012; Certo, Lester, Dalton, and Dalton, 2006; Auh & Menguce, 2005; Carter, Simkins, and Simpson, 2003). From the perspective of corporate governance, resource dependency theory is the theoretical underpinning that larger and greater diversity among board members

can lead to improved firm performance through facilitating the acquisition of critical resources for an organization including IC (Abeysekera, 2010; Goodstein *et al.*, 1994).

However, despite the recognition of its importance, a little attention has been paid by previous studies to the potential impact of board diversity on IC performance. The emphasis of previous studies was on the association between board size and board independence related attributes such as percentage of outside directors; CEO duality, and board ownership and IC performance, producing inconclusive results (Abidin *et al.*, 2009; Ho & Williams, 2003; Williams, 2000). According to Keenan and Aggestam (2001), knowledge and attitudes of board members are more important in the management of IC than the structure of the board. Previous studies that examined the relationship between board diversity and IC performance provided empirical evidence that greater diversity amongst members of the board of directors leads to improved IC performance (Swartz & Firer, 2005; Williams, 2001; Williams, 2000). However, these studies focused only on gender and ethnic diversity and ignore other characteristics such as board educational level diversity, nationality diversity, and board interlocking.

It is argued that board diversity in terms of education level, nationality and board interlocking could help to improve firm outcomes such as firm innovativeness (Talk *et al.*, 2010; Wincent *et al.*, 2010), firm reputation (Miller & triane, 2009; Mizruchi, 1996), firm`s ability to retain, attract, and exploit employees` capacity to best advantage, in addition to better understanding of customer needs (Erhardt, Werbel, and Shrader, 2003; Oxelheim & Randøy, 2003). All these aspects (i.e.

innovation, reputation, relationships with customers and employees) are related and have important implications on IC performance. Thus, this study aims to extend prior research on the relationship between board characteristics and IC performance by investigating the relationship between board diversity in terms of educational level, nationality, board interlocking and IC performance.

Furthermore, motivated by the need for additional comparative work with Abidin *et al.* (2009) in Malaysia and Ho and Williams (2003) in UK, Sweden, and South Africa, the present study investigates board diversity in terms of board size and representation of independent directors and IC performance of banks in GCC countries, and from the lens of resource dependency theory.

Despite the sound theoretical basis for expecting a positive relationship between board diversity and firm outcomes such as firm performance, prior research has shown mixed results. Several researchers have suggested that despite the merits of diversity in top management, it is also accompanied by costs. While the differences among board members may provide the board with various resources, these differences may also have problematic consequences with regard to firm performance (Certo *et al.*, 2006). Auh and Menguc (2005) state that greater diversity has been shown to cause process deficiencies by plaguing effective operation of the 4Cs (i.e., communication, collaboration, coordination, and cohesiveness). Therefore, unless the costs associated with a diverse board are attenuated, firm outcomes such as IC performance will suffer as a result.

Carpenter (2002) suggests that inconsistency among diversity/performance relationship shown in prior studies may point to the possibility that important moderating or intervening variables have been overlooked. Several other researchers conclude that instead of investigating a simple direct relationship between board diversity and firm performance, variables that affect this relationship should be explored (see for example, Talk *et al.*, 2010; Wincent *et al.*, 2010; Auh & Menguc, 2006; Certo *et al.* 2006; Auh & Menguc, 2005).

This study proposes that frequency of board meetings can play a pivotal role in lessening the disadvantages related to board diversity and would in fact lead to greater IC performance. This proposition is based on the idea that more frequent board meetings improve a board`s effectiveness (Conger *et al.*, 1998). According to Wincent *et al.* (2010), frequent board meetings translate more readily board knowledge, expertise and ties into improvements in firm outcomes. Furthermore, frequent board meetings could help overcome the large board related problems and provides independent directors with enough time to significantly contribute to a firm`s strategic decisions making. In addition, using frequency of board meetings as a moderator variable is consistent with previous studies which suggest frequency of board meetings as a contingent condition under which board diversity would in fact lead to greater firm outcomes (Wincent *et al.*, 2010).

Although effectiveness of meetings is not necessary shown by frequency of meeting, but it is also shown by behavior of individual board members surrounding such meetings such as preparation before meetings, attentiveness and participation during meetings, and post-meeting follow-up (Carcello *et al.*, 2002).

However, the only factor that is publicly observable and whose data is available is the number of board meetings (Carcello *et al.*, 2002). Therefore, this study proposes that frequency of board meetings can moderate the board diversity–IC performance relationship.

In addition to board of directors, ownership structure is another main mechanism of corporate governance that can play an important role in developing IC performance or otherwise (Saleh *et al.*, 2009; Keenan & Aggestam, 2001). According to Saleh *et al.* (2009), the types of ownership could determine the performance of IC. Theoretically, it is argued that ownership type can influence firm decision making and performance because it is related to different degrees of risk aversion and the firm's resource endowment (Shah, Kouser, Amir, and Hussain, 2012; Chen & Hsu, 2009; Fernandez & Nieto, 2006). Both these factors can have a strong bearing on IC-related strategies.

Agency theory prescribes that shareholders having considerable stakes in a company play a dominant role in the shaping of the nature and the level of its decision making regarding corporate risk-taking behavior and investments in risky projects that possess a high level of risk and considerable uncertainty (Shah *et al.*, 2012; Belanes & Hachana, 2010; Fama & Jensen, 1983). Consequently, owners' willingness to take risks may have significant influence on firm decisions to invest in IC resources such as human resources development, R&D investment, and information technology that are characterized as having a high level of risk and uncertainty and need lengthy payback period to provide return, if any (Ho & Williams, 2003; Edvinsson & Malone, 1997; Brooking, 1996).

Prior research, however, indicates that shareholders are different in terms of risk aversion because of the difference in their goals and motivations to invest in a firm (Shah *et al.*, 2012; Paligorova, 2010; John, Litov, and Yeung, 2008). For example, Paligorova (2010) reports that family owners are less willing to invest in risky projects as their ownership increases, whereas institutional investors that maintain well-diversified portfolios are more willing to invest in such risky projects. Governments may value social stability and continued employment, and thus may influence firms to be conservative in their investments (John *et al.*, 2008). Given their difference in terms of risk aversion, the impact on IC performance of these owners is expected to be different.

With regards to resources` endowment, based on resource-based theory it is argued that there is a considerable heterogeneity among various shareholder categories in terms of resources and organizational capabilities they can contribute to the firm in which they invest (Chahine & Tohme, 2009; Chahine, 2007; Douma, George, and Kabir, 2006). The impact on IC performance of these owners with diverse resource endowments is expected to differ as a consequence of this heterogeneity in resources and organizational capabilities. Nevertheless, little knowledge is available about the relationship between ownership structure and IC performance (Saleh *et al.*, 2009).

Empirical research on the relationship between ownership structure and IC performance dates back to work of Saleh *et al.* (2009) who conduct their study in Malaysia and provide inconclusive results. Thus, there is a need to conduct further investigation of ownership structure-IC performance in other jurisdictions, such as



GCC region which have different cultural, socio-economical, and political norms, to obtain better understanding of this relationship.

In addition to government ownership and family ownership, this study extends the work of Saleh *et al.* (2009) by considering domestic and foreign strategic ownership as well as domestic and foreign non-strategic ownership. This classification of shareholders is similar to that used by Chahine (2007) and Douma *et al.* (2006). It is argued that this classification of shareholders is important because it is evidenced that there are considerable differences amongst various types of shareholders resulted from different resources and capabilities they can contribute to the firm in which they invest (Chahine & Tohme, 2009; Chahine, 2007; Douma *et al.*, 2006). According to Douma *et al.* (2006), for firms in developing countries, these differences arise from shareholders being either foreign or domestic and strategic or non-strategic. Strategic shareholders are usually long term investors. Their investments are motivated by strategic interests such as regulating competition between firms and securing markets (Tohme & Chahine, 2009). On the other hand, non-strategic shareholders are more likely to be solely motivated by financial focus and emphasize on liquidity results (Chahine, 2007; Aguilera & Jackson, 2003). Therefore, given the nature of these different classes of investors and their different motivations, their aggregation into one common class of shareholders masks certain important results which can only be determined if they are analyzed separately (Douma *et al.*, 2006).

### **1.3 Bank Specific Characteristics, Banking Industry Characteristics, Macroeconomic Environment, and IC Performance**

In addition to corporate governance, empirical investigation has shown that industry and firm characteristics possibly influence the level of IC performance (Abidin *et al.*, 2009; El-Bannany, 2008; Swartz & Firer, 2005; Ho & Williams, 2003). However, little knowledge is available about the relationship between bank and industry specific characteristics and IC performance. It is argued that IC development is associated with competition level in an industry (Campbell & Abdul Rahman, 2010; Rudez, 2006). Theoretically, it has been claimed that industry concentration and competition should go in opposite directions (Bikker & Haaf, 2002). This lack of competition in concentrated markets may encourage the quiet life of managers and make them inefficient and uninterested in areas such as innovation, R&D activities, latest technology, and the quality of their products and services (Berger & Hannan, 1998). This in the ultimate could reduce IC performance. This study thus extends previous research on determinants of IC performance by considering banking industry concentration in IC performance.

In the same line, prior research has shown that the presence of foreign banks can enhance performance of domestic banks in the hosting countries through increasing the competition in domestic banking industry or through creating knowledge spillovers (Fries & Taci, 2005; Goldberg, 2007; Claessens, Demirguc-Kunt, and Huizinga, 2001). It is reasonable to expect that both increasing competition or knowledge spillovers can enhance IC performance of domestic banks. Thus, this study extends the previous research on IC performance

determinants by addressing the impact of the presence of foreign banks on IC performance.

With regard to bank specific characteristics, little knowledge is available about the relationship between bank specific characteristics and IC performance. A handful number of studies examined the relationship between bank specific characteristics (e.g. bank riskiness and profitability) and IC performance focusing on developed countries such as UK and Australia (Joshi *et al.*, 2010; El-Bannany, 2008). This study extends the work of previous research on the relationship between bank specific characteristics and IC performance by considering bank internationality, bank adherence to Islamic Shariah principles in relationship to IC performance.

Previous studies assert that operating in international markets is an important source to domestic banks for obtaining more advanced managerial and technological skills and practices, in addition to keeping long-term relationships with their domestic customers who expand their business abroad (see e.g. Zhang, 2008; Fung, Bain, Onto, and Harper, 2002; Boldt-Christams, 2001). These advantages are expected to place positive impact on IC performance. There is, however, a lack of empirical evidence of the relationship between bank internationality and its performance in terms of IC. Thus this study aims to fill this gap in the literature.

Muslims, stemming from their religious beliefs, view Islamic shariah principles related to banking transactions more moral and ethical than those followed in

conventional banks (Al-Ajmi, Hussain, and Al-Saleh, 2009; Hassan, Mohamad and Bader, 2009; Dusuki & Abdullah, 2007). Prior research has shown that employees and customers, that in combination constitute the most important component of IC in banks, want their firms to be ethical and operate in consistent with their religious beliefs (Deconinck, 2010; Valenzuela, Mulki, and Jaramillo, 2010; Dusuki & Abdullah, 2007; Valentine, Greller, and Richtermeyer 2006; Koh & Boo, 2004; Schwepker, 2001). In support for this, it has been suggested that as employees and customers assess their companies operating within the ethical context, their level of satisfaction and loyalty to their companies increase (Valenzuela *et al.*, 2010; Huang, 2008; Koh & Boo, 2004). This in turn could have important implications on IC performance. There is a lack of empirical evidence of the relationship between the adherence to Islamic Shariah principles and bank IC performance. Thus this study aims to fill this gap in the literature.

The macroeconomic environment is largely considered to have an impact on the performance of banks (Al-Khouri, 2011; Davydenko, 2010; Laeven & Levine, 2009). However, empirical investigation considers determinants of IC performance at the bank and industry level. This study argues that the economic growth of a country in which a bank operates could possibly affect IC performance. This is because economic growth of a country has a crucial effect on numerous factors related to bank behavior and its relationship with employees and customers (Al-Khouri, 2011; Christopher & Bamidele, 2009; Foos, 2009). This study, thus, extends the previous research on IC performance determinants by addressing the impact of the economic growth on bank's IC performance.

#### **1.4 Banking Industry in GCC Countries**

The banking industry is viewed as an ideal sector for research on IC issues because it is a knowledge-intensive industry (Shih *et al.*, 2010; Mavridis, 2004). Banks' key resources are intangible and intellectual in nature and these assets are more important than physical capital in the process of wealth creation (El-Bannany, 2008; Kamath, 2007; Goh, 2005). Goh (2005) states "*Though physical capital is essential for banks to operate, it is the intellectual capital that determines the quality of services provided to customers*"(p.386). In addition, the entire banking sector's staff is intellectually more identical and consistent than perhaps any other service or business industry in any economy (Joshi *et al.*, 2010).

Collectively, the GCC countries have a financially strong, well capitalized, and profitable banking system (Zeitun, 2012; Al-khouri, 2011), in which corporate governance practices are significantly better than those practiced in the non-bank corporate sectors (Saidi & Kumar, 2008). The banking sector has special importance in GCC region since it represents the second highest contributor to the country's GDP after the oil and gas sector, and remains the cornerstone of the non-oil GDP growth in the GCC countries' economy (Abu Loghod, 2010).

The GCC countries have undertaken efforts to diversify their economic base away from hydrocarbon sector and moving towards the establishment of knowledge-based economies. The banking sector, which is generally dominates the financial sector in GCC countries (Al-Hassan, Khamis, and Oulidi, 2010) is considered to

be one of the most economically viable diversification options (Al-obaidan, 2008a; Al-obaidan, 2008b). These arguments have influenced the choice of the banking industry in the GCC as an appropriate source of the empirical evidence for the present study.

The governments in the GCC countries have encouraged a competitive banking environment by allowing country and regional banking consolidation, and by joining the World Trade Organization (WTO). As a result to reduced barriers to foreign entry and in line with the WTO accession requirements, foreign banks such as Citigroup, HSBC, and BMP Paribas increased their presence in GCC countries and are competing with domestic banks in different segments of the banking industry (Turk-Ariss, 2009). Details about the GCC banking sector and corporate governance state in GCC region will be presented in Chapter 2.

### **1.5 Problem Statement**

GCC banks face a number of forces of change that transform the environment surrounding the banking industry in GCC countries to a turbulent and unstable environment. These forces of change include (i) the dynamic changes in regulations and technology, (ii) globalization, (iii) appearance of a new generation of diverse knowledgeable and well-educated customers demanding superior and innovative products and services, and (iv) barriers restricted for foreign banking entry which allow a wide presence of foreign banks (El-Saadani, Reppel, and Gibson, 2011; Turk-Ariss, 2009; Al-Obaidan, 2008a; Al-Obaidan, 2008b; Chahine, 2007; Al Karasneh & Bolbol, 2006). Under these circumstances, GCC

banks are now required to undergo major changes in order to face these challenges and to compete on an equal platform with their peers. The first effective way to maintain GCC banks' performance and sustaining their competitive advantage is to leverage their knowledge or IC, internally and externally, and improve the brainpower of their employees and management. In other words, one of the most important and effective methods for maintaining banks' performance and sustaining their competitive advantages is enhancing the intellectual capital performance as it becomes the essential resource for bank success (Ahuja & Ahuja, 2012; Kamath, 2007; Goh, 2005). However, the study that has been conducted by Ku Ismail and Abdul Kareem (2011) and Abdul Salam, Al-Qaheri and Al-Khayyat (2011) revealed that IC performance of banks in Bahrain and Kuwait respectively is generally low. The same is expected to be found in other GCC countries due to the common characteristics of banking industry in these countries. Thus, to be able to enhance IC performance, GCC bank managers as well as regulators need to determine the level of IC performance. They should also know the factors that may affect IC performance.

As highlighted earlier, prior research has shown that corporate governance, industry specific characteristics, and firm specific characteristics can possibly influence IC performance (Safieddine *et al.*, 2009; El-Bannany, 2008; Ho & Williams, 2003; Keenan & Aggestam, 2001; Williams, 2001; Williams, 2000). Thus, this study aims to shed light on whether the distinct characteristics of GCC banks in terms of corporate governance, bank specific characteristics, banking industry characteristics, as well as macroeconomic environment have any

significant relationship with GCC banks` IC performance, and in what way if they do.

According to Chahine (2007), boards of directors of banks in GCC countries are more likely to work as providers of resources than monitoring of management. This is because board members of GCC banks are mostly dependent and related to the main owners (OECD, 2009; Chahine, 2007). Moreover, in most of GCC banks, the board, and not management, is responsible for setting bank strategies, which is contrary to the good practice that management develops, and the board reviews and guides bank strategies (OECD, 2009).

Under this situation, boards of directors of GCC banks with greater diversity and interlocking ties are alleged to provide increased IC performance through instigating more comprehensive policies, strategies, and initiatives to attract, retain, and benefit from talent and skilled employees to best advantage and promotion better understanding of customer perceptions (Nishii, Gotte, and Raver, 2007; Randoy, Oxelheim and Thomsen, 2006; Williams, 2001; Williams, 2000). Furthermore, diverse boards would direct the strategic choice of banks to focus on fields such as innovation (Talk *et al.*, 2010; Auh & Menguc, 2005) which in turn facilitate IC development (Marques, Simon, and Caranana, 2006). This study thus, aims to shed light on the association between board diversity in terms of educational level, nationality, board size, representation of independent directors, in addition to board interlocking, and IC performance.



However, recent literature concludes that it is impossible to assume a pure, simple relationship between board diversity and firm outcomes without considering a series of variables that affect this relationship (Talk *et al.*, 2010; Wincent *et al.*, 2010; Certo *et al.*, 2006; Auh & Menguc, 2005). It has been argued that frequency of board meetings could play an important role in alleviating costs of board diversity and enable the benefits of board diversity on firm outcomes to be fully exploited (Wincent *et al.*, 2010). The frequency of board meetings of GCC banks appears insufficient to ensure that boards fulfill their functions with adequate care (OECD, 2009). The IFC-Hawkamah survey in 2008 reveals that in the Middle East and North Africa (MENA) including GCC countries, only 27 percent of banks' boards met ten to twelve times per year which is in line with best practice followed by European banks (OECD, 2009). This may reduce the effect of board diversity on IC performance of GCC banks. Thus, this study aims to explore the effect of the frequency of board meetings in moderating the relationship between board diversity and IC performance.

In contrast to banks in developed countries, GCC banks are characterized as having concentrated ownership and a large set of blockholders including family ownership, government ownership, and institutional ownership (Chahine, 2007). As highlighted earlier, these different types of owners are related to different degrees of risk aversion and resource endowment (Shah *et al.*, 2012; Chen & Hsu, 2009 and Fernandez & Nieto, 2006) and consequently it is expected to have a different relationship with IC performance. Banks, for example are motivated by strategic interests when they invest in other banks such as developing their

competitive advantage and they are expected to have superior resource endowments and capabilities than non-banks (Chahine, 2007; Aguilera & Jackson, 2003). Furthermore, foreign banks are expected to relatively outperform their domestic counterparts in terms of resource endowments and capabilities (Chahine, 2007). This issue is quite conceivable particularly in Arab countries where foreign strategic shareholders may have greater experience, monitoring capabilities, and credibility than domestic strategic shareholders (Chahine & Tohme, 2009; Chahine, 2007). Thus, this study aims to investigate the relationship between the ownership structure of GCC banks and IC performance.

It is evidenced that bank specific characteristics can influence bank IC performance (Joshi et al., 2010; El-Bannany, 2008). However, empirical research on this issue is still in its infancy and to date previous studies have been focused on banks in developed countries, such as UK and Australia, while there is a lack of such studies in developing countries such as the GCC nations. This study extends prior works by investigating the association between bank specific characteristics namely bank internationality, the adherence to Islamic Shariah principles, and IC performance of GCC banks. GCC banks are varied in their international presence. For example, only 25% of the GCC listed banks have international presence through their subsidiaries in developed and developing countries (Chahine, 2007). Bank internationality is viewed as a source for obtaining more advanced skills and technology and thus improves IC performance. GCC banks with subsidiaries in international markets may perform better than GCC banks with non-subsidiaries in terms of IC.

Islamic banking has grown in recent years to become one of the major sources of financial intermediation in the GCC countries, controlling on average 24 percent of the region's banking system's assets (Al-Hassan *et al.*, 2010). As highlighted earlier, this study argues that the adherence to Islamic shariah principles related to banking transactions by GCC banks can inevitably enhance the likelihood of both human capital and customer capital that, in combination, constitute the most important component of IC in banks. Furthermore, motivated by the need for additional comparative work, the present study investigates bank specific characteristics in terms of bank risk and profitability and IC performance of banks in GCC countries.

The banking industry in GCC countries is characterized as relatively concentrated with a few domestic players dominating the market (Al-Hassan *et al.*, 2010). The banking industry concentration may relax banks' efforts to improve IC performance because of the inverse relationship between market concentration and firms' efforts to focus on areas such as innovation, R&D activities, product and service quality, and customer relationships (Voinea, 2008; Medvedev & Zemplerova, 2005; Arasli, Smadi, and Katircioglu, 2005; Berger & Hannan, 1998) that affect IC performance. Thus, this study will examine the relationship between banking industry concentration and IC performance of GCC banks. Furthermore, as a result of reducing barriers to entry, foreign banks in GCC countries witness increasing growth mostly in the form of branches (Al-Hassan *et al.*, 2010; Al-Obaidan, 2008a; Al Karasneh & Bolbol, 2006). This may lead to improved IC performance through enhanced competition or knowledge spillovers.

Thus, this study aims to investigate if the presence of foreign banks has any association with IC performance of banks in GCC countries.

Banking literature asserts that macroeconomic environment in which a bank operates has a crucial impact on the behavior and performance of banks. In contrast to previous studies, which consider determinants of IC performance at the bank and industry level, this study examines if the economic growth has any association to IC performance of banks in GCC countries.

## **1.6 Research Questions**

This study is designed to answer several questions related to identifying the current level of IC performance of GCC banks and investigate its relationship with board diversity, ownership structure, in addition to some selected of bank specific characteristics, banking industry characteristics, and macroeconomic variables.

This study also investigates the influence of the frequency of board meetings in moderating the relationship between board diversity and IC performance.

Specifically, this study attempts to answer the following questions:

- 1- What is the current level of IC performance of banks in GCC countries?
- 2- Is there any association between board of directors diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and banks` IC performance?

- 3- Does the frequency of board meetings influence the relationship between board diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and banks` IC performance?
- 4- Is there any association between ownership structure of GCC banks (namely government ownership, family ownership, domestic and foreign strategic ownership, and domestic and foreign non-strategic ownership) and banks` IC performance?
- 5- Is there any association between bank specific characteristics (namely bank internationality, the adherence to Islamic Shariah principles, financial performance, and bank riskiness) and banking industry`s characteristics (namely banking industry concentration and presence of foreign banks) and banks` IC performance?
- 6- Is there any association between macroeconomic environment (namely economic growth) and banks` IC performance?

## **1.7 Research Objectives**

Specifically, this study attempts to achieve the following objectives:

- 1- To identify the current level of IC performance of banks in GCC countries.
- 2- To examine if board of directors diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) has any association with banks` IC performance.

- 3- To examine if frequency of board meetings influence the association between board diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and banks` IC performance.
- 4- To examine if ownership structure (namely government ownership, family ownership, domestic and foreign strategic ownership, and domestic and foreign non-strategic ownership) is associated with banks` IC performance.
- 5- To examine if some bank specific characteristics (namely bank internationality, the adherence to Islamic Shariah principles, financial performance, and bank riskiness) and banking industry`s characteristics (namely banking industry concentration and presence of foreign banks) is associated with banks` IC performance.
- 6- To examine if macroeconomic environment (namely economic growth) is associated with banks` IC performance.

## **1.8 Motivation of the Study**

There are several motivations that encourage the researcher to conduct this study. First, despite the increasing recognition of the significance of IC performance to a firm`s future viability, the study of determinants of IC performance is still in its infancy (Swartz & Firer, 2005). A limited number of studies have been conducted in addressing this important issue (i.e. exploring the possible factors contributing to or limiting IC performance). Although previous studies provide theoretical explanations and empirical evidence of the association between corporate

governance, industry, and firm specific characteristics with IC performance, the studies provide limited and inconclusive results (see e.g. Abidin *et al.*, 2009; Saleh *et al.*, 2009; Safieddine *et al.*, 2009; El-Bannany, 2008; Ho & Williams, 2003; Keenan & Aggestam, 2001). Thus, further research may be needed to examine the determinants of IC performance and to explore the conditions under which these determinants would in fact lead to greater IC performance.

Second, although a limited number of studies on the determinants of IC performance have been conducted in a variety of international settings including the UK (El-Bannany, 2008; Ho & Williams, 2003), Australia (Joshi *et al.*, 2010), Sweden (Ho & Williams, 2003), Malaysia (Abidin *et al.*, 2009; Saleh *et al.*, 2009), and South Africa (Swartz & Firer, 2005; Ho & Williams, 2003; Williams, 2001; Williams, 2000), none has been conducted in Arab Gulf cooperation council (GCC) countries. This is the case in spite of the interests of the GCC countries in IC and expanding their knowledge-based sectors in line with their efforts to diversify their economy and to reduce the dependency on the oil and gas sector (Randeree, 2012; Ulrichsen, 2012). In addition, the socio-economic structure among the GCC countries is similar (Arouri, Hossain, and Badrul Muttakin, 2011; Al-Khouri, 2011; Al- Muharrami & Matthews, 2009; Hashem, 2007) which enables this study to control the effect of their macro and cultural factors, leading to a more meaningful interpretation.

The third motivation is that the previous studies that investigated the association between corporate governance and IC performance focused only on non-financial firms and exclude financial firms such as banks although the banking sector is one

of the sectors that utilizes IC intensively (Kamath, 2007; Goh, 2005). Moreover, corporate governance is very important for banks due to their vital role in the economy (Saidi, 2011a). Additionally, all of the limited studies concerning the determinants of IC in the banking industry have focused on developed countries, such as the UK and Australia. Results of previous studies conducted in such countries cannot be generalized to developing countries including GCC countries due to the differences between GCC countries and developed countries especially in terms of its culture, economy, and legal framework. Thus, due to these differences, it is felt that there is a need to have a separate study in the GCC region.

### **1.9 Significance of the Study**

The significance of this study can be divided into theoretical and practical significance. Theoretically, this study extends knowledge provided by prior empirical studies of the factors influencing IC performance. This study extends previous studies on the determinants of IC performance by investigating the hypothesized impact of several corporate governance variables, bank specific characteristics, banking industry specific characteristics, and macroeconomic environment variables on IC performance. This study extends previous research on determinants of IC performance by considering board diversity characteristics in terms of educational level diversity, nationality diversity and board interlocking, and ownership structure in terms of domestic and foreign strategic institutional ownership and domestic and foreign non-strategic institutional



ownership. This study also considers bank specific characteristics namely bank internationality, and bank adherence to Islamic Shariah principles, banking industry characteristics namely banking industry concentration and presence of foreign banks, and economic growth in relationship to IC performance.

A majority of the prior studies that investigated the relationship between board diversity characteristics, ownership structure, bank specific characteristics, banking industry characteristics, macroeconomic environment variables and bank performance may be limited in its application. This is because bank performance in prior research has been measured in terms of traditional performance measures such as return on assets and market measures which are viewed as being too narrow in focus, considering a firm's performance in terms of only its physical and financial capitals (i.e. these measures focus on the returns related to physical and financial capitals and ignore its IC). Consequently, with the coming of the knowledge-based economy age in which IC has become an essential factor in determining a company's future viability and success, results and findings from previous studies may therefore be limited in the new "knowledge-based" economy and may be in question in the future. Thus, a bank future performance and survivability should be measured in terms of its IC.

The results of this study extends the understanding of the role of corporate governance, bank specific characteristics, banking industry characteristics, and macroeconomic environment variables in determining IC performance of banks in GCC region, an emerging region which lacks such research. With respect to corporate governance, this study examines the impact of corporate governance on

IC performance from two aspects, board diversity characteristics and ownership structure. It can be noted that previous studies that examined the impact of corporate governance mechanisms (i.e. board of directors' characteristics and ownership structure) on IC performance focused only on one governance mechanism. In other words, previous studies look at corporate governance mechanisms in isolation from each other. It has been argued that there is no hope to investigate seriously the impact of corporate governance mechanisms on firm outcomes if we limit ourselves to only one governance mechanism (Belanes & Hachana, 2010). This is because governance mechanisms act in a complementary or substitutable fashion and consequently, it is best to look at governance mechanisms as a bundle of mechanisms to protect shareholders' interests (Ward, Brown, and Rodriguez, 2009). For this reason, the corporate governance and IC performance relationship is revealed in this study through the association between board of directors' diversity, ownership structure and IC performance. According to Saleh *et al.* (2009), examining of the relationship between board of directors and IC performance may be incomplete without looking at the parties behind the board members (i.e. firm owners) which in turn may provide incentives to improve IC performance or otherwise.

This study will contribute to IC performance-board of directors literature from the lens of upper echelon theory and resource dependency theory. Findings from this study will strengthen our understanding of the relevance of the above mentioned theories as a relevant conceptual framework for examining and explaining the behavior of the governance practices and firm performance defined within new

context; that is, IC. In addition, findings of this study will show whether the frequency of board meetings is working as a contingent condition under which board diversity would in fact lead to greater IC performance.

This study contributes to IC performance and ownership structure literature from the lens of agency theory as well as resource-based view. It provides empirical evidence on the association between ownership structure and IC performance in an emerging market, the GCC region. It also extends the literature by considering the role of domestic and foreign strategic institutional ownership and domestic and foreign non-strategic institutional ownership in relationship to IC performance. This classification of shareholders into strategic and non-strategic and domestic and foreign is important due to their difference in goals, resources, capabilities, degrees of risk aversion and their concern with firm long term performance which ultimately may determine their impact on IC performance. Considering these different types of shareholders will provide additional insights into the linkages between ownership structure and IC performance.

In contrast to previous studies which investigate the relationship between corporate governance and IC performance across industries, this study concentrates only on one industry (banking industry). There are several advantages derived from focusing on a single industry. It has been argued that one reason behind the difficulty of identifying the effect of governance on performance may be the existence of different optimal governance across industries (Romano, 1996). More in particular, ownership structures have also shown to be sensitive to the industrial sector, and even more so in the presence of

industry-specific regulation (Thomsen & Pedersen, 1997). In this sense, focusing on a single industry might help us to discover the existence of a significant relationship between ownership and performance, if any. The homogeneous nature within one industry generates better control of the industry context and differential effects of regulation among industries (Pollalis, 2003), and allow us to assess more directly the impact of the independent variables used in this study on IC performance of GCC banks.

Considering the corporate governance variables mentioned earlier, this study adds to the literature by discussing the determinants of IC performance at the bank and industry level. In particular, it tests the theory that bank internationality, the adherence to Islamic Shariah principles, banking industry concentration and presence of foreign banks have an impact on IC performance. From a theoretical perspective, this study extends the application of organizational learning theory, the industrial organization theory and the cognitive dissonance theory as a relevant conceptual framework for examining and explaining factors affecting IC performance. In addition, as far as the researcher is concerned, none of the previous studies consider the determinants of IC performance at the macroeconomic level. This will be investigated in the present study and consequently adds to the literature.

Practically, the results of this study will be useful to stakeholders in GCC countries such as investors, regulators and policy makers. Investors seeking to invest into GCC banks can utilize the findings of this study in determining features that may provide an indication of future IC performance. For example,

findings of this study will provide investors with signal under what type of ownership the performance of IC will be improved. For policy makers, if the findings of this study reveal that foreign ownership and presence of foreign banks have positive effects on IC performance of GCC banks, this findings therefore, will justify policy aimed at attracting foreign banks, including easing of restrictions on incoming foreign investments and offering incentives. Furthermore, the findings of this study will be useful to the regulators in deliberating policies on issues related to corporate governance, thus determining the direction of future governance policies for GCC bank and non-bank firms. For example, the findings of this study may help the banking regulators as well as managers and investors in addressing the characteristics that should be available in board of directors to help improve IC performance. While current corporate governance practices in GCC banks focused mainly on board independence and CEO duality, this study may shed light on the need to consider other factors such as the educational level, directors` ties, and nationality of candidates so that the appointed directors will be able to discharge their functions more effectively.

### **1.10 Organization of the Thesis**

This chapter provides an introduction to the research problem. The explanation about the research background is also provided as well as the objectives of this study. The motivations of this study and its significance are offered in this chapter. The outline for the remainder of this thesis is as follows. Chapter 2 provides a brief review of the economic structure and banking sector in the GCC

region as a whole and for each nation in the GCC region and focuses specifically on GCC corporate governance issues. In Chapter 3, a review of IC concept and related theories is provided. A review of relevant previous studies and hypotheses development of the study is also provided in chapter 3. In Chapter 4, the methodology of the study will be presented. Chapter 5 presents and discusses the empirical results. Chapter 6 concludes the overall results, acknowledges limitations of study and identifies additional potential issues for future research.

## **CHAPTER TWO**

### **AN OVERVIEW OF THE BANKING SECTOR AND CORPORATE GOVERNANCE IN GCC COUNTRIES**

#### **2.1 Introduction**

The main purpose of this chapter is to provide a brief review of the banking sector and corporate governance in the GCC region as a whole and for each nation. In section 2.2, a brief review of the economic structure and the main economic indicators of GCC countries are presented. Section 2.3 discusses the importance and characteristics of the banking sector in the GCC region. Corporate governance in the GCC banking sector and the challenges that impede the prevailing governance culture in the region are discussed in Sections 2.4 and 2.5 respectively. Section 2.6 provides a brief review of the banking sector and corporate governance in each country of GCC.

#### **2.2 Institutional Framework**

The Gulf Cooperation Council (GCC), comprising Bahrain, Kuwait, Qatar, Oman, Saudi Arabia and United Arab Emirates (UAE), was set up in 1981 out of the need among the six Arab states for a unified economic integration and toward establishing a single market and currency (Turk Ariss, Rezvanian and Mehdian, 2007). According to Al-Khoury (2011) and Hashem (2007), the geographical proximity of the GCC states, common religion, language and culture, and the similarity of their regulations, economic and social conditions, and the similar nature of challenges facing them, were the essential characteristics that led to the establishment of the GCC. In the same line, Al-Muharrami and

Matthews (2009) assert that these countries share many common characteristics and similarities which by far outweigh any differences and unite them under a common umbrella. For this reason, previous studies treated GCC countries as a single block (i.e. one country) (see e.g, Al-Khouri, 2011; Arouri *et al.*, 2011; Rettab *et al.*, 2010; Al-Muharrami & Matthews, 2009; Al- Obaidan, 2008a; Chahine, 2007; Al- Muharrami *et al.*, 2006).

Several common features characterize the GCC economies: large dependency on 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 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 global proven natural gas reserves (Reiche, 2010). The total GDP of the six GCC countries was more than US\$ 897 billion at the end of 2009 and the per capita GDP exceeded US\$ 20,000 in the same year (<http://www.gccsg.org/index.php>).

Despite their considerable improvement, rapid growth and liberalization, 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 (Marashdeh & Shrestha, 2010; Chahine & Tohme, 2009). However, when compared to the remaining countries of the Middle-East and the North-African (MENA) region, GCC countries have the highest score on regulation and supervision, development of



financial sectors, as well as on financial openness (Chahine, 2007; Jbili, Galbis, and Bisat, 1997). The Saudi Stock Market is by far the largest (US\$ 353.44 billion in 2010) while the United Arab Emirates is the second largest market (US\$ 132.2 billion in 2010) in the region in terms of market capitalization. On the other hand, Oman stock market is the smallest market with a market capitalization of US\$ 19.78 billion in 2010. The international financial crisis in the year 2008 caused a sharp fall in most of the GCC stock markets` indicators. For example, the total market capitalization dropped to US\$ 560 billion, which is only 47 percent of its value in 2007 (Marashdeh & Shrestha, 2010). The domestic stock price indices in all the GCC stock markets witnessed a sharp fall in 2008 (Marashdeh & Shrestha, 2010).

Diversifying their economies and developing the non-oil and gas private sector are one of the common challenges that the GCC countries face the urgency to address in order to reduce their highly dependency on the export of oil and gas for external revenues (Saif, 2009; Al-obaidan, 2008a; Al-obaidan, 2008b). The transformation toward knowledge based economies is one of the GCCs` agenda to diversify their economies (Randeree, 2012; Ulrichsen, 2012). Since the mid-1990s, GCC countries have shown a general commitment towards the process of transforming from the rent-seeking economies to knowledge-based economies. All GCCs` visions (vision 2020, vision 2025, and vision 2030) assert the commitment of GCC states to create and develop a knowledge-based economy particularly by expanding to knowledge-based sectors and by increasing the output of high-value-added industrial and service activities. As a knowledge-

based sector, the banking sector, which generally dominates the financial sector in GCC countries (Al-Hassan *et al.*, 2010) is considered to be one of the most economically viable diversification options (Al-obaidan, 2008a; Al-obaidan, 2008b).

### **2.3 The GCC Banking Sector**

The economy in the GCC region is classified as a bank-based economy where banks control most of the financial flows and possess most of the financial assets (Al-khouri, 2011). The banking industry in the GCC region has several features that make it unique and different from the banking sectors in many other regions. This section illustrates the basic features of the GCC banking industry.

The banking sector is one of the largest sectors in the economy of the GCC region and there are more banks' stocks traded in GCC stock markets than stock of any other industry. The banking sector in most of the GCC countries is the second highest contributor to the country's GDP after the oil and gas sector and it remains the cornerstone of the non-oil and gas GDP growth in its economy (Abu Loghod, 2010). However, the sector is heavily dependent on oil sector activities and its main lending activities are concentrated in construction, real estates, and consumer loans (Chahine, 2007). As a result, GCC banks' profitability and liquidity are tied to both the oil prices and the debt held by GCC governments (Al-Hassan *et al.*, 2010; Chahine, 2007). Despite its relatively small size, GCC banks are characterized as financially strong, well capitalized, and profitable (Zeitun, 2012; Al-khouri, 2011).

The banking sector in GCC region consists of a large number of banks with many branches (Al-khouri, 2011). However, in all six countries, the largest five banks, which are domestic, account for 50-80 percent of the total banking sectors` assets, showing a relatively high banking industry concentration with a few domestic players dominating the market (Al-Hassan *et al.*, 2010).

In terms of ownership, the GCC banking sector is largely domestically owned (Zeitun, 2012; Al-Hassan *et al.*, 2010). It is largely dominated by three groups of domestic owners: government, influential families, and institutional investors (Arouri *et al.*, 2011; Al-Hassan *et al.*, 2010; Chahine, 2007), revealing some kind of entry barriers and licensing restrictions for foreign ownership. Except for Bahrain, all GCC countries have limits on foreign ownership ranging from 35% in Oman to 49% in Qatar. As a result, the presence of foreign banks is mostly in the form of branches, in many cases as single branches (Al-Hassan *et al.*, 2010). However, the presence of foreign banks, such as Citigroup, HSBC, and BMP Paribas, is growing steadily in GCC countries, competing with domestic banks in different segments of the banking industry (Turk-Ariss, 2009). This may be due to the GCC governments` commitment to liberalize the banking sector and by virtue of their accession to the World Trade Organization (WTO) which obliges GCC countries to remove restrictions and reduce barriers to foreign bank entry that have protected GCC banks from foreign competition (Al-Obaidan, 2008a; Islam, 2003; Ghanem *et al.*, 2002).

The GCC region is also growing as an Islamic financial hub as it has a comparative advantage both culturally and geographically. Islamic banking is a

new phenomenon that has commenced in the Islamic world more than three decades ago. Islamic banking is guided by Shariah principles whereby interest (riba) is prohibited, justice is prelevant and Islamic banks avoid financing any economic activities that are not in the long-term interest of the society such as prostitution, gambling, and production and sale of liquor for intoxication. Uncertainty (gharar) is also prohibited in Islamic banks (Al-Ajmi *et al.*, 2009; Hamdan, 2009; Hassan *et al.*, 2009; Dusuki & Abdullah, 2007).

Nowadays, Islamic banks play an important role in financing in which they contribute to the development of different economic and social sectors in the Muslim countries and are wide spread in many Islamic and non-Islamic countries (Zeitun, 2012). According to Hamdan (2009), the huge growth in Islamic banking worldwide can be attributed to socio-demographic trends, such as the population growth and rising affluence of Muslims worldwide, particularly across Asia. In addition, there has been an increasing desire of Muslims to invest and borrow according to Shariah principles while enjoying a full range of banking products and services. Islamic banks, thus, have a clear competitive advantage over their conventional competitors who become strongly motivated to provide Islamic banking products and services through either an Islamic window or through a fully-fledged Islamic financial institution (Turk-Arissa *et al.*, 2007).

The GCC region has the largest percentage of the Islamic financial institutions. According to the General Council for Islamic Banks and Financial Institutions (CIBAFI) (2010), the total number of Islamic financial institutions in the GCC has reached 211 in the year 2009 (52 banks, 95 investment and financing

companies and 64 Takaful companies). According to Al-Hassan *et al.* (2010), Islamic banks become a prominent source of financial intermediation in the Gulf countries controlling on average 24 percent of the region's banking system asset. Saudi Arabia, Kuwait and the UAE are considered to be three of the big 4 countries (along with Malaysia) in global Islamic finance. The remaining three countries of the GCC are considered to be credible challengers to these four countries.

The more recent study of El-Saadani *et al.* (2011) identifies higher customer expectations, a tight labor market, and regulatory changes as the three major change factors in GCC banking sector. As a result of the economic diversification projects and fast development of non-oil industries in the GCC, customer base of GCC banks becomes more widen and diversified and include long-neglected segments such as small and medium enterprises (SME) in addition to youth and women. The Accenture survey reveals that GCC banks' managers consider customers' expectation for innovative products will be a key challenge in the near future, considering the development of such products a priority area (El-Saadani *et al.*, 2011). Additionally, as there will be greater competition for the same pool of customers, many GCC banks are considering initiatives to get closer to the customers and place much greater emphasis on building deep customer relationships and penetrating new customer segments (El-Saadani *et al.*, 2011).

To meet the demanding customers for new and innovative products and services and build and maintain good customer relationships, GCC banks need the right and specialized skills to innovate and design new products and to effectively

manage their operations (El-Saadani *et al.*, 2011). According to El-Saadani *et al.* (2011), the need for specialized skills will be especially great when catering to segments such as SME and corporate banking that require professionals with a thorough understanding of their segments along with others specialized financial skills. Talent management strategies that aim to retain and attract highly skilled talent are, therefore, likely to gain a lot of importance for GCC banks that are keen at increasing their shareholder value (El-Saadani *et al.*, 2011). Since employees and customers constitute, in combination, the most important components of IC in banks, GCC banks' strategies in this regard will significantly affect IC performance.

In addition to the appearance of a new generation of diverse knowledgeable and well-educated customers demanding superior and innovative products and services, as well as an intensified struggle to get the right talent, GCC banks will position themselves to meet the changes expected in the regulatory environment. The GCC banking sector is working on a new regulatory environment. Regulatory authorities in GCC are imposing new and stricter regulations to enforce requirements focusing on maintaining stricter liquidity ratios and creating capital adequacy norms in line with the Basel capital accord (El-Saadani *et al.*, 2011). However, since the GCC banks are well capitalized, their concerns will be centered more on meeting liquidity risk management than on capital requirements. GCC banks will need to take a proactive stance in understanding the changes in regulatory environment and their implications for their current

product and service offerings and management of liquidity ((El-Saadani *et al.*, 2011).

## **2.4 Corporate Governance in the GCC Banking Industry**

Given the dominant financial intermediation role of banks in GCC countries, effective bank corporate governance is fundamental for establishing sound financial systems (Saidi, 2011a). Furthermore, GCC banks can play a central role in instilling a culture of good corporate governance which is very vital for the private sector development in the GCC region in which most companies are non-listed and family-owned (Saidi, 2011a). Corporate governance is a relatively new concept in the GCC region. It has emerged in the last 10 years (Koldertsova, 2010). Except Kuwait, all GCC countries have incorporated its own corporate governance system whether through code or law. Oman is the first country in 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.

While 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, 2011a).

As a result, the available literature on corporate governance in the GCC states is minimal when compared to the existing literature on corporate governance practices in the developed countries, especially in the United States or even in developing countries in Far East Asia. However, despite its infancy in the region,

corporate governance concepts and principles are now well accepted in GCC firms, particularly banks (Saidi, 2011a). It reflects the significant efforts of supervisory authorities to raise banks' awareness of sound corporate governance practices (OECD, 2009). For example, central banks across GCC countries have revised their regularity requirements to include corporate governance-related requirements. GCC banks now are required to provide corporate governance-related information to central banks as part of their annual reporting cycle. Furthermore, the progress in implementation the Basel Committee's corporate governance principles, which are designed to enhance corporate governance in banking firms, assists GCC banks to improve better corporate governance practices than those practiced in the non-bank sectors (Saidi & Kumar, 2008).

According to Saidi (2011b), the recent global financial crisis has put corporate governance back on the policy agenda in the GCC region (Saidi, 2011b). Table 2.1 provides a summary of the most important GCC corporate governance developments during the period 2008-2011. The recent developments mentioned above imply that governments in the GCC are beginning to take corporate governance seriously.



Table 2.1  
*The recent corporate governance developments in GCC*

Country	Country Corporate Governance developments 2008-2011
Bahrain	Corporate governance code issued in 2010.
Kuwait	Capital Market Authority set up in 2010.
Oman	In 2010, The Capital Market Authority set up a corporate governance unit to ensure implementation of the CG Code (issued in 2002).
Qatar	Corporate governance code issued in 2009.
Saudi Arabia	In 2010, the Capital Market Authority set up a corporate governance unit to ensure implementation of the CG Code.
UAE	UAE CG Code mandatory from April 2010 (issued in 2007) central bank regulated institutions are not included.

Source: Saidi (2011b)

## **2.5 Challenges of Corporate Governance in the GCC**

Corporate governance development is often investor-driven in the more developed markets, but in the GCC the burden of corporate governance improvements falls on the regulators (Saidi, 2011a). However, regulators` efforts to develop corporate governance and support effective implementation of corporate governance in GCC companies encounter many barriers and significant challenges, especially in the areas of transparency and disclosure, board practices and risk management (Saidi, 2011a). Much of these barriers and challenges 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 & Tohme, 2009; OECD, 2009; Chahine, 2007).

Concentrated ownership of GCC companies, including banks, represents one of the most important barriers of the prevailing governance culture in the region. Concentration of ownership has placed control of the GCC banks 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 as 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 family, the fear of transparency and disclosure, the fear of change and lack of understanding of corporate governance practices.

When corporate control is in the hands of a major shareholder, irregular actions will emerge, and the rights of minority shareholders will be at risk of being undermined (Chahine & Tohme, 2009). Usually, the concentration of ownership would change the agency problem from that between management and shareholders to between the controlling shareholders and the minority shareholders. This is especially true in the GCC banking sector, where many banks are part of the large and closely controlled business groups that established banks to service commonly owned or controlled companies (OECD, 2009). Yasin and Shehab (2004) contend that the concentrated ownership structure in GCC banks undermines the effectiveness of corporate governance mechanisms employed in. For example, as a result of ownership concentration, GCC banks' boards are dominated by controlling shareholders, in which friends and relatives constitute the board of directors in many cases. Family power in GCC boards is

very high; in Kuwait, a single family can “own” up to 100% of a board. In Saudi Arabia, this proportion goes down to 75% but remains incredibly high. Dubai appears to be the best example where no one family holds more than 50% of a company board. On average, GCC families hold between 19% and 30% of company board seats (The National Investor (TNI), 2008). Many boards, thus, represent the direct interests of the major shareholders and have few outside independent members who could counter balance other stakeholders` interests. Consequently, the boards of GCC banks capability to exercise an objective and independent judgment is in question (OECD, 2009).

The involvement of major shareholders in the board’s decision making processes is viewed by many GCC directors as a major barrier to defining roles and accountabilities of the board clearly (GCC Board of Directors Institute, 2011). The IFC-Hawkamah survey underlines that the role of the GCC bank boards is often misunderstood and there is an ambiguity of roles between boards and management (OECD, 2009; GCC Board of Directors Institute, 2011). Unlike the good practice in which corporate strategies are developed by management and reviewed by the boards, most of the surveyed GCC banks stated that the board, and not management, is responsible for setting corporate strategies (OECD, 2009).

The concept of an ‘independent director’ is relatively new in the GCC region. The regulators have generally recommended that at least one-third of the board should be made up of independent directors. While this proportion is less than the international best practice of having a majority of independent members, it is

arguably a pragmatic approach that would take the region a long way towards international best practice (Mujtaba & Williams, 2011). However, the significant influence of major shareholders in 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).

Bringing in professional directors with the right mix of skill and knowledge to the board determines the board's efficiency in the long term. However, GCC board members find that the need for board appropriate skills and expertise is still the most important barrier to board effectiveness. Particularly, GCC board members recognize the need for improvements on developing knowledge and expertise of directors in knowledge of customer drivers, trends and competitive conditions within the industry or sector. The OECD-Hawkamah Survey responses reveal some concerns about the adequacy of bank directors' skills in the MENA region including GCC countries. The survey finds that boards of GCC banks lack the necessary skills and knowledge in banking transactions such as financial instruments and risk exposures (OECD, 2009). This signifies an urgent need to only appoint 'suitable candidates' – those who possess the right mix of skills, experience and character – as board members.

In addition to improving knowledge and expertise of board members, GCC board members feel that board performance could be significantly enhanced by assigning more time to substantive discussion and important matters (GCC board of directors institute, 2011). IFC-Hawkamah survey reveals that banks' boards do

not meet on a sufficiently regular basis in order to provide the necessary oversight of the bank's operations. Only 27% of bank boards meet a 10 to 12 times a year which is consistent with the best practice of European bank boards that meet more than 10 times a year (IFC-Hawkamah Study, 2008). GCC bank boards need to carefully consider the frequency of their meetings that would allow them to fulfill their responsibilities with due diligence (OECD, 2009). Unfortunately, a majority of GCC board members surveyed believe that board members are insufficiently prepared for board meetings and they still see strategic information, general industry information and trends as well as organizational information as the top three topics that they need more information on (GCC Board of Directors Institute, 2011).

It has been recognized that board diversity promotes better corporate governance which is a key factor for economic growth and higher company performance. In spite of the recognition that diversity brings value, boards in the GCC remain extremely homogenous (GCC board of directors institute, 2011; TNI, 2008). For example, the average number of women on GCC boards is less than 1 % which is far below its potential (GCC Board of Directors Institute, 2011; TNI, 2008).

The GCC Board of Directors Institute`s survey (2011) states that ensuring diversity of perspectives, education, skills and experience among GCC board members, among others, would certainly enrich the dialogues and debates boards need to engage in discharging their duties. In this regard, increasing board diversity by recruiting more international directors is viewed as an important tool

to add value and enhance board performance (GCC Board of Directors Institute, 2011).

Good corporate governance practices encourage the full and fair disclosure which is viewed as an important mechanism for shareholders' protection. Such disclosure will provide a clear and comprehensive picture of the financial standing of the bank and enable counter parties and the financial community to exercise market discipline. Among the types of corporate governance information that should be disclosed are the bank's board and senior management structure, and basic ownership structure. GCC banks, however, have lower disclosure levels in these issues relative to international standards in the banking sector (OECD, 2009; Chahine, 2007). According to Rocha, Arvai and Farazi (2011), 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. This may reflect a desire of controlling owners to protect proprietary information related to rent seeking activities (Claessens & Fan, 2002).

In these cases, related-party transactions can create significant concentrations of credit risk to the bank. Although legislation exists in most countries defining related parties and prescribing the disclosure or reporting requirements, the definitions may not encompass the full contingent of possible connections or parties that are actually related to the given bank. Furthermore, many banks have not yet developed their own internal systems dedicated explicitly to identifying, monitoring, and reporting related parties.

## **2.6 Highlights of the GCC Banking Sector and Corporate Governance Environment in the Individual GCC Countries**

A brief overview of the structure of the banking sector and corporate governance environment in each of the GCC countries are provided below:

### **Bahrain**

Unlike other GCC countries, Bahrain, the smallest GCC country, is less dependent on oil for external revenues. Bahrain's economy is the most diversified economy in the GCC region, particularly in its financial sectors which represents the highest contributor to the country's GDP after the oil and gas sector with a contribution of 25% at the end of 2010 (Hidayat & Abduh, 2012). The banking sector in Bahrain represents the largest component of the financial system, accounting for over 85% of total financial assets (Hidayat & Abduh, 2012). Over the past decades, Bahrain succeeds in establishing itself as a leading, stable, and liberal financial centre in the GCC region.

Bahrain is also striving to emerge as the regional centre of Islamic finance, holding the largest concentration of Islamic banks in the region. The country plays a key role in establishing and hosting regulatory and standard setting bodies such as The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI). However, despite a large number of Islamic banks incorporated in the country, Bahrain has the lowest portion of Islamic assets in its banking sector among GCC countries. The assets of Bahraini Islamic banks

represent only 11.2% of the total assets of Bahraini banking sector (CIBAFI, 2010).

Unlike other GCC countries, Bahrain does not set any limits on foreign ownership (Al-Hassan *et al.*, 2010). The presence of foreign banks in Bahrain is important; they represent 48 percent of the total number of banks in the banking system. The banking sector in Bahrain is the least concentrated sector in GCC region. The central bank of Bahrain, which is known previously as Bahrain Monetary Agency, is responsible for licensing and supervision of banks operating in Bahrain. The central bank of Bahrain has an international reputation of being the most highly regarded regulator in the Middle East and the most innovative regulator in the region (The Bankers` Society of Bahrain, 2007).

Issues concerning corporate governance compliance have been clearly defined by the central bank of Bahrain, which in October 2005 issued requirements covering the role of banks' boards, senior management and high level committees, based on the Basel committee and OECD corporate governance papers. In 2010, Bahrain issued its own corporate governance code which is intended to apply to all operating Joint Stock companies, which are incorporated under the Bahrain commercial companies law. Bahrain`s code of corporate governance is based upon nine core principles of corporate governance that adhere to international best practices and involve several issues related to board of directors` role, composition, structure, and operations. The Bahraini code sets, among others, the board should have no more than 15 members, the roles of the chairman and CEO should be separated, and one-third of board members in



companies with a controlling shareholder should be independent directors. The Bahraini code states that the board should meet at least four times a year.

**Kuwait:**

The economy of Kuwait is characterized by its large dependency on oil export which accounts for nearly 45% of the GDP, 90% of export revenues and 95% of government income (Central bank of Kuwait report, p.11 2009). The banking sector in Kuwait is one of the strongest banking sectors in the Middle East region with a total asset base of US\$ 165 billion in 2010. The Kuwaiti banking sector stems its strength from a supportive government policy, higher than average capitalization, and limited competition from foreign banks (Karthikeyan & Singh, 2011). Banking industry in Kuwait is the core of the country's financial sector which its contribution to non-oil GDP reached around 25.5% at the end of 2009 (KAMCO Research, 2011). The Kuwaiti banking sector is highly concentrated. The two largest banks (National Bank of Kuwait and Kuwait Finance House) together own around fifty percent of the banks' total assets (Al-Hassan *et al.*, 2010). Kuwait has the highest share of Islamic assets in its banking sector among GCC countries with 33.2% of the banking sector total assets (CIBAFI, 2010). Forty nine percent (49%) is the maximum limit of foreign ownership of bank in Kuwait (Al-Hassan *et al.*, 2010). In January 2004, Kuwaiti government permitted foreign banks to set up operations in Kuwait upon approval from the central bank of Kuwait.

When compared to the other GCC countries, Kuwait does not have a comprehensive code of corporate governance (Al-Saidi & Al-Shammari, 2012; Al-Wasmi, 2011). However, in 2012, Kuwait issued a new Companies Law which focuses on corporate governance practices of companies operating in the country. The law is expected to show improvements in corporate governance in the long run (CapitalStandards, 2013). However, it will be implemented and made effective in mid 2013 (CapitalStandards, 2013).

Kuwait recognizes the importance of banks' good corporate governance. The central bank of Kuwait has taken the initiative, since the early 1990s, to issue and update instructions to banks in regard to good governance, in line with relevant international control standards and advances in banking works. Adopting the OECD's corporate governance definition and to a large extent the OECD corporate governance principles (2004), the central bank of Kuwait issued in May 2004, corporate governance instructions for the banks and the investment companies listed in the Kuwait Stock Exchange (Al-Wasmi, 2011). These instructions identify the importance of corporate governance for the Kuwaiti banks and the investment companies, following the financial scandals that shocked the world. Recently, the central bank of Kuwait has also set corporate governance laws for banks operating in Kuwait, which will be effective from June 2013 (CapitalStandards, 2013). However, there are, in general, weaknesses within the corporate governance framework of the banks in Kuwait. There is a lack of proper transparency that materializes from related party exposures and lack of independent board oversight in most cases (Karthikeyan & Singh, 2011).

## **Oman**

The Omani economy is heavily dependent on the oil and gas export which constitutes 28.8% of Oman's GDP in 2010 and 80.8 % of government revenues (Central bank of Oman report, 2011, p.8). Oman's vision 2020 asserts the need to diversify the economy of Oman and reduce the contribution of the oil sector to less than 20 percent by the end of 2020 (Tarawneh, 2006). Despite being the smallest banking sector in the GCC region, banks in Oman play a crucial role in the economic development of the country (Sangeetha & Pria, 2012). Banks dominate the financial sector in Oman, accounting for nearly 90% of the total financial sector's assets (Sangeetha & Pria, 2012). The banking sector is highly concentrated, the two largest banks (Bank Muscat and the National Bank of Oman) together own around 55% of the banks' total assets (Al-Hassan *et al.*, 2010). A significant number of the banks are owned by the government and-quasi government institutions, holding more than 26% of the assets of the banking system (Bologna & Prasad, 2010). According to Bologna and Prasad (2010), Oman has no Islamic banks. The maximum limit of foreign ownership of banks in Oman is 35% (Al-Hassan *et al.*, 2010). The presence of foreign banks in Oman is important, representing 47% of the total number of banks in the banking system in 2010.

For the purpose of improving the investment environment and providing an adequate protection to the minority shareholders, Omani capital market authority introduced a corporate governance code in 2002 which is intended to apply to all listed corporations including banks, making Oman the first country in the GCC

region that issued a corporate governance code. This code, which is revised in 2003, focused upon several corporate governance issues such as the conflict of interests between the directors and the corporation, transparency and disclosure of information, board directors` qualifications, responsibilities, and remuneration. The Omani corporate governance code, for example, requires that the roles of the chairman and CEO be separated, one-third of board members should be independent, and the board should meet at least four times a year. However, unlike Bahrain`s code, the Omani code does not impose restrictions on board size.

## **Qatar**

Qatar has one of the fastest growing economies in the world with GDP per-capita rate of USD 88,559 in 2010, making Qatar the richest country in the world in 2010 (QNB investor, 2011). This rapid economic growth is attributed largely to the ongoing increase in production and exports of gas and oil which contribute about 51.7% of the Qatar`s GDP in 2010 (central bank of Qatar report, 2010, p.22) and 85% of its exports revenues (Da, 2011). For the purpose of diversifying its economy and reducing the heavily dependence on oil and gas sector, Qatar has launched several initiatives to increase private and foreign investments in non-oil and gas sectors. The focus is currently on the banking sector, which is viewed as one of the major beneficiaries of the initiatives and plans established by the Qatari government for diversification of its economy (Al-Ghorairi, 2010).

The Qatari banking market is dominated by three major banks that include the Qatar National Bank (QNB), The Commercial Bank of Qatar (CBQ), and Qatar

Islamic Bank. Each of these banks is listed on the Qatar Stock Exchange and together control more than 60% of the banking market's total assets in Qatar at the end of 2010. Islamic banking assets constituted 17.9% of the total Qatari banking sector (CIBAFI, 2010). The maximum limit of foreign ownership of banks in Qatar is 49 percent (Al-Hassan *et al.*, 2010). Foreign banks in Qatar represent 26 percent of total number of banks in the country in 2010.

In 2009, Qatar Capital Market Authority (QCMA) introduced corporate governance code which is based on comply or explain principle. The corporate governance code of QCMA focused upon several corporate governance issues such as the role of the board of directors, disclosure, shareholder protection, shareholders and stakeholders' rights, and enforcement (Sharar, 2011). It is worth noting that the Central Bank of Qatar in 2008 issued several guidelines that provide a framework aimed at improving corporate governance practices of the banking sector in Qatar.

The Qatari corporate governance code provides overarching guidelines to ensure the integrity, effectiveness, and independence of a firm's board of directors. For example, the Qatari code stipulates that the roles of the chairman and CEO be separated, one-third of the board members should be independent, and the board should meet at least six times a year (Sharar, 2011). However, the Qatari corporate governance code does not impose restrictions on board size.

## **Saudi Arabia**

Saudi Arabia is the largest economy in the GCC region. It is heavily dependent on the hydrocarbon sector (oil and gas sector) which comprises approximately 46% of Saudi Arabia's GDP in 2010 (Saudi Arabian monetary agency (SAMA), 2011a). Currently, Saudi Arabia is the world's largest producer and exporter of petroleum liquids and is the world's second largest crude oil producer behind Russia. Oil exports constitute 87.3 percent of total Saudi exports of goods in 2010 (Saudi Arabian monetary agency (SAMA), 2011b, p.120) and 90.3 percent of total Saudi revenues in 2010 (SAMA, 2011b, p.27). In the early 1970s, Saudi Arabia embarked on long-term plans to diversify its oil-based economy by investing in manufacturing, technology, and financial services businesses besides oil.

The banking sector in Saudi Arabia is viewed as one of the major beneficiaries of the government's continuous efforts to diversify its economy to the non-oil sectors. The combined assets of Saudi banks stand at Saudi Riyal 1.60 trillion at the end of 2010 constituting the second largest asset base in the Arab region after UAE banks. The banking sector in Saudi Arabia is characterized as profitable, stable and is closely regulated by the Saudi Arabian monetary agency (the central bank). The Saudi Arabia's banking sector is moderately concentrated with the three largest banks accounting for 45 percent of total banking sector's assets. Islamic banks represent 17.2% of the country's banking sector total assets (CIBAFI, 2010). The maximum limit of foreign ownership of banks in Saudi Arabia is 40

percent (Al-Hassan *et al.*, 2010). Foreign banks in Saudi Arabia represent 19 percent of the total number of banks in the banking system in 2010.

Saudi Arabia issued a Corporate Governance Code in November 2006, where compliance is optional. In relation to the independence of directors, the Corporate Governance Code stipulates the independent members of the Board of Directors shall not be less than two members or one-third of the members, whichever is greater. The Saudi Arabia code requires that the roles of the chairman and CEO should be separated. The code restricts the board size to not less than three and not more than eleven. The code is silent about the minimum number of times a board should meet per year.

#### **United Arab Emirates:**

The United Arab Emirates has one of the most open and integrated economies in the region (Aljifri, 2008). UAE`s economy is the second largest economy in the GCC region and Arab world after Saudi Arabia. Similar to other GCC countries, oil revenues are the main engine of growth for the UAE economy accounting for 34.7% of the country`s GDP in 2010 (Emirates Banks Association, 2010, p.5). However, for the purpose of diversifying its economy and reducing its high dependence on the oil sector, the UAE heavily invests in non-oil sectors such as tourism, Aluminum production, re-export commerces, and telecommunication. Consequently, the contribution of non-oil sectors was 65.3% of the country`s GDP in 2010 (Emirates Banks Association, 2010, p.5).

The UAE stock market was founded in 2000 and is represented by two security exchanges, Dubai stock exchange and Abu Dhabi stock exchange, under the supervision of the Emirates Securities and Commodities Authority (ESCA). Although the stock market in UAE is a relatively new and small compared to other stock markets in the region, it outperforms its counterparts in the region as the most active in terms of the number of Initial Public Offerings (IPO), the number of listed firms, market capitalization, and presence of a wide range of market participants such as brokerage firms and investment funds (Aljifri & Moustafa, 2007).

The banking sector plays a vital role in the UAE economy, and it is characterized as strong, profitable, technologically advanced, and integrated into the world economy (Turk Ariss *et al.*, 2007). The UAE's banking sector has the largest asset base in the Arab region standing at USD billion 438.1 at the end of 2010. The UAE's banking sector is moderately concentrated with the three largest banks accounting for 40 percent of total assets. The Islamic banks hold 13.6% of UAE banking assets (CIBAFI, 2010). Similar to Saudi Arabia, the maximum limit of foreign ownership of banks in UAE is 40 percent (Al-Hassan *et al.*, 2010). Foreign banks in UAE represent 43 percent of the total number of banks in the country in 2010.

The corporate governance practice in UAE is still in its early stage, needing to be developed and regulated. In 2007, the Emirates Securities and Commodities Authority (ESCA) issued the corporate governance code that requests UAE listed corporations to publish corporate governance information (Hassan, 2012). The



corporate governance code of ESCA aims to improve the corporate governance system of listed firms. The code focuses upon several corporate governance issues such as independence within the board of directors, the qualities and responsibilities of the board, and the disclosure requirements. In relation to board characteristics, the UAE's corporate governance code recommends, among others, that the roles of the chairman and CEO should be separated, one-third of board members should be independent, and the board should meet at least six times a year. Similar to Oman and Qatar codes, the UAE's does not impose restrictions on board size.

By the end of 2010, all UAE listed corporations are enforced to comply with the UAE code of governance (Hassan, 2012). However, this regulatory transformation does not include financial institutions organized by UAE central bank.

Table 2.2 and Table 2.3 give summary statistics of banking sector and corporate governance for each country of GCC countries.

Table 2.2

*Summary Statistics of Banking Sector for Each Country of GCC Countries*

	<b>Bahrain</b>	<b>Kuwait</b>	<b>Oman</b>	<b>Qatar</b>	<b>Saudi Arabia</b>	<b>UAE</b>
Total banking sector assets (in US \$ Billions) at the end of 2010 <sup>1</sup>	222.2	165	40.7	155.9	377.4	438.1
Total banking sector assets (in percent of GDP) at the end of 2008 <sup>2</sup>	258%	84%	66%	94%	68%	142%
% of Islamic banks` assets to the total assets of banking sector at the end of 2009 <sup>3</sup>	11.2%	33.2%	0	17.9	17.2%	13.6%
Banking industry concentration ratio (CR3), 2010 <sup>4</sup>	28%	-	60%	60%	46%	40%
Maximum Limit of foreign ownership	-	49%	35%	49%	40%	40%
% of number of foreign banks to total number of banks at the end of 2010 <sup>5</sup>	48%	18%	47%	26%	19%	43%

<sup>1</sup> Figures are collected from GCC central banks` reports

<sup>2</sup> Al-Hassan et al. (2010)`s calculations

<sup>3</sup> CIBAFI calculations

<sup>4</sup> Researcher calculations based on GCC central banks` reports.

<sup>5</sup> Researcher calculations based on GCC central banks` reports.

Table 2.3

*Summary of Corporate Governance Code`s Requirements for Board of Directors in Each Country of GCC Countries*

	<b>Bahrain</b>	<b>Kuwait</b>	<b>Oman</b>	<b>Qatar</b>	<b>Saudi Arabia</b>	<b>UAE</b>
Presence of corporate governance code	Yes	No	Yes	Yes	Yes	Yes
Board independence	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
Board size	No more than 15 Members.	-	-	-	Not less than 3, not more than 11.	-
Meeting frequency	4 times	-	4 times	6 times	-	6 times

## 2.7 Summary

The GCC banking sector is one of the largest sectors in the economy of the GCC region and it is viewed as the cornerstone of the non-oil and gas GDP growth. The banking sector of the GCC region is financially strong, well capitalized, and profitable. There are, however, many common challenges that are likely to affect GCC bank`s ability to grow and operate within a more competitive environment. The ability of GCC banks to face these challenges and survive in a more competitive environment will depend on their efficiency in utilizing IC resources.

Effective bank corporate governance is viewed as a crucial factor to establish and ensure a sound banking sector. Despite its infancy in the region, corporate governance concepts and principles are being well accepted in the GCC banks. The banks seem to outperform non-banking firms in terms of corporate governance practices. There are, however, several barriers which impede the instilling of a culture of good corporate governance in GCC region. The barriers include ownership concentration and the weakness of legal and regulatory framework.

This chapter provides an overview of banking sector and corporate governance environment of each of the GCC countries and the GCC region as a whole. In the next chapter, a review of previous studies relevant to the present study is offered and from which hypotheses are developed.

## **CHAPTER THREE**

### **LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

#### **3.1 Introduction**

This chapter reviews the intellectual capital (IC) literature and presents and discusses the conceptual framework employed in this study. The chapter starts by discussing the importance of IC, providing a review of definitions, classifications, measurements of IC, in particular the VAIC method, the frequently used method of measuring IC performance as well as IC related theories used in this study. This chapter also reviews briefly existing research on the IC performance. The relevant literature related to the independent variables and the moderator variable is reviewed and from which hypotheses are developed. The chapter ends with a summary.

#### **3.2 Intellectual Capital**

With the advent of the knowledge-based economy in which knowledge plays a predominant role in the creation of wealth, the traditional bases sources of competitive advantage that depend on tangible assets in creating firm value and sustaining competitive advantage begun to erode (Pablos, 2002). The recent changes in global economy such as globalization of business, intensive competition, the increasing demand by customers for sophisticated and innovative products and services, rapid technological changes, shortening of product life cycle, among others, lead to the importance of knowledge-based assets or intellectual capital as the main factor in creating value and sustaining

competitive advantage of the firms (Maditinos, Chatzoudes, Tsairidis, and Theriou, 2011; Shih *et al.*, 2010; Chan, 2009; Ting & Lean, 2009; Kamath, 2007; Salleh & Selamat, 2007; Chen *et al.*, 2005; Goh, 2005; Andriessen, 2004; Pablos, 2002; Pulic, 1998; Edvinsson & Malone, 1997; Roos & Roos, 1997; Edvinsson & Sullivan, 1996).

One of the strongest evidence of the increasing role of IC is the large and growing gap between market values and book values of firms which is often attributed to IC. According to Liu *et al.* (2009), the market value of firms could be several times the book value, indicating that the difference represents the value created by IC. For example, the ratio of market to book values of U.S. Standard and Poor's (S&P) 500 firms increased during the period of 1977-2001 from about one to one in the 1970s to about five to one in 2000 implying that about 80 % of firm market value has not been reflected in financial reporting (Lev, 2001).

Therefore, IC is becoming the lever for maintaining and sustaining firm's performance and competitive advantage. Accordingly, identifying, valuing, and managing IC is becoming increasingly important for firms operating in knowledge-based economy (Andriessen, 2004; Pulic, 1998; Edvinsson & Malone, 1997; Roos & Roos, 1997; Edvinsson & Sullivan, 1996; among others). Furthermore, previous studies asserted that investing in resources underlying IC of a business is essential for firms to develop their ability to create high value products and services in order to defend and strengthen the firm's competitive position and ensure its future viability (Shih *et al.*, 2010; Chan, 2009; Ting & Lean, 2009; Kamath, 2007; Chen *et al.*, 2005; Goh, 2005; Andriessen, 2004;

Pulic, 1998; Roos & Roos, 1997; Edvinsson & Malone, 1997; Edvinsson & Sullivan, 1996). According to Proctor (2006), there is already strong evidence that those firms that have focused on building their intellectual capital have provided excellent returns for their shareholders and have outperformed their competitors on every financial measure.

### **3.2.1 Definition and Classification of Intellectual Capital**

Until now, there has been no uniform or generally accepted definition or classification of intellectual capital (Ahuja & Ahuja, 2012; Chu, Chan, and Wu, 2011; Zeghal & Maaloul, 2010; Chan, 2009; Engstrom, Westnes, and Westnes, 2003). This may be due to the fact that the field is still in its infancy since attempts to define and classify IC only began in the late 1990s (Zeghal & Maaloul, 2010). Andriessen (2004) argues that the problem with intangible resources is that they are intangible; therefore, a key problem is how to identify something that is hidden or non-material. As a result, as yet, a generally accepted definition of IC remained elusive (Ho & Williams, 2003).

However, definitions of intellectual capital are not significantly different among the researchers (Tayles *et al.*, 2007) since most of the definitions basically contain the same words: knowledge, employees` experiences and skills, employees` satisfaction and loyalty, customer satisfaction and loyalty, firm reputation, organizational routines, procedures, systems, cultures, information technology and value creation (see for example, Kamath, 2007; Yalama & Coskun, 2007; European Commission, 2006; Kannan & Aulbur, 2004; Institute of Certified

Management Accountants (ICMA), 2001; OECD, 2000; Edvinsson & Malone, 1997; Roos & Roos, 1997; Brooking, 1996; Edvinsson & Sullivan, 1996, among others).

For example, Edvinsson and Sullivan (1996) define IC as knowledge that can be converted into value. Edvinsson and Malone (1997) broaden the definition of IC to the possession of the knowledge, applied experience, organizational technology, customer relationships and professional skills that provide a company with a competitive edge in the market. In the same line, Zeghal and Maaloul (2010) define IC as the sum of all knowledge a company is able to use in the process of conducting businesses to create value for the company. Moreover, the Institute of Certified Management Accountants (ICMA) (2001) defines IC as the possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organizations competitive advantage.

For the purpose of comparison among the contemporary definitions of IC, Table 3.1 presents a summary of most of these definitions. For the purpose of this study and consistent with previous studies such as Williams (2001) and Ho and Williams (2003), the definition derived by the OECD (2000), which describes IC as the economic value of two categories of intangible assets of a firm: (1) organizational (structural) capital; and (2) human capital, is used. This definition is viewed as one of the most workable definitions of intellectual capital (Petty and Guthrie, 2000) and it is also consistent with the VAIC methodology used in this study to measure IC performance. This definition is supported in the literature



(see for example Chan, 2009; Yalama & Coskun, 2007; Chen *et al.*, 2005; Goh, 2005; Firer & Williams, 2003).

Table 3.1  
*Definition of Intellectual Capital*

<b>Author</b>	<b>Definition</b>
<b>Edvinsson &amp; Sullivan (1996)</b>	Knowledge that can be converted into value.
<b>Roos and Roos. (1997)</b>	The sum of the knowledge of its members and the practical translation of this knowledge into brands, trademarks, and processes
<b>Edvinsson and Malone (1997)</b>	The possession of the knowledge, applied experience, organizational technology, customer relationships and professional skills that provide a company with a competitive edge in the market
<b>Brooking (1996)</b>	The combined intangible assets which enable the company to function and see an enterprise as the sum of its tangible assets and intangible asset
<b>The OECD (2000)</b>	The economic value of two categories of intangible assets of a firm: (1) organizational (structural) capital; and (2) human capital.
<b>ICMA (2001)</b>	The possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organizations competitive advantage
<b>Kannan and Aulbur (2004)</b>	Intellectual materials such as knowledge, information, intellectual property and experience that can be used to create wealth.
<b>European Commission (2006)</b>	The combination of intangible resources and activities that allows an organization to transform a bundle of material, financial and human resources in a system capable of creating stakeholder value.
<b>Kamath(2007)</b>	Any creation of the human intellect or mind.
<b>Yalama and Coskun (2007)</b>	Something which already exists in a firm but cannot be seen on its balance sheet exactly, a competitive advantage over the firm's competitors, future values and includes all its intangibles assets, the value of knowledge, information, intellectual property and experience, a key factor influencing the future value of the firm.
<b>Zeghal and Maaloul (2010)</b>	The sum of all knowledge a company is able to use in the process of conducting business to create value – a VA for the company

The definition of IC provided by OECD (2000) implies a classifying of IC into two components; human capital and structural capital. This classification of IC is similar with classifications provided by Stewart (1997) and Edvinsson and Malone (1997).

Human capital (HC) is defined as the knowledge, qualifications, experiences, and skills of employees that they take with them when they leave the firm (Zeghal & Maaloul, 2010; Roos & Roos, 1997). Employees' knowledge is either unique to the individual or generic such as innovation capacity, creativity, know-how and previous experience, teamwork capacity, employee flexibility, motivation, satisfaction, learning capacity, loyalty, formal training and education (Ting & Lean, 2009). Structural capital (SC) refers to the knowledge that remains with the firm after the employees leave it at night. It includes production processes, organizations' management processes, organizational routines, procedures, systems, cultures and databases, information technology, customer relations and loyalty, supplier relation, firm brand and reputation, R&D etc (Zeghal & Maaloul, 2010; Ting & Lean, 2009; Goh, 2005). Structural capital is often subdivided into customer capital and organizational capital (Zeghal & Maaloul, 2010).

In addition to this classification, there are also other classifications which classify the IC into three components: human capital, structural capital, and relational capital (Ting & Lean, 2009; Kamath, 2007). The latter classification which represents the most widely used classification of IC classified structural capital mentioned earlier into structural capital and relational capital. Relational capital refers to the knowledge of market channels, the external relationships of the firm

with customers, suppliers etc, firm`s image and reputation, customer satisfaction and loyalty (Ting & Lean, 2009; CIMA, 2001). As stated earlier, the present study will use the definition of IC derived by the OECD (2000) that classifies IC into human capital and structural capital.

IC performance describes the efficiency of IC within a company in creating value to a firm (Kujansivu & Lonnqvist, 2007). In other words, IC performance refers to the efficiency of value added (VA) by intellectual capital resources (i.e. human and structural capitals` resources) (Abidin *et al.*, 2009; Ho & Williams, 2003). IC performance thus indicates to the extent to which resources underlying IC contribute in creating or adding value to a firm. Value added or creation is viewed as the primary objective of a firm than financial performance (Ho & Wiliams, 2003). According to Pulic (1998, 2004), a firm is a system that seeks to create additional value above its input through establishing alliances and coalitions with the various required resources and value creators (employees, customers, suppliers, investors, and governments). Thus, value added is viewed as a more accurate measure of firm performance than traditional measures (Riahi-Belkaoui, 2003). Basically, value added is defined as the increase in wealth created by the firm through the productive utilization of its key resources prior to its allocation among shareholders, creditors, employees and the government (Riahi-Belkaoui, 2003).

### **3.2.2 Measurement of Intellectual Capital**

Presently, there is no universally accepted measurement of IC (Zeghal & Maaloul, 2010; Chan, 2009; Ramirez, Lorduy, and Rojas, 2007). According to Swartz and Firer (2005), the various conceptual, epistemological and theoretical differences of IC concept lead to the absence of a fully accepted measure of IC performance. The involvement of researchers from different disciplines such as accounting, economics, finance, strategy, human resources, and psychology has led to the multidimensionality of IC measurement using different theories to justify IC measurement (Nazari & Herremans, 2007). Moreover, the complex nature of IC itself which is intangible and non-physical and includes a large number of organizational and individual variables is another reason of IC measurement's problem (Kannan & Aulbur, 2004).

Many researchers (Latif, Malik, and Aslam, 2012; Goh, 2005; Andriessen, 2004; Pulic, 2004; Ho & Williams, 2003; Edvinsson & Malone, 1997; Stewart, 1997, among others) advocate that the current conventional accounting and performance measurement systems do not provide much help in measuring IC performance as they are heavily inclined towards financial and physical resources. They further state that the use of traditional measures may lead investors to make inappropriate economic decisions. According to Kamath (2007), ignorance towards IC may be disastrous for firms in the long-run because of the increasing importance of IC as the main source of firm value and competitive advantage.

The failure of traditional methods to incorporate IC measures motivates researchers to conduct studies to produce methods in accounting the IC. This has resulted in the development of many methods of measuring IC. Sveiby (2010) reviews the current literature and identifies 42 methods of evaluating and measuring IC. According to Tan, Plowman and Hancock (2007), IC measurement methods can be grouped broadly under two approaches: (i) approaches that do not use a monetary measurement of IC such as the balanced scorecard, the IC-Index, and Intangible Asset Monitor approach, and (ii) approaches that use a monetary measurement of IC such as the economic value-added approach, calculated intangible value, market capitalization approach, and value added intellectual coefficient (VAIC).

These methods are further categorized by Chan (2009) into five approaches:

### **3.2.2.1 Direct IC measurement methods (DIC)**

Under this approach, the various components of IC are identified through a series of audit questionnaires and then a monetary value of these various components is estimated and assigned either individually or in an aggregated level (Sveiby, 2010). This approach is criticized because it is too subjective in identifying IC components and consequently lacks a uniform measurement of IC and the ability to conduct comparisons among firms (Chan, 2009).

### **3.2.2.2 Market capitalization methods (MCM)**

Under this approach, IC is calculated as the difference between a firm's market capitalization and its stockholders' equity (Sveiby, 2010). The weakness of this approach is that it depends on the market value of a firm which is volatile and may subject to speculation in the capital markets (Luthy, 1998). In addition, this approach is criticized because it only provides aggregate information about IC without identifying it to its components. Thus it does not easily help managers to understand what IC is and how does it affect firm performance.

### **3.2.2.3 Scorecard methods (SC)**

Similar to the DIC methods, the scorecard methods (SC) are also identify the various components of IC, but they do not assign any monetary value to the IC components (Chan, 2009; Sveiby, 2010). Instead, indicators and indices about IC components are generated and reported in scorecards or as graphs (Jurczak, 2008).

Due to the lack of standardization as well as the qualitative nature of SC methods, they are argued to be highly subjective (Chan, 2009), it is difficult to make comparison of organizations (Chan, 2009; Sveiby, 2010).

### **3.2.2.4 Return on assets methods (ROA)**

These methods offer a monetary valuation, and assume that a company's above industry average annual earnings results from its IC. Although ROA methods can be used for comparisons between companies within the same industry (Chan,

2009; Sveiby, 2010), these methods are criticized as inappropriate measurement systems of IC (Bontis, 2001) because they do not easily assist managers in terms of understanding and managing IC resources (Andriessen, 2004; Bontis, 2001; Chan, 2009; Sveiby, 2010). By using these approaches, managers cannot get information about what intangibles exist in a company and how they contribute to the company's value creation process (Bontis, 2001; Chan, 2009).

### **3.2.2.5 Value Added Intellectual Coefficient (VAIC)**

The IC performance measurement approach of interest to this study is the value added intellectual coefficient (VAIC) developed by Pulic (1998). VAIC methodology is developed by professor Ante Pulic (1998) with his colleagues at the Austrian IC research centre (AICRS) as a method to measure IC performance (Goh, 2005). VAIC is an analytical tool designed to provide information about the value creation efficiency of firms' three types of input: physical/financial capital, human capital, and structural capital (Komnenic & Pokrajcic, 2012). It enables the management, shareholders and other stakeholders to measure and effectively monitor and evaluate the efficiency of value addition achieved in a firm by using the firm's resources (Ahuja & Ahuja, 2012; Abdul Salam *et al.*, 2011; Johshi *et al.*, 2010). This method puts greater emphasis on firm's ability to successfully employ IC as a mean of value creation.

VAIC is a very widely used method and suggested by many researchers as the most appropriate method to measure IC performance ( Abdul Salam *et al.*, 2011; Joshi *et al.*, 2010; Chan, 2009; Ting & Lean, 2009; Kamath, 2007; Yalama &

Coskun, 2007; Chen *et al.*, 2005; Goh, 2005; Mavridis & Kyrmizoglou, 2005; Mavridis, 2004). According to Kamath (2007), the VAIC method is designed to enable a firm to measure IC performance and it is considered appropriate for knowledge-inclined firms such as banks. There are many studies in different countries which used VAIC to measure IC performance of firms including banks (see e.g. Abdul Salam *et al.*, 2011; Joshi *et al.*, 2010; Zeghal & Maaloul, 2010; Abidin *et al.*, 2009; Chan, 2009; Ting & Lean, 2009; Kamath, 2007; Yalama & Coskun, 2007; Chen *et al.*, 2005; Goh, 2005; Mavridis & Kyrmizoglou, 2005; Swartz & Firer, 2005; Mavridis, 2004; Ho & Williams, 2003; Pulic, 2002; Williams, 2001; Williams, 2000).

VAIC is built on several key assumptions:

- 1- Value creation process is the function of both IC and physical and financial capital where IC is a dependent variable on physical and financial capital, i.e. IC alone cannot generate any value (Pulic, 2004). Therefore, VAIC is the sum of human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency (CEE). As a performance indicator, the higher the VAIC, the better is the efficiency level of the firm and vice versa (Goh, 2005). The procedures for calculating VAIC will be shown in Chapter 4.
- 2- Human capital is the most important component of IC because employees are the primary carrier of knowledge and the other components of IC such as structural capital and customer capital could not function without the employees.



- 3- The total expenditures on employees are seen not only as a compensation for invested time but also as a compensation for knowledge input. Hence in this method, human capital can be expressed as the total expenditures on employees. In other words, the amount paid to employees which is consistent with the predominant wages and salaries in industry reflects market valuation of employees' talent, knowledge, and skills.
- 4- As employees are becoming the main element of value creation, expenditures on employees should be treated as an investment not as an expense.

Proponents of the VAIC method argue that this method provides a standardized and consistent basis of measure and therefore, it can be consistently and readily applied to and used for comparison across divisional, company, industry and national level (Ahuja & Ahuja, 2012). Alternative IC measures lack the ability to apply consistently across a large and diversified sample for comparative analysis because of utilizing information associated with selected firms such as market capitalization approach which utilizes information from stock markets ignoring unlisted firms or because of utilizing information which are customized to fit the profile of individual firms and may not be recorded by other firms such as the direct IC measurement approach (Tan *et al.*, 2007; Firer & Williams, 2003).

Another advantage of the VAIC method is that all data used in the VAIC calculation are extracted from audited financial statements; therefore, the calculations can be considered objective and verifiable. Other IC measures have been criticized due to subjectivity in measurement and difficulty in verification

such as the direct IC measurement approach and balanced scorecard (Kamath, 2007; Tan *et al.*, 2007; Firer & Williams, 2003). Moreover, the VAIC method uses relatively simple and straight forward procedures in the computation of the necessary indicators, which may be simple to understand, especially for management and business people who are accustomed to traditional accounting information. Alternative IC measures are criticized because of the sophisticated models and principles used for calculation, and the difficulty to make estimations without firm internal information and thorough understanding of the status of a firm (Firer & Williams, 2003).

In contrast to the other monetary measurements of IC which merely provide the asset values of IC of a business, VAIC reflects the utilization efficiency of IC resources in value creation process ((Young, Su, Fang, and Fang, 2009). Finally, the availability of prior studies that has been conducted in many countries using VAIC adds further credibility to the VAIC methodology (Firer & Williams, 2003). According to Komnenic and Pokrajcic (2012), one of the advantages of the VAIC method is that it has a history of deployment and application in IC performance research.

However, the VAIC method is not without limitations as it depends on financial statements (i.e. balance sheet and income statement) which suffer from inherent limitations of financial accounting, e.g. historical cost and subjectivity (Joshi *et al.*, 2010). For example, balance sheet figures are claimed as true representation of IC performance but the balance sheet is acknowledged to be a snapshot of financial position at one point of time (Joshi *et al.*, 2010). Further, VAIC may not

sufficiently identify the synergistic effects for value creation from interactions of different forms of capital (Andriessen, 2004). This limitation may be true of other IC models as well (Chu *et al.*, 2011). According to Chu *et al.* (2011), interactions among the components of IC may make it impossible to calculate exactly the contribution of each resource in the value creation process. Therefore, one may not be able to isolate the weighting of each factor in facilitating an increase in human capital efficiency (HCE), structural capital efficiency (SCE), or capital employed efficiency (CEE). However, as Latif *et al.* (2012) as well as Kujansivu and Lonnqvist (2007) emphasize, at this point in time there is no perfect solution available for measuring the value and efficiency of IC. The advantages of VAIC method make this method as the most appropriate and attractive method to measure IC performance of any organization among the suggested other methods (Joshi *et al.*, 2010; Zeghal & Maaloul, 2010; Kamath, 2007).

### **3.3 Theories Related to IC Performance**

There are several theories that can be linked to IC performance and can be used to explain the relationship between independent variables of this study and IC performance. This section provides an overview of the main theories used in this study. These theories are resource-based theory, agency theory, resource dependence theory, upper echelon theory, organizational learning theory, and industrial organization theory. Resource based theory can be used as a lens through which to assess the importance of IC. Resource-based theory and agency theory are used to explain the relationship between ownership structure and IC

performance. Resource dependency theory and upper echelon theory are used to explain the relationship between board diversity and IC performance.

Organizational learning theory is useful to explain the relationship between bank internationality, presence of foreign banks and IC performance. Industrial organization theory is used to address the impact of industry characteristics on IC performance. In addition to these main theories, there are other theories used in this study to support the relationship between the other variables and IC performance such as the cognitive dissonance theory and market discipline perspective. A brief description of the main theories used in this study and how it can be used to explain the relationship between the variables is provided below.

### **3.3.1 Resource-Based Theory**

Resource-based theory is useful in assessing the importance of IC because it seeks to identify those factors within a firm that drive competitive advantage and create value for the firm (Zeghal & Maaloul, 2010; Kamath, 2007). Under this theory, a firm is viewed as a bundle of resources (tangible and intangible resources) suggesting that these resources are a source of sustainable competitive advantage if they are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Grant, 1991). The resource-based theory views the intellectual capital (both human and structural) as well as physical and financial capitals as strategic resources. This is because firms gain competitive advantage and superior performance through the acquisition, holding and efficient use of these strategic resources (Zeghal & Maaloul, 2010).

More recently, the IC-based theory developed by Reed, Lubatkin and Srinivasan (2006) has been advanced as one specific aspect of resource-based theory. Reed *et al.* (2006) argue that IC is the only source of competitive advantage and value added to the firm because it is difficult to imitate and substitute whereas physical capital is generic resource, easily imitable and substitutable, and can be easily purchased and sold on the open market. Hence, it is only the IC that deserves to be considered as strategic resource to allow a firm to create value added. This point of view is consistent with other authors such as Riahi-Belkaoui (2003) and Youndt, Subramaniam and Snell (2004). Therefore, Teece, Pisango and Shuen (1997) stress firms are able to become more competitive and face the changes in their competitive environment by focusing more on creating IC such as knowledge, competence and intellectual property.

Considering the importance of resource-based theory in assessing the importance of IC, this study intends to use this theory to explain the relationship between ownership structure and IC performance. According to Douma *et al.* (2006), the resource-based theory is a powerful tool and provides important insights in examining the impact of ownership structure on firm performance. Based on resource-based theory, it has been argued that there is a considerable heterogeneity among various blockholders categories in terms of resources and organizational capabilities they can provide to the firm in which they invest (see for example, Chahine & Tohme, 2009; Chahine, 2007; Douma *et al.*, 2006). Consequently, the impact on IC performance of these owners with diverse

resource endowments is expected to differ as a result of this heterogeneity in resources and organizational capabilities.

According to Douma *et al.* (2006), for firms in developing countries, these differences arise from shareholders being either foreign or domestic and strategic or non-strategic. Moreover, According to Johnson and Greening (1999), because of the differences in their goals, some categories of block holders act more as traders concerned predominantly with quarterly earnings and that others act as long-term investors and may be more concerned with a firm's long-term performance. For example, the resources and organizational capabilities that are provided by strategic shareholders (either foreign or domestic) are expected to be different from those provided by non-strategic shareholders (either foreign or domestic) due to differences in their goals (Chahine & Tohme, 2009; Chahine, 2007; Duoma *et al.*, 2006; Djankov & Hoekman, 2000; Chhibber & Majumdar 1999). Foreign strategic shareholders, for instance, can provide the firms in which they invest with international expertise, monitoring and organizational capabilities that are valuable, rare, and imperfectly imitable and not substitutable by domestic strategic shareholders (Chahine, 2007). Therefore, their impact on IC performance is projected to be superior.

### **3.3.2 Agency Theory**

The agency theory predicts that the separation between management and ownership creates a conflict of interests between shareholders and managers which in turn may detriment firm performance especially when managers pursue

their own interests at the expense of shareholders' interests (Hillman & Dalziel, 2003; Zahra & Pearce, 1989; Fama & Jensen, 1983; Jensen & Meckling, 1976). Denis (2001) identifies three basic sources of such conflict that can lead to much greater reductions in shareholders' wealth and, therefore, much greater agency costs: managers' desires to remain in power, managerial risk aversion, and free cash flow.

Agency theorists suggest that managers are generally more risk-averse and more myopic in making their decisions than shareholders (Wu, 2008; Fama & Jensen, 1983; Jensen & Meckling, 1976). This risk-aversion is justified by saying that managers depend on firms for their immediate livelihood and they have considerable personal human capital invested in the firm. Thus, the incentive for managers to build their reputation distorts firms' investment policies in favour of relatively safe projects at the expense of long-term projects that are necessary for creating and sustaining the competitive advantage and for survival in the long run (Pathan, 2009; Garcia-Marco & Robles-Fernandez, 2008; Chen & Yur-Austin, 2007; Denis, 2001; Vafeas & Theodour, 1998). In the same line, Ali (1993) finds that Arab executives score low on attitude towards risk-taking and are cautious in making decisions. According to Welsh and Raven (2006), managers from GCC countries prefer flexibility but are by no means risk-takers. In addition, the pressure on managers to produce immediate results may force them to be short-termism and may drive them away from necessary maintenance and R&D expenditures, and high-technology investments that require a longer payback periods ( Ho & Williams, 2003; Vafeas & Theodour, 1998).

Based on agency theory arguments, some authors argue that because of the risk-adverse nature of managers and their myopic nature, managers are more likely to avoid investing in resources underlying IC such as R&D activities, information technology, and human resource practices which possess substantial risk, considerable uncertainty, and require lengthy payback period (Ho & Williams, 2003; Edvinsson & Malone, 1997; Brooking, 1996). This ultimately can lead to the detriment of IC performance and thus, shareholders' interests in the long-term because of the importance of IC in driving firm value and creating a sustainable competitive advantage.

In addition to the traditional manager-shareholder conflict, agency theorists highlight the conflict between majority and minority shareholders which is more relevant in the GCC region, where ownership of GCC banks is highly concentrated in the hands of large shareholders (Chahine, 2007). According to Dharwadkar, George and Brandes (2000), firms in emerging countries face unique agency problems related to the tendency of major shareholders to use firm wealth to generate private benefits at the expense of the minority shareholders and deprive them the right to appropriate returns on their investments.

The majority-minority shareholders conflicts of interests become indisputable in an environment of a weak legal system and ineffective corporate governance. In GCC countries, this phenomenon is most likely to occur as it has weak enforcement of the legal shareholder protection (Al-Kuwari, 2009).



Agency theory predicts the positive effects of blockholders on firm performance (Schnatterly, Shaw, and Jennings, 2008; Chen & Yur-Austin, 2007; Anderson *et al.*, 2003; Shleifer & Vishny, 1986) arguing that because of their own large stocks, blockholders have more incentives to effectively monitor managers than do dispersed shareholders. Shleifer and Vishny (1986) argue that blockholders can thus improve corporate governance by facilitating takeover efforts, removing managers who fail to maximize their wealth, or acquiring better information on managerial performance.

Agency theory suggests that a firm's risk-taking is influenced by its ownership structure which can play an important role in promoting firm risk-taking or otherwise (Belanes & Hachana, 2010; Chen & Hsu, 2009; Wu, 2008; Zahra, 2005; Fama & Jensen, 1983; Jensen & Meckling, 1976). Agency theory points out the role that can be played by major shareholders in shaping the nature and the level of its decision making regarding its corporate risk-taking behavior (Shah *et al.*, 2012; Belanes & Hachana, 2010) which may affect the firm's decisions to invest in resources underlying IC.

Agency theorists argue that major shareholders are more likely to enforce management to invest in risky projects such as long-term projects that sustain the competitive advantage of a firm and ensure its survival in the long run (Belanes & Hachana, 2010; Paligorova, 2010; Chen & Yur-Austin, 2007). However, recent studies have shown that blockholders are different in their willingness and incentives to invest in risky projects (Shah *et al.*, 2012; Paligorova, 2010; Anderson *et al.*, 2003).

### 3.3.3 Resource Dependency Theory

Resource dependency theory suggests that a firm responds to, and becomes dependent upon actors, organizations or other firms that control resources critical to its operation and over which the firm has limited control (Pfeffer & Salancik, 2003; Williams, 2001). Under these circumstances, a firm is motivated to engage in exchange with their environment to obtain resources and to minimize any potential loss in power due to the reliance on others for resources (Wincent *et al.*, 2010; Pfeffer & Salancik, 2003). Under resource dependency theory, boards are useful in that directors provide access to critical firm resources including IC through linkages with the external environment (Abeysekera, 2010; Wincent *et al.*, 2010; Hillman & Dalziel, 2003; Hillman, Cannella, and Paetzold, 2000; Zahra & Pearce, 1989). The resource dependency theory suggests that directors connect the firm to inputs from the external environment, and these connections facilitate firm survival through access to critical resources, provide legitimacy through links with established and legitimate organizations, reduce uncertainty through information that directors bring about the general and industry environments, and enable growth through continuation of linkages (Abeysekera, 2010; Wincent *et al.*, 2010; Hillman & Dalziel, 2003; Hillman *et al.*, 2000; Zahra & Pearce, 1989).

Consistent with IC-based theory, resource dependency theorists view human capital as the most important resource for establishing a competitive advantage, asserting that all facets of human resources should be fully utilized to best enable a firm to increase its performance and value creation potential (Williams, 2000). Moreover, resource dependency theory stresses the importance of firms' relational

capital and working closely with suppliers, customers, and other external parties to deal with uncertain environment (Zahra & Pearce, 1989). A board of director is viewed as an important tool to create, develop, leverage, and manage IC and thus, affect its performance (Abidin *et al.*, 2009; Safieddine *et al.*, 2009; Swartz & Firer, 2005; Ho & Williams, 2003; Keenan & Aggestam, 2001; Wiliams, 2000). According to Williams (2001), board of directors can structure relevant strategies and policies on how to obtain and best utilize the required resources underlying IC. He argues that firms` board of directors can influence the formation of intellectual capital related strategies and policies and ultimately performance. It is argued that effective management of resources underlying IC such as human resources and customer relationships, which represent the most important components of banks` IC (Kamath, 2007), require a greater innovation, perceptions, and flexibility in decision making process, the characteristics that are more likely to be available in diversified boards of directors (Williams, 2001).

Resource dependency theorists assert that board diversity provides a wide range of perspectives, choices, and solutions that enhance the effectiveness and efficiency of board`s strategic decision-making and make it more innovative and creative to meet challenges in the globalized business (Abeystekera, 2010; Williams, 2001; Goodstein *et al.*, 1994). Furthermore, resource dependency theory argues that diverse boards help firms to have better link to their external environment, and bring or secure critical resources to firms including IC (Abeysekera, 2010).

Thus, based on resource dependency theory, this study examines the relationship between a bank's IC performance and board diversity in terms of educational level, nationality, board interlocking, size and representation of independent directors. According to Williams (2000), resource dependency theory is a relevant conceptual framework for examining and explaining factors affecting IC performance.

### **3.3.4 The Upper Echelon Theory**

The upper echelon theory was developed by Hambrick and Mason (1984). According to this theory, demographic characteristics of top management influence their decisions making and thus, the actions and practices adopted by the organizations they lead. The theory argues that organizational outcomes such as firm performance, strategic orientation, strategic change, innovation and creativity, strategic consensus, and diversification are strongly influenced by top management attributes such as expertise, educational level, gender, ethnicity and nationality (Nishii *et al.*, 2007; Caligiuri, Lazarova and Zehetbauer, 2004; Heijltjes, Olie, and Glunk, 2003). This influence occurs because demographic attributes are associated with many cognitive bases, values and perceptions that influence the decision making of top management (Marimuthu & Kolandaisamy, 2009; Miller & Triane, 2009; Marimuthu, 2008; Nishii *et al.*, 2007). These attributes while affecting organizational outcomes mentioned above, should also affect a firm's IC performance (Swartz & Firer, 2005; Williams, 2001; Williams, 2000).

Upper echelon theory suggests that demographic diversity among top managers provides greater sources of information, skill sets, and a wider pool of insights and perspectives than would be otherwise available to teams whose members are more homogeneous or demographically similar (Carter *et al.*, 2003; Carpenter, 2002). These advantages of diversity could permit a more comprehensive search and analysis of strategic alternatives, promote a better understanding of the market place, and increase creativity and effective problem solving due to the exchange of diverse ideas originating in different cognitive perspectives (Lairing & Selmer, 2013; Rivas, 2012; Marimuthu & Kolandaisamy, 2009; Certo *et al.*, 2006; Carter *et al.*, 2003; Pitcher & Smith, 2001). Hence, upper echelon theory suggests a positive relationship between board diversity and organizational outcomes such as financial performance, innovation, and strategic orientation (Marimuthu & Kolandaisamy, 2009; Certo *et al.*, 2006). This positive relationship is evidenced by empirical studies especially when firms operate under a turbulent environment (Carpenter & Westphal, 2001; Hambrick, Cho, and Chen, 1996).

Consistent with upper echelon theory, resource dependency theorists argue that board diversity can enhance the effectiveness and efficiency of a board in performing its role as a provider of resources to a firm leading to improved firm performance (Abeysekera, 2010; Wincent *et al.*, 2010; Stiles, 2001; Goodstein *et al.*, 1994). Therefore, it can be argued that both upper echelon theory and resource dependency theory constitute a relevant theoretical framework to examine and explain the relationship between board diversity and IC performance.

### **3.3.5 Organizational Learning Theory**

In order to produce a sustainable competitive advantage in fast-changing and competitive environments, the organizational learning theory suggests that firms should adopt a strategy of continuous learning (Njuguna, 2009). Firms should encourage employees to learn new skills continually, to be innovative, and to try new processes and work methods in order to achieve the strategic business objectives of the firm (Goh, 2003). Organizational learning is described as a process of creation, acquisition and integration of knowledge that can be translated into new models of activities, processes, routines and managerial practices in the firm aimed at the development of resources and capabilities that contribute to better firm performance (Lopez, Peon, and Ordas, 2005). Thus, organizational learning is viewed as an important tool through which a firm can develop and acquire unique intellectual capital resources (human capital and structural capital capabilities) that is rare and difficult to imitate in sustaining competitive advantage in today's competitive environment (Njuguna, 2009).

This study uses an organizational learning theory to propose that both bank internationality (i.e. having subsidiaries in international markets) and presence of foreign banks can help domestic banks to enhance the learning of new skills, knowledge, and capabilities that significantly develop a firm's IC resources (human capital and structural capital) and allow them to successfully develop their IC performance.

### **3.3.6 The Cognitive Dissonance Theory**

The cognitive dissonance theory is introduced by Festinger in 1957. According to Festinger (1957), cognitive dissonance is a psychological phenomenon which refers to the discomfort felt which occurs when there is an intellectual discrepancy between beliefs of individuals and their reality. In other words, the cognitive dissonance theory proposes that cognitive dissonance occurs when one cognition is in conflict with another (Gawronski, 2012; Kim, 2011). According to the theory, the motivation to reduce dissonance increases as the magnitude of the dissonance increases and the strength of dissonance is affected by a number of dissonant beliefs as well as the importance of each belief (Telci, Maden, and Kantur, 2011).

The cognitive dissonance theory is used in explaining employees' attitudes and behaviors and to explain the effects of business ethics judgments in organizational settings and behavior of employees (Telci *et al.*, 2011). Inherently, employees desire consistency between their ethical value system and the ethical climate of their organization (Koh & Boo, 2004; Koh & Boo, 2001). If employees perceive that there is no fit between their beliefs and ethical values, and the ethical climate of an organization in which they work, they will feel a dissonance and moral conflict that in turn reduces employees' job satisfaction and job commitment (Koh & Boo, 2004; Koh & Boo, 2001). Consequences such as job satisfaction, stress, motivation, commitment or job performance can have a significant impact on IC performance.

This study extends the application of cognitive dissonance in the context of IC performance, proposing that the adherence to Islamic shariah principles related to banking transactions “banking Moamalat” by banks in Islamic communities can intuitively enhance the likelihood of IC performance for both human capital and customer capital that, in combination, constitute the most important component of IC in banks. This is the case because Muslims view banking related to Islamic Shariah principles as part of their ethical principles stemming from their religious beliefs.

### **3.3.7 The Industrial Organization Theory**

The industrial organization theory has long been used to explain the impact of industry characteristics on firm`s conduct (Yin & Shanley, 2008). One of the key questions industrial organization theory tries to answer is how market structures influence performance of firms (Yin & Shanley, 2008). The theory suggests that industry structure determines firm conduct and thus its performance.

Structure-Conduct-Performance (SCP) paradigm of the industrial organization theory argues that industry concentration has an inverse relationship with competition, providing a theoretical relationship between market structure (concentration) and conduct (competition) (Rezitis, 2010; Abbasoglu, Aysan, and Güneş, 2007; Bikker & Haaf, 2002). The SCP paradigm of industrial organization theory assumes that in markets with high industry concentration there is a high probability of explicit or tacit interfirm coordination in pricing and output among leading firms. In contrast, markets with lower levels of industry concentration is



expected to have a relatively autonomous and competitive firm behavior, leaving interfirm coordination of pricing and output sporadic and weak (Al-Obaidan, 2008a; Yin & Shanley, 2008; Maudos & Guevara, 2007). The SCP paradigm implies that greater concentrated markets gives banks more market power, which in turn leads to actions that reduce consumer welfare such as higher loan rates, lower deposit rates, lower products and services quality, and lower interest in innovation and R&D activities.

A competing hypothesis, known as the efficient structure (ES) hypothesis of the industrial organization theory postulates that the relationship between market structure and performance of any firm is defined by the efficiency of the firm (Berger,1995). ES hypothesis argues that firms with superior efficiency improve their market shares at the expense of less efficient firms so that concentration increases (Rettab, Kashani, Obay, and Rao, 2010; Al-Obaidan, 2008a; Berger, 1995). Thus, under the efficiency paradigm, the degree of concentration is not considered a reflection of the collusive behavior of banks, but rather a consequence of the superior efficiency of bank firms (Rettab *et al.*, 2010; Berger, 1995). Viewed in this light, the concentration process would go hand in hand with a more efficient banking system.

This study uses an industrial organization theory to propose that banking industry concentration has impact on IC performance through its impact on several aspects such as innovation, R&D activities, product and services quality, and customer relationship which in turn can affect IC performance.

### **3.4 Studies on IC Performance**

Using VAIC methodology, prior research on IC performance can be clearly identified into three streams. One focuses on the level of performance of IC and its components. This stream of studies concentrates only on measuring the level of performance of IC and its components. As an exploratory work, these studies investigate the efficiencies of firms in different sectors in utilizing their IC. Pulic (1998, 2001), using VAIC model that he developed, made the first attempt to measure IC performance of Austrian banks in 1993-1995 and Croatian banks in 1996-2000. Results from these two studies reveal significant differences in bank ranking based on efficiency and traditional accounting measures. The same model (i.e. VAIC) was also used to assess the IC performance of banks in Japan (Mavridis, 2004), Malaysia (Goh, 2005), Greece (Mavridis & Kyrmizoglou, 2005), India (Kamath, 2007), eight Asian countries including Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Thailand, and Taiwan (Young *et al.*, 2009), and Australia (Joshi *et al.*, 2010). All these studies show that value creation capability of banks is largely attributed to IC performance, particularly human capital efficiency. Those studies found that there are significant differences between rankings of banks according to VAIC and traditional accounting measures.

In the GCC region, this kind of studies has been recently done by Al-Musali and Ku Ismail (2011) in UAE and Abdul Salam *et al.* (2011) in Kuwait. Results of those two studies are consistent with results of previous studies mentioned above.

The second stream of the growing literature of IC performance is that related to studies that have investigated the relationship between IC performance and company performance. This stream of IC performance related studies focus on examining the relationship between IC performance, measured by VAIC method, and corporate performance as measured using accounting and market-based measures. There are a significant number of studies that have been conducted to examine that relationship in both developed and developing countries, in banking and non-banking sectors such as Komnencic and Pokrajcic (2012) in Serbia, Latif *et al.* (2012) in Pakistan, Mehralian, Rajabzadeh, Sadeh and Rasekh (2012) in Iran, Chu *et al.* (2011) in Hong Kong, Maditinos *et al.* (2011) in Greece, Wang (2011) in Taiwan, Zeghal and Maaloul (2010) in UK, Chan (2009) in Hong Kong, Makki and Lodhi (2009) in Pakistan, Ting and Lean (2009) in Malaysia, Gan and Saleh (2008) in Malaysia, Kamath (2008) in India, Appuhami (2007) in Thailand, Tan *et al.* (2007) in Singapore, Yalama and Coskun (2007) in Turkey, Shiu (2006) in Taiwan, Chen *et al.* (2005) in Taiwan, Kujansivu and Lonnqvist (2005) in Finland and Firer and Williams (2003) in South Africa.

The relevant literature reviews above have shown contrasting findings. For example, Firer and Williams (2003) did not find any association between IC performance and profitability; however, Chen *et al.* (2005) find that IC enhances firms' value and profitability. In GCC region, Ku Ismail and Abdul Kareem (2011) investigate the relationship between IC performance and corporate performance. Using a sample of 18 listed banks in Bahrain for a period from 2005 to 2007 and applying VAIC model, Ku Ismail and Abdul Kareem (2011) find that IC has a

positive impact on the financial performance of banks in Bahrain as measured by return on assets (ROA). The study also reveals that banks in Bahrain were generally more efficient in generating value from its human capital rather than structural and physical capital. However, IC performance of banks in Bahrain is found to be low.

The third stream of IC performance research has focused on studying the determinants of IC performance, aiming to identify a relevant conceptual framework for examining and explaining factors affecting IC performance. Corporate governance factors have received the lion's share of attention with a focus upon board of directors' characteristics and its association with IC performance.

Traditionally, corporate governance is concerned with governance responsibility for the widely recognized capitals (i.e. financial and physical capital) with little emphasis on IC (Keenan & Aggestam, 2001). Consequently, the emphasis of previous studies was on examining the relationship between corporate governance and firm performance using traditional measures (generally accounting- or market-based) that consider firm performance merely in terms of physical capital (Abidin *et al.*, 2009; Ho & Williams, 2003; Williams, 2001; Williams, 2000; Pulic, 1998). However, the increasing recognition of IC in driving firm value and creating a competitive advantage extend the responsibility of corporate governance toward IC (Safieddine *et al.*, 2009; Keenan & Aggestam, 2001). Corporate governance is responsible for creating, developing, and leveraging the IC residing in the people, structures, and processes of the firm through

formulating the strategic focus of, involving itself in critical decisions about, monitoring the management of, and being accountable for the adroit investment of the IC of the firm (Keenan & Aggestam, 2001). In the same vein, Safieddine *et al.* (2009) assert that corporate governance has a significant impact on attracting, retaining, and exploiting the intellectual capital residing in people (human capital) effectively through formulating the strategies and policies that create appropriate practices, competitive compensation, attractive work conditions, proper hiring practices, as well as promotion and development opportunities.

Corporate governance term is variously defined, but generally, it is the complex system by which a firm is managed, directed, administered, and controlled. The Organization for Economic Cooperation and Development (OECD) presents one of the most widely accepted definitions of corporate governance: “*Corporate governance is the system by which business corporations are directed and controlled*” (p.15). The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as, the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs. By doing this, it also provides the structure through which the company objectives are set, and the means of attaining those objectives and monitoring performance (OECD, 2004).

Consistent with the OECD definition, the Basel Committee on Banking Supervision (BCBS) sets out a definition of corporate governance from the perspective of the banking industry. According to the committee, corporate governance involves the manner in which the business and affairs of individual

institutions are governed by their boards of directors and senior management, which affects how banks set corporate objectives, run day-to-day operations of the business, meet the obligation of accountability to their shareholders, and take into account the interests of other recognized stakeholders (BCBS, 2005). However, for the purpose of this study and in consistent with the previous studies such as Swartz and Firer (2005) and Ho and Wiliams (2003), corporate governance is viewed as the process and structure used to direct and manage the business affairs of firms to enhance business prosperity and corporate accountability and enable them to attract financial and human capital, perform efficiently, with the ultimate objective of realizing long-term shareholder value, while respecting the interests of stakeholders and society as a whole.

Corporate governance involves a set of mechanisms designed to improve firm performance and realizing long-term shareholder value while considering the interests of other stakeholders. According to Gillan (2006) and Denis (2001), these mechanisms can be divided into two categories: internal corporate governance mechanisms such as board of directors, ownership structure, managerial incentive plan, and internal control systems. External corporate governance mechanisms involve for instance, law and regulation and capital markets. This study will focus on two internal corporate governance mechanisms (i.e. board of directors and ownership structure) due to the fact that external corporate governance mechanisms in GCC countries remain weak (Chahine & Tohme, 2009; Chahine, 2007).

Other studies address the association between bank specific characteristics, banking industry characteristics and IC performance. However, research on determinants of company's IC performance is still in its infancy. In the following sections of this chapter, five areas of the literature that are relevant to the study are reviewed and from which the hypotheses are developed. In section 3.5.1 a review of board diversity literature is presented with more concentration on board diversity in terms of educational level, nationality, board interlocking, board size, representation of independent directors, and their potential relationship with IC performance from which the hypotheses about their link to IC performance are developed. The hypotheses related to the moderating effect of frequency of board meetings on the relationship between board diversity and IC performance are presented in Sub-section 3.5.1.6. Section 3.5.2 reviews the ownership structure, specifically, government, family, domestic and foreign strategic ownership and domestic and foreign non-strategic ownership. From this review of literature, hypotheses about the potential link between ownership structure and IC performance are developed.

Section 3.5.3 focuses on bank specific characteristics. It provides a review of the relevant literature on the bank specific characteristics (namely, internationality, financial performance, the adherence to Islamic Shariah principles, and bank riskiness) and discusses their potential relationship with IC performance from which the hypotheses about their link to IC performance are developed. Section 3.5.4 focuses on banking industry characteristics. It reviews the relevant literature on the banking industry concentration and the presence of foreign banks and

discusses their potential relationship with IC performance from which the hypotheses about their link to IC performance are developed. Section 3.5.5 reviews the macroeconomic environment, specifically, the economic growth. From this review of literature, hypothesis about the potential link between economic growth and IC performance is developed.

### **3.5 Determinants of IC Performance: literature Review and Hypothesis Development**

#### **3.5.1 Board Diversity**

According to Fay and Guillaume (2008), team or group diversity refers to the differences between team members on any attribute that may lead each single member of the group to perceive any other member of the group as being different from him or her self. These attributes and perceptions refer to all dimensions people can differ on, such as age, gender, ethnicity, religious and functional background, personality, skills, abilities, beliefs, and attitudes (Fay & Guillaume, 2008). Corporate governance literature uses the concept of board diversity to refer to board composition and the varied combination of attributes, characteristics and expertise contributed by individual board members in relation to board process and decision making (Van der Walt & Ingley, 2003). It has been suggested that board diversity could influence IC performance through the promotion of greater innovation and flexibility in decision making process, improving firm's understanding of customers and employees perceptions and needs, promoting a willingness to change and adapt, and strengthening the firm's relationship with



internal and external stakeholder groups (Swartz & Firer, 2005; Williams, 2001; Williams, 2000). As highlighted earlier, the notion that the board's demographic diversity such as educational level diversity and nationality diversity is related to firm performance dates back to "upper echelon theory" introduced by Hambrick and Mason (1984). Previous studies document that these attributes affect organizational outcomes which have important implications on IC performance such as firm innovativeness, strategic orientation to focus on areas such as innovation, R&D, technology, and customer orientation, firm reputation, firm's ability to understand customer and employee needs and firm internationalization (Rivas, 2012; Talk *et al.*, 2010; Wincent *et al.*, 2010; Miller & triane, 2009; Auh & Menguc, 2006; Erhardt *et al.*, 2003; Oxelheim & Randøy, 2003; Bantel & Jackson, 1996). Consistent with upper echelon theory, resource dependency theorists argue that board with greater diversity could gather a wider range of perspectives, choices, and solutions that enhances the effectiveness and efficiency of board's strategic decision-making, and helps board to better link a firm to its external environment, and bring or secure critical resources to a firm including IC (Abeystekera, 2010; Williams, 2001; Goodstein *et al.*, 1994).

Therefore, this study expects that board demographic diversity in terms of educational level, and nationality could affect a firm's IC performance. In GCC region, there is a growing recognition of the value of bringing diverse board members in education level and nationality in the board room (GCC Board of Directors Institute, 2011). According to the report issued by the GCC Board of Directors Institute (2011), increasing board diversity by recruiting more foreign

directors is one of the priority improvement areas for boards in the GCC region. Although in the popular press, diversity is almost always synonymous with gender and ethnic diversity (Knight *et al.*, 1999), this study ignores these two demographic characteristics. This is because GCC countries do not include ethnic groups and there is a weak presence of women on the boards ranging from 0.1% in Saudi Arabia to 2.7% in Kuwait (TNI, 2008).

Furthermore, prior research has shown that board interlocking (which represents a common phenomenon in banks across GCC countries and refers to the case in which directors sit on more than one board) have significant impact on firm outcomes such as innovation, reputation, relationships with customers and suppliers, and transfer the best management practices observed in other firm to the focal firm (Wincent *et al.*, 2010; Sarkar & Sarkar, 2009; Huse, 2007; Nicholson, Alexander, and Kiel, 2004). This also has important implications on IC performance. In addition, GCC banks are characterized as having large board size in comparison with other sectors (TNI, 2008), and they are required to appoint independent directors in their boardrooms (Saidi & Kumar, 2008). Prior research suggested that board size and the independent directors could influence IC performance (Abidin *et al.*, 2009; Ho & Williams, 2003). However, empirical analysis produced inconclusive results. Therefore, due to scarcity of studies which investigate the relationship between board size, representation of independent directors, and IC performance, it should be of interest to investigate this relationship in other jurisdictions, such as GCC region and banking industry which are excluded in previous studies.

However, despite the benefits of having board of directors with greater diversity in terms of educational level, nationality, interlocking, size and representation of independent directors, the disadvantages or costs of diversity in such items are also noteworthy. It has been argued that diversity could lead to conflicts and negatively affect the effectiveness of communication in top management (Rivas, 2012; Carpenter, 2002). Besides, larger boards with a diverse pool of board members can bring about side effects, the most prominent of which is the inefficient implementation of the 4Cs (i.e., communication, coordination, collaboration, and cohesiveness) (Auh and Menguce, 2005; Pitcher & Smith, 2001; Goodstein *et al.*, 1994; Bantel & Jackson, 1989). Goodstein *et al.* (1994) further state that an increasing size and diversity of boards can significantly inhibit the board's ability to initiate strategic actions. Consequently, excessive diversity can actually affect negatively IC performance by impeding and hampering creative decision making related to IC. Therefore, the direct effect of board diversity on IC performance can be mixed and ambiguous because of the dual impact of the benefits and costs associated with board diversity (Auh & Menguc, 2005).

Talk *et al.* (2010) assert that the empirical support of a direct link between a variety of top management team characteristics and firm outcomes remains equivocal at best. The recent literature on diversity-firm outcomes relationship concludes that instead of investigating a simple direct relationship between board diversity and firm outcomes such as firm performance, variables that affect this relationship should be considered (Talk *et al.*, 2010; Wincent *et al.*, 2010; Auh &

Menguc, 2006; Auh & Menguc, 2005). The discussion above suggests that board diversity alone does not guarantee superior IC performance. In other words, the effect of board diversity on IC performance can be either positive or negative depending on whether benefits or costs dominate. Therefore, it is likely that the relationship between board diversity and IC performance will be more transparent under certain contextual conditions.

Frequency of board meetings has been suggested as a contingent condition under which board diversity would in fact lead to greater firm outcomes (Wincent *et al.*, 2010). The underlying logic is that frequent board meetings translate more readily board knowledge, expertise and ties into improvements in firm outcomes. Therefore, this study proposed that the frequency of board meetings would moderate the association between board diversity in terms of educational level, nationality, interlocking, size, representation of independent directors and IC performance. In other words, this study aims to answer the following question: does the time that board members spent working together on the board room as indicated by frequency of board meetings affect the relationship between board diversity in terms of educational level, nationality, interlocking, size and representation of independent directors and IC performance?

In the following subsections, a review of prior research on board diversity in terms of educational level, nationality, board interlocking board size, and representation of independent directors is presented. The hypotheses which link it to IC performance subsequently are developed. Then hypotheses development of

the moderating effect of frequency of the board meetings on the relationship between board diversity and banks` IC performance are proposed.

### **3.5.1.1 Educational Level Diversity**

Educational level of board members is viewed as an indicator of their knowledge, cognitive orientation and skill base (Hambrick & Mason, 1984). The upper echelon theory suggests that diversity of educational level among board members reflects their varying degrees of knowledge and skills, thereby affecting board capacity to generate more or less creative solutions to resolve complex problems and may provide a broader scope of input that help to improve strategy formulation and evaluation (Ruigrok, Peck, Tacheva, Greve, and Hu, 2006; Auh & Menguce, 2005; Bantel & Jackson, 1989). On the other hand, it is claimed that similarity of education level of board members might lead to similarity in information processing and decision making as a result of the homogeneous training and experience which in turn might limit the ability of the board to provide creative and innovative solutions (Auh & Menguce, 2005).

The advantages of educational level diversity could contribute by way of providing better advice and counsel on strategic issues and lead to the production of quality decisions and subsequently quality actions taken by the firm (Wincent *et al.*, 2010; Auh & Menguce, 2005). It has been argued that boards with greater educational level diversity are more likely to have greater information processing capabilities, flexibility, and better ability to adopt new ideas and to accept innovations (Wincent *et al.*, 2010; Talk *et al.*, 2010). These characteristics could

help directors in structuring relevant strategies and policies on how to obtain and best utilize the IC resources (Williams, 2001) and formulating the strategic orientation of the firm such as customer orientation, entrepreneurial orientation, and technological orientation (Safieddine *et al.*, 2009; Auh & Menguc, 2005; Keenan & Aggestam, 2001) which in turn affect resources underlying IC. Thus, educational level diversity of board members could be advantageous for GCC banks seeking to improve IC performance.

Empirical research has shown that board educational level diversity is positively associated with innovation which affects firms' stock of intangibles and facilitates the development of IC (Marques *et al.*, 2006). For example, using a sample of 319 firms from 10 manufacturing industries from 17 countries in Europe and North America, Talk *et al.* (2010) provide evidence that educational level diversity has a strong impact on the strategic choice of firms to focus on innovation field. They conclude that educational level diversity facilitates an innovation strategy that increases firm's ability to produce new products and services and lead to improved firm performance.

Similarly, Bantel and Jackson (1989), using a sample of 199 banks in the US, find that innovation was greater in banks headed by top management with diverse level of education. They document that banks' both technical innovation and marketing and administrative innovation are positively related with top management team diversity in respect to educational level, among others. It is clear that all these aspects of innovation can influence IC performance especially human and customer capital performance since innovations in the design and

delivery of products and services are expected to satisfy customers and help banks to maintain and enlarge its customer base and in turn increase customer capital performance. In the same line, innovation in human resource practices such as compensation systems, staffing and employee surveys, and training programs are positively associated with employees' productivity (Khera, 2010). Hence, human capital performance will increase.

Furthermore, it is reasonable to argue that the administrative innovations in human resource practices, that could contribute in creating competitive compensation, attractive work conditions, as well as promotion and development opportunities, could help to increase employees' satisfaction and loyalty which in turn affect several aspects of intellectual capital such as innovative ability of employees (Nnanna, 2009; Jong & Harlog, 2007), ability of the firm to retain its current workforce and attract talent and skilled employees (Ambrose, Arnaud, and Schminke, 2008; Valentine *et al.*, 2006; Shafer, 2002), firm reputation (Cravens and Oliver, 2006), and relationships with customers (Wangenheim, Evanschitzky, and Wunderlich, 2007; Malhotra & Mukherjee, 2004).

The upper echelon theory suggests that diversity of educational level among board members should lead to a high level of firm performance (Auh & Menguce, 2005). However, empirical research on the relationship between educational level diversity and firm performance are inconclusive, revealing that this effect can be either positively correlated or negatively correlated. Some studies even show that there is no relationship between educational level diversity and firm performance. The studies of Talk *et al.* (2010), Carpenter (2002), Smith *et al.* (1994), and

Hambrick *et al.* (1996) find that firm performance is positively influenced by educational level diversity. On the other hand, Murray (1989) finds that educational level diversity was negatively related to firm long-term performance. However, the relationship was not clear with short term performance. Knight *et al.* (1999) argue that members of top management team with greater educational level diversity are less likely to have the same mental models of firm strategy, impeding the strategic consensus. In contrast, several other studies fail to find any relationship between educational level diversity and firm performance (see for example, Kim & Lim, 2010; Rose, 2007; Certo *et al.*, 2006). Pitcher and Smith (2001) argue that the inconsistency of results may be due to both theoretical and methodological reasons. For example, they argue that diversity may affect performance, but operationlization of diversity or performance failed to capture this effect.

However, the previous empirical studies focused on examining the relationship between educational level diversity and firm performance in terms of physical and financial capitals. There is a lack of empirical evidence on the relationship between educational level diversity and IC performance. This study aims to fill this gap in the literature. Based on the upper echelon theory and resource dependency theory and the discussion above, this study expects that educational level diversity among board members can help improve bank's IC performance. Thus, the following hypothesis is proposed:

**H1:** There is a positive relationship between board educational level diversity and bank IC performance.



### 3.5.1.2 Nationality Diversity

GCC countries are occupied by more than 200 nationalities living in these countries and by one of the most diverse workforces in the world in which foreigners constitute 60% to 90% of labor workforce (Al-Khouri, 2010). According to Veen and Marsman (2008), higher nationality diversity is an important requirement for quality of strategic decision making and it leads to better company performance. Thus, nationality diversity among board members (i.e. including foreign members) is expected to affect bank's IC performance in ways similar to educational level diversity, particularly banks' relationships with employees and customers that constitute the most important components of banks' IC (Kamath, 2007).

According to Erhardt *et al.* (2003), the board should reflect the diversity of the firm's customer base and labour pool. Van der Walt and Ingley (2003) and Heijltjes *et al.* (2003) argue that board members should be drawn from the whole labour pool and match with that diversity in workforce, not leaving other nationalities outside of the recruiting process. Williams (2001) asserts that greater cultural diversity that result from appointing foreign members on board rooms can enhance boards' influence on firm performance with respect to intellectual capital, particularly to human intellectual capital. While Williams' (2001) focus was on board ethnic diversity, the points are similar for board nationality diversity. Williams (2001) claims that dissimilarities of board members cultural backgrounds can contribute to different sociological perceptions and a wider set of views that enable a board to be more sensitive to requirements of the

workforce. This, thus, enhances board ability to instigate more comprehensive policies, strategies, activities and projects that create working conditions attractive to a broader spectrum of potential employees and exploit its existing human resources to its advantage. Furthermore, foreign directors is viewed as an important mechanism to bring new technology and modern managerial techniques, enhance corporate governance, and exert better supervision (Liang, Xu, and Jiraporn, 2013) which in turn could lead to greater development and utilization of human resources. Consequently, firm's IC performance will be enhanced.

In the same view, nationality diversity among board members give signals for equal opportunities for all nationalities within a firm and no nationality is left outside of the recruiting process (Van der Walt & Ingley, 2003). Prior research has shown that the existence of equal opportunities affects positively on employees' overall levels of productivity, employees' commitment toward the firm, employees' creativity, and relationships with customers (Forth & Rincon-Aznar, 2008). These positive effects have positive implications on IC performance.

Previous studies have further shown that board members from different nationalities can help firm to understand its culturally diverse customer base (i.e. particular customer preferences and requirements, and to better match the demographic characteristics of its significant customers) as well as improve marketing efforts and consumer policies that establish and sustain long term relationships with customers in order to achieve a competitive advantage in the

market (Richard, 2000; Randøy *et al.*, 2006; Williams, 2001). Furthermore, it is argued that board cultural diversity provides firms the skills and flexibility in decision making to adopt products or services to market needs and meet the changes in customers' needs (Richard, 2000; Williams, 2000). Although Richard (2000) and Williams (2001) argue for ethnic diversity, their argument can be applied for board nationality diversity. It is clear that all these benefits have important implications on customer satisfaction, loyalty, and in general the relationship with them and in the end influence IC performance.

In the same line, Miller and triane (2009) find that board cultural diversity is positively associated with firm innovation strategies that provide new strategic opportunities for the firm to create new services or product lines. They argue that diversity of board members' cultural backgrounds should produce a broader range of ideas and information that help board to identify new innovative opportunities in the identification stage, allows for a more thorough evaluation of choices in the selection stage, thereby influence positively firm innovation which in turn affects the stock of intangibles and facilitate the development of IC (Marques *et al.*, 2006).

Firm reputation a component of IC (Swartz & Firer, 2005), can be enhanced when board of directors is diverse in terms of nationality (Miller & Trian, 2009). It is argued that a culturally diverse board of directors is an informational signal about life in the firm and serve as a signal to the public such as suppliers, customers, and other stakeholders that board will be able to understand the diverse business environment in which the firm is operating and advise executives effectively

(Miller & Trian, 2009; Rose, 2007). Moreover, according to van der Walt and Ingley (2003), board members with different cultural backgrounds help a firm avoid being seen as discriminatory in the eyes of their constituents. This will in turn enhance firm credibility and reputation. Based on the above discussion, it is clear that nationality diversity among board members can help improve banks' IC performance.

Similar to educational level diversity, empirical studies on nationality diversity have produced mixed results. The positive effect of nationality diversity on firm performance is supported by several empirical studies such as Miller and Triane (2009), Erhardt *et al.* (2003), and Oxelheim and Randøy (2003). However, Randøy *et al.* (2006) in their study, using a sample of 500 largest companies from Denmark, Norway, and Sweden, find no significant effect of nationality diversity on firm performance in these countries. A study by Rose (2007) in Denmark finds similar results to Randøy *et al.* (2006).

However, the above-mentioned studies focused only on the relationship between board nationality diversity and firm performance in terms of physical and financial capitals. There is a lack of empirical evidence on the relationship between board nationality diversity and IC performance. This study aims to fill this gap in the literature. Therefore, based on the upper echelon theory and resource dependency theory and the discussion above, the following hypothesis is proposed:

**H2:** There is a positive relationship between board nationality diversity and bank IC performance.

### **3.5.1.3 Board Interlocking**

Board interlocking is one of board's feature which has recently acquired a great deal of interest. It refers to the case in which directors sit on more than one board (Shropshire, 2010; Haniffa & Hudaib, 2006). From the researcher's observation, it is common for directors on GCC boards to be sitting on another board. Board interlocking provides directors with a greater diversity of experience (Ferris, Jagannathan and Pritchard, 2003; Harris & Shimizu, 2004) and a powerful incentive to fulfill their duties in high quality (Vafeas, 2005). Thus, interlocking directors may be an asset to the firm because of their expert advice and efficient decision making upon their experiences from sitting on other boards (Harris and Shimizu, 2004).

From a resource dependency perspective, board interlocking is one mechanism a firm can use to access resources (ideas, information, capital) from external environment leading to improved firm performance (Liang, 2009; Haniffa & Hudaib, 2006; Hillman *et al.*, 2000; Hillman & Dalziel, 2003; Johnson, Daily, and Ellstrand, 1996; Zahra & Pearce, 1989). Prior research has shown that board interlocking is a useful mechanism to achieve horizontal coordination among firms along the same value chain, vertical coordination, and enhancing firm reputation through networking (Zahra & Pearce, 1989 and literature therein). Zahra and Pearce (1989) argue that these three advantages help reduce

environmental uncertainty, enhance firm`s position in the market, and reduce transaction costs. Although the emphasis of previous studies was on firm performance in terms of physical capital, this study, however, argues that board interlocking may benefit the firm in improving its performance in terms of IC in a number of ways. First, board interlocking is viewed as a communication channel through which a focal firm can have access to various types of information needed by firms such as market based information, technical information, technology, information relating to new policies, practices, and innovation (Shropshire, 2010; Wincent *et al.*, 2010; Harris & Shimizu, 2004; Hillman & Dalziel, 2003; Carpenter & Westphal, 2001; Haunschild & Beckman, 1998). For example, Shropshire (2010) states that interlocking directorship represents a communication channel through which knowledge and know-how such as management practices and new approaches for doing business are transferred. This in turn facilitates IC development (Nahapiet & Ghoshal, 1998). According to Nahapiet and Ghoshal (1998), the combination of knowledge and experience of different parties create and facilitate the development of IC.

Interlocking directors would be able to show details related to the design and implementation of management practices in the other firms that cannot be easily observed by outsiders (Shropshire, 2010; Carpenter & Westphal, 2001; Mizruchi, 1996; Haunschild, 1993). Therefore, they can learn about the efficacy of different practices and how to implement them properly in the focal firm (Carpenter & Westphal, 2001). The claim that board interlocking can push the focal firm to adopt observed innovative management practices is consistent with the claim that

the relationships with other firms impose normative pressures for the adoption of innovative management practices (Ruigrok *et al.*, 2006; Haunschild, 1993). Ruigrok *et al.* (2006) and Haunschild (1993) assert that a firm with many links to other firms usually tends to mimic practices of other firms that face the same set of environmental conditions.

With regard to IC, it is argued that adopting innovative management practices help people (human capital) to act in new ways to improve human capital performance (Nahapiet & Ghoshal, 1998). Prior research has shown that the introduction of new management and work practices positively influence both employees` productivity and the quality of customer offerings (Karatepe, 2013; Khera, 2010; Mol & Birkinshaw, 2009). With increased employees productivity and the quality of customer offerings, the firm`s IC performance may also become greater.

Second, prior research has shown that directors with interlocking ties have better access to strategic information that increases their knowledge of the latest developments in the business environment and improve their ability to provide qualitative advice on strategic issues such as those related to IC development strategies (Zahra & Pearce, 1989; Wincent *et al.*, 2010; Carpenter & Westphal, 2001; Haniffa & Hudaib, 2006). According to Carpenter and Westphal (2001), board interlocking helps directors to stay abreast of changes in the business environment and expose them to possible strategic alternatives that maintain an organization`s fit with its changing environment. Therefore, interlocking ties may increase firm awareness of changes in the industry environment such as changes

in technology, customer preferences and requirement, and /or employees' needs that is expected to make firms more sensitive and more responsiveness to changes in these areas that can affect IC performance.

Third, through their interlocking directors, a firm can have information about other firms' agendas and operations and in turn gets ideas for facilitating innovation and offering novel products and services to customers. This in turn will help firms satisfy the customers' needs and retain them. According to Wincent *et al.* (2010), interlocking ties help directors to know who knows what, who can help with what problem, and who can exploit new information which could catalyze and drive innovation performance of the firm. Improved innovation performance of a firm is positively associated with firms' stock of intangibles and IC development (Marques *et al.*, 2006).

Fourth, interlocking ties can also help firms to form or strengthen advantageous contracting relations with other firms, such as important suppliers and customers by inviting them to be board members (Sarkar & Sarkar, 2009; Huse, 2007; Ferrir *et al.*, 2003). This can help improve relational capital performance of a firm.

Fifth, resource dependency theory suggests that interlocking directors can help improve firm reputation (Hillman *et al.*, 2000; Hillman & Dalziel, 2003; Wincent *et al.*, 2010; Johnson *et al.*, 1996; Mizruchi, 1996; Zahra & Pearce, 1989) which constitutes one component of IC through promoting legitimacy of a firm. By appointing board members with ties to other organizations which have a good reputation in the political or business communities, the firm signals to the rest of



the world that it is a legitimate firm, worthy of support (Huse, 2007; Nicholson *et al.*, 2004; Mizruchi, 1996). This is consistent with the analysis by Santos *et al.* (2009) which suggests that firms with better reputation tend to have more interlocks. Furthermore, it is argued that legitimacy gained from the interlocked members of the board may enhance an organization's ability to acquire financial resources from outside the firm (Mizruchi, 1996). Investors and creditors are more willing to invest in, and support a firm if they believe that the firm is directed by reputable individuals (Mizruchi, 1996). The ability to acquire sufficient financial sources may enhance a firm's motivation to invest in risky projects such as human resources and R&D activities. This is especially true for firms that face a difficulty to find an external financing because of the difficulties in the valuation and the high level of risk and uncertainty surrounding these projects (Helfat, 1997). This in turn could enhance IC performance.

Empirically, despite the sound theoretical basis for expecting a positive relationship between board interlocking and firm performance, prior research has shown mixed results. For example, Pombo and Gutierrez (2011) in Colombia, Hashim and Abdul Rahman (2011) in Malaysia, Liang (2009) in Taiwan, and Harris and Shimizu (2004) and Ferris *et al.* (2003) in the US, find a positive relationship between board interlocking and firm performance. Harris and Shimizu (2004) provide evidence that directors who serve in many boards have a positive effect on key strategic decisions of US corporations such as corporate acquisitions. Harris and Shimizu (2004) assert that their finding challenges the conventional claim that board interlocking impedes directors' ability to provide

useful advice due to time constraints. Harris and Shimizu (2004) contend that while interlocking directors have been criticized for missing meetings and exhibiting poor preparation for meetings, their expert advice apparently offsets the accompanying negative aspects.

Liang (2009) finds that directors' ties with other firms in the same industry are positively and significantly related to firm performance. However, he fails to find any relationship between directors' ties with firms from different industries and firm performance. Moreover, Sarkar and Sarkar (2009) report that multiple directorships by outside directors associate positively with financial performance of 500 large Indian companies for the year 2002–2003. However, Sarkar and Sarkar (2009) find that multiple directorships by inside directors are negatively related to firm performance. They argue that inside directors are full-time employees of the firm and are entrusted with its day-to-day operation. Thus, additional directorships even at low levels may make inside directors over-committed and have negative effect on firm performance. On the other hand, Haniffa and Hudaib (2006) find that board interlocking has no effect on accounting performance of 347 Malaysian listed firms between 1996 and 2001, whereas it is negatively associated with market performance.

However, the emphasis of above-mentioned studies was on firm performance in terms of physical capital. As to the knowledge of the researcher, the relationship between board interlocking and firm performance in terms of intellectual capital has not been tested before. Therefore, it should be of interest to see whether the GCC banks' board interlocking, which is common among in GCC banking

industry, has any association with IC performance. Thus, based on the resource dependency theory and the above discussion, the following hypothesis is proposed:

**H3:** There is a positive relationship between board interlocking and bank IC performance.

#### **3.5.1.4 Board Size**

Board size (i.e. the number of directors appointed to serve on a firm`s board) is viewed as an important factor in ensuring effective corporate governance (Liang *et al.*, 2013; Pathan & Faff, 2013; Dalton, Daily, Johnson, and Ellstrand, 1999; Pearce & Zahra, 1992). Evidence shows that there are differences between the average board sizes across industries. For example, a survey of GCC boards that was produced by The National Investor (TNI) (2008) shows that regulated industries such as banking tend to have greater board size compared to other industries. This observation is consistent with what was reported by Adams and Mehran (2012), that the size of the board of U.S. banking firms are large compared to statistics reported from samples of large manufacturing firms. This may be due to the features of the banking industry such as intensive local and international regulations that enforce banks to form more committees (compensation, compliance, audit, etc.), thus, requiring more board members to sit on these committees (Adams & Mehran, 2012; TNI, 2008). Prior research asserts that board of directors as a governance mechanism is more important for banks than non-banks since board fiduciary responsibilities extend well beyond

shareholders to depositors, lenders, and regulators (Pathan & Fiff, 2013; Macey & O'Hara, 2003).

Theoretically, there are two contradicting points of view of the effect of board size on firm performance. Agency theorists generally support a negative association arguing that problems of poor communication, coordination, and decision making are more likely to dominate the boards with too many directors (Liang *et al.*, 2013; Pathan & Faff, 2013; Dalton *et al.*, 1999; Eisenberg, Sundgren, and Wells, 1998; Jensen 1993; Lipton & Lorsch, 1992). In addition, it has been argued that excessive CEO control is more likely to dominate the boards with too many directors and thus, impairs the control and monitoring functions of board and increases the opportunity for manipulation by firm management (Dalton *et al.*, 1999; Judge & Zeithaml, 1992). Prior research has shown that the inclusion of many members on a board reduces the involvement of directors in strategic decision making and impedes reaching a consensus on strategic decisions and thus reduces a boards' ability to initiate strategic actions and make timely decisions (Goodstein *et al.*, 1994; Judge & Zeithaml, 1992). In contrast, small boards would have good cooperation, engage in more candid discussions, and make decisions more quickly. In addition, the management of small boards would have lesser ability to control the boards (Denis, 2001).

Alternatively, resource dependency theory and stakeholders' theory argue that large boards increase firms' opportunity to access to more resources and improve boards' information processing capabilities that in turn enhance the quality of advice given to firm management (Hafsi & Targut, 2013; Abeysekera, 2010;

Dalton & Dalton, 2005; Zahra & Pearce, 1989). Furthermore, larger boards allow greater balance, thereby, promoting more effective decision making while increasing harmony between a firm's stakeholders (Ho & Williams, 2003).

Furthermore, another view assumes the relationship between board size and firm performance to be non-linear, representing an inverted "U" shaped, arguing that optimal board size exists midway. Below this optimal board size, there is a positive relationship between board size and firm performance followed by a negative relationship (Andres & Vallelado, 2008; Dwivedi & Jain, 2005; Zahra & Pearce, 1989).

Empirical analysis has failed to resolve the theoretical debate surrounding the association between board size and firm performance. The evidence on the relationship between board size and firm performance in terms of both physical and intellectual capital has been mixed. For example, in terms of physical capital, Hermalin and Weisbach (2003) state that the consensus in the economic literature is that an increase in board size will have a negative effect on firm performance. Empirical studies on banking and non-banking firms such as Liang *et al.* (2013), Pathan and Faff (2013), O'Connell and Cramer (2010), Guest (2009), Cheng (2008), Garg (2007), Staikouras, Staikouras and Agoraki (2007), Eisenberg *et al.* (1998), and Yermack (1996), all report that large board size is associated with low firm performance.

In contrast, supporting a large board, there are several studies which found that there is a positive relationship between board size and firm performance in

banking and non-banking industries (see e.g. Adams & Mehran, 2012; Fauzi & Locke, 2012; Belkhir, 2009; Sunday, 2008; Dwivedi & Jain, 2005; Dalton *et al.*, 1999). Few studies do not provide any support to the relationship between board size and firm performance (Sarkar & Sarkar, 2009; Bonn, 2004).

However, based on a sample of 69 boards of large commercial banks from Canada, France, the U.K., Italy, Spain, and the U.S. for the period 1995–2005, Andres and Vallelado (2008) find that there is an inverted U-shaped relation between board size and performance asserting that their findings challenge the widespread belief that small boards are more efficient.

In GCC region, Chahine (2007) examines the relationship between board size (among others) and market valuation of 41 commercial banks listed in GCC countries over the period 2002-2004. Chahine (2007) finds that market valuation is negatively associated with bank size. However, the more recent study of Arouri *et al.* (2011) find an insignificant relationship between board size and return on assets for a sample of 27 GCC listed banks. Arouri *et al.* (2011) contend that the insignificant impact of board size might be because of emergent nature of corporate governance and boards practices in GCC region which are still in its infancy.

With regard to IC performance, there are few studies which investigate the relationship between board size and IC performance. The results are also inconclusive. Ho and Williams (2003) conduct a study to investigate the relationship between board size and firm performance measured by VAIC for a

sample of 286 publicly traded firms in South Africa (84 firms), Sweden (94 firms), and the UK (108 firms). In contrast to their hypothesis, their findings indicate that board size was negative and statistically insignificant. However, in contrast to Ho and Williams (2003), Abidin *et al.* (2009), in their study of 75 Malaysian firms, find that board size has a moderate significant positive association with VAIC. They argue that larger boards can produce more ideas and skills that can be shared among board members.

This study is different from the work of Ho and Williams (2003) and Abidin *et al.* (2009) in two major ways. First, this study investigates the relationship between board size and IC performance from the lens of resource dependency theory. Second, this study intends to explore the moderating effect of the frequency of board meetings on the relationship between board size and IC performance (see Sub-section 3.5.1.6).

The claim that larger boards lead to better performance is based on resource dependency theory (Abeysekera, 2010; Chang, 2010; Goodstein *et al.*, 1994). According to the theory, larger boards provide broader pool of expertise and knowledge, diverse industrial and educational backgrounds, and skills that enhance board information processing capabilities. Larger boards can mitigate individual directors' deficiencies in business skills through collective decision making which in turn improve the quality of strategic decisions and actions made by the firm (Abeysekera, 2010; Ruigrok *et al.*, 2006; Dalton & Dalton, 2005; Dalton *et al.*, 1999; Goodstein *et al.*, 1994; Pearce & Zahra, 1992; Pearce & Zahra, 1989). According to Dalton and Dalton (2005), a larger board offers

opportunities to broadly enhance board diversity, including experience, skill sets, and race.

Sub-sections 3.5.1.1 and 3.5.1.2 have discussed the positive effects of the inclusion of directors with different educational and cultural backgrounds and skills on IC performance. Literature further indicates larger boards would benefit firms through obtaining and securing critical resources such as IC resources (Abeysekera, 2010), and enhancing firms` legitimacy and image in society (Chang, 2010; Zahra & Pearce, 1989). Larger board could also ensure a broader representation of diverse stakeholders on the boards and consequently better understanding and effective response to their demands (Pearce & Zahra, 1992). By doing so, IC performance may become greater.

According to Andres and Vallelado (2008) and Dalton and Dalton (2005), a larger board provides the opportunity to assign more directors to monitor, and give advice to managers in the design and implementation of strategies. Andres and Vallelado (2008) argue that having more monitors and advisors help to reduce the discretionary power of managers or at least facilitate the detection of managers` opportunistic behaviour. Besides, having more advisors improve the quality of strategic decisions through complementing the counseling skills of directors with those of the CEO (Andres & Vallelado, 2008). The benefits of larger boards have important implications on IC. For example, the myopic and risk-averse nature of managers may discourage them to invest in resources underlying IC because of the considerable uncertainty and risk (Ho & Williams, 2003; Edvinsson & Malone, 1997; Brooking, 1996). Thus, larger boards can help improve IC



performance by assigning more people to advise managers on strategic issues such as those related to how to obtain and best utilize the required resources underlying IC, and remind managers that developing and maintaining IC performance is firms` priority.

Given the inconsistent empirical results and the scarcity of studies that examine the relationship between board size and IC performance, further investigation of board size and IC performance relationship is required in a different environment such as GCC countries and in different industries which are excluded in the previous studies (i.e. banking industry). As highlighted earlier, GCC banks tend to include a large number of directors in comparison with other sectors. Thus, based on the resource dependency theory and foregoing arguments it is hypothesized that:

**H4:** There is a positive relationship between board size and bank IC performance.

### **3.5.1.5 The Representation of Independent Directors**

A common recommendation in corporate governance codes including those issued in GCC countries is to increase board independence through the inclusion of independent directors to the boardrooms (Liang *et al.*, 2013; Hawkamah institute for corporate governance, 2010; Nicholson & Kiel, 2007). According to Saidi and Kumar (2008), GCC banks are required to appoint independent directors to comply with the requirements of Basel committee and regulatory requirements of central banks across GCC countries. A director is assumed to be

independent if he is not a full-time employee of the company and if he has no further business or personal relationships with senior executives (Johnson *et al.*, 1996).

The relationship between board independence and IC performance has been investigated from the lens of stakeholder-agency theory (Abidin *et al.*, 2009; Ho & Williams, 2003; Williams, 2000). The central argument of these studies is that due to the risk-adverse nature of managers and their myopic nature, managers are more likely to avoid investing in resources underlying IC because of the considerable uncertainty and risk that them and the lengthy payback periods to payoff, if any (Ho & Williams, 2003; Williams, 2000; Edvinsson & Malone, 1997; Brooking, 1996). Managers, thus, are more likely to support policies and strategies related to physical capital than IC (Ho & Williams, 2003). This ultimately can lead to the detriment of IC performance and thus, shareholders' interests in the long-term because of the important role of IC in driving firm value and creating a sustainable competitive advantage (Abidin *et al.*, 2009; Ho & Williams, 2003; Williams, 2000). Therefore, researchers such as Abidin *et al.* (2009), Ho and Williams (2003), Williams (2000), state that monitoring by the board is important to enforce management to pursue strategies and policies for building and improving resources underlying IC, suggesting that an increase in board independence will improve the effectiveness of board's monitoring role and subsequently IC performance. However, the findings of these studies are inconclusive. For instance, Ho and Williams (2003) find that proportion of independent directors on boards has a significant positive association with IC

performance of South African firms, but it is insignificant in explaining IC performance for UK and Swedish firms. The insignificant effect of independent directors on IC performance is also found by Williams (2000) in South Africa. In contrast, Abidin *et al.* (2009) find that there is a significant positive relationship between the proportion of independent directors and IC performance of non-financial companies listed in Malaysia.

This study differs from the previous studies in three major ways. First, this study investigates the relationship between the representation of independent directors and IC performance from the lens of resource dependency theory. From resource dependency perspective, independent directors are more likely to act as providers of resources to a firm rather than as a monitor of management. As highlighted earlier, banks' board members in GCC countries are mostly dependent and related to main owners, thus, poor communication and decision making processes are more likely to dominate the monitoring role of board of directors (Chahine, 2007; OECD, 2009). According to Chahine and Tohme (2009), typical governance mechanisms such as the proportion of independent directors may not be effective in monitoring and addressing the various agency problems within Arab firms because these firms tend to have concentrated ownership and are often affected by political ties and family involvement. This is very true of GCC banks which are characterized as having concentrated ownership and significant government and family ownership (Al-Hassan *et al.*, 2010; OECD, 2009; Chahine, 2007; Pock, 2007).

Prior research documents that ownership concentration is a strong alternative of the board monitoring role because a larger block make blockholders generally able to exert a rather tight monitoring on managers` decisions to ensure that owners` interests are not compromised (Johnson *et al.*, 1996). According to Johnson *et al.* (1996), the provision of resources role may be most visible in organizations which experience a lesser need for active board monitoring as a result of strong alternative monitoring roles such as dominant shareholder group. It is argued that these forces may completely replace the board`s monitoring role. Therefore, the monitoring role of independent directors of banks in GCC countries seems to be less important than the provision of resources role.

Second, unlike many previous studies that measured representation of independent directors as the proportion of independent directors to the total number of board members (Abidin *et al.*, 2009; Ho & Williams, 2003; Williams, 2000), this study, consistent with resource dependency theory, uses the number of independent directors on the board. Third, this study intends to explore the moderating effect of the frequency of board meetings on the relationship between the representation of independent directors and IC performance (see Subsection 3.5.1.6).

From resource dependency perspective, the selection of independent directors provides more resources; information, legitimacy to a firm and improved quality of managerial decisions, leading ultimately to improved firm performance (Gabrielsson & Huse, 2005; Hillman *et al.*, 2000; Johnson *et al.*, 1996). This is because independent directors are generally successful business and industry

leaders who have important connections and possess specialized knowledge and skills that could be an asset to threshold firms (Castanias & Helfat, 2001).

It is argued that independent directors are more likely than inside directors to oppose a narrow definition of organizational performance which focuses primarily on financial measures and they are more likely to support managerial long-term oriented decisions that enhance firm long-term performance (Osma, 2008; Ibrahim, Howard, and Angelidis, 2003; Johnson & Greening, 1999; Ibrahim & Angelidi, 1995). Therefore, it is reasonable to expect that independent directors, through giving advice and counsel, are more likely to support IC-related strategies such as investing in human resources, R&D activities and information technology.

Prior research has shown that independent directors can help firm to have access to skilled and qualified human resources by locating and hiring qualified managers and employees and adopt strategies to enhance their capabilities (Miller & Le Breton-Miller, 2006; Jaffe, 2005). This, in turn, can enhance human capital performance and allow the firm to become more innovative. Kor (2006) contends that a firm with an independent board is more likely to develop and maintain innovative capabilities since an independent board could remind managers that developing and maintaining innovative capability is the firm's priority. In the same line, Osma (2008) concludes that independent directors could accelerate innovation because they have sufficient technical knowledge to identify and limit potentially value-reducing research and development (R&D) cuts motivated by short-term earnings pressures.

The positive effects of independent directors on R&D activities and innovation are more likely to be clear in family firms that tend in general to avoid investment in R&D activities and innovation (Chen & Hsu, 2009). Chen and Hsu (2009) find that the presence of independent directors lessens the negative effects of family ownership on R&D activities and innovation, stating that an independent board may reduce the desire of family business managers to cut R&D investment. The positive effect of independent directors on R&D investment and innovation could lead to improved IC performance since innovation increases firm`s stake of intangibles and facilitates IC development (Marques *et al.*, 2006).

Furthermore, from resource dependency theory, independent directors can help to increase a firm`s linkages with its external environment such as critical relationships with external stakeholders such as customers, suppliers, and governments and provide increased legitimacy for the firm (Gabrielsson & Huse, 2005; Zahra & Pearce, 1989). Hence, relational capital of a firm that constitutes one aspect of IC can be enhanced leading to improved IC performance. In addition, it is found that the presence of independent directors is positively associated with firm social performance and firm engagement in social responsibility programs (Ibrahim *et al.*, 2003; Johnson & Greening, 1999; Ibrahim & Angelidi, 1995). This in turn enhances firm reputation with its stakeholders and improves its relationships with employees, customers and local communities in general (Johnson & Greening, 1999; Hammond & Slocum, 1996; Fombrun & Shanley, 1990). Consequently, IC performance is expected to be enhanced since firm reputation, relations with employees, customers and other external

stakeholders are important aspects of IC (Zeghal & Maaloul, 2010; Ting & Lean, 2009; Swartz & Firer, 2005).

Furthermore, it has been argued that presence of independent directors could ensure a careful analysis of managerial proposals and alternatives (Pearce & Zahra, 1992). This is because independent directors could exploit their linkages with external environment to provide timely information about the industry, markets, competition, new technological developments, changes in customer preferences and employees' needs (Zahra, Filatotchev, and Wright, 2009; Castanias & Helfat, 2001) which in turn could enhance a firm's ability to respond effectively to the environmental changes and expectations of diverse interest groups such as employees and customers. These benefits of independent directors could consequently help boards to best formulate and structure IC related strategies that lead in the ultimate to improved IC performance.

Due to the scarcity of studies that examine the relationship between the presence of independent directors and IC performance, it is interesting to investigate this relationship in a different environment such as GCC countries and in different industries which are excluded in the previous studies (i.e. banking industry). As highlighted earlier, GCC banks are required to appoint independent directors. In line with resource dependency theory and based on the above discussion, the following hypothesis is proposed:

**H5:** There is a positive relationship between the representation of independent directors and bank IC performance.

### **3.5.1.6 The Moderation of the Frequency of Board Meetings**

It is argued in the previous sub-sections that boards with greater diversity in terms of educational level, nationality, interlocking, size and, representation of independent directors could lead to improved IC performance. However, theoretically, it is argued that the positive effects of board diversity on firm outcomes would depend on the frequency of board meetings (Wincent *et al.*, 2010). Conger, Finegold and Lawler (1998) suggest that frequency of board meetings improves board effectiveness. According to Zahra and Pearce (1989), the frequency of board meetings affect a board's ability to make decisions as well as its contribution to firm performance. It is argued that the ability of board members to provide good advice and involve in the strategic decision making process require active directors who are able to intensely discuss strategic opportunities during board meetings (Wincent *et al.*, 2010; Vafeas, 1999; Zahra & Pearce, 1989).

The frequency of board meetings is viewed as an important mechanism to ensure that issues are discussed in sufficient depth, and board members get more opportunities to confer and to set strategies (Vafeas, 1999; Zahra & Pearce, 1989). Simons, Pelled and Smith (1999) find that debates and discussions among top management team members increase the tendency of diversity to enhance firm performance, arguing that through debates and in depth discussions, team members are likely to draw on their diversity by rethinking their points of view and consider factors they had not previously been considered. Simons *et al.* (1999) further contend that debates among team members can help overcome



board diversity related problems such as poor communication and coordination. This, in particular, may improve the effects of board diversity on boards` ability to provide better advice on strategic issues to management.

Rabi, Zulkafli and Hatt (2010) have shown that the effectiveness of an investment in innovations is positively associated with the frequency of board meetings. They state that frequent board meetings helps board members to evaluate R&D projects more thoroughly and comprehensively. Moreover, by meeting more frequently, board members would be able to monitor and supervise the progress of any R&D projects and take necessary actions for R&D projects that are not progressing successfully (Rabi *et al.*, 2010). This will ultimately help to improve IC performance. Furthermore, prior research has shown that groups may be more able to use unique information when group members are familiar with one another instead of being strangers (Carpenter & Westphal, 2001). Thus, according to Carpenter and Westphal (2001), the frequency of board meetings will help each director to know and be familiar with each other which in turn contributes in building relationships and trust among board members and increase the awareness of other board members` social networks. The familiar directors would be more willing to exchange their expertise, knowledge, ideas and provide insights into products and markets and therefore, can help improve IC performance through improved board ability to structure and formulate IC related strategies.

Wincent *et al.* (2010) argue that frequent board meetings may help increase the likelihood of consensus among directors. They argue that frequent board meetings may help handle uncertainties and develop strategic directions to adapt to

changing circumstances in order to significantly improve innovative performance of firms that positively affect intellectual capital performance (Marques *et al.*, 2006). In consistent with the argument by Wincent *et al.* (2010), it is argued that larger boards will require more time to reach their decisions (Al-Najjar, 2011; Vafeas, 1999). Therefore, it can be argued that the frequent board meetings could improve the effect of larger board size on IC performance and can help overcome the large board related problems such as the difficulty to reach a consensus on strategic decisions. In addition, prior research has suggested that independent directors often lack the time to significantly contribute to firm`s strategic decisions making (Ruigrok *et al.*, 2006; Carpenter & Westphal, 2001).

Therefore, it is reasonable to expect that frequent board meetings may provide independent directors more time to gain an adequate understanding of the issues facing a firm and thus improve their effects on firm outcomes, particularly IC performance.

Based on the above discussion, this study argues that the relationship between board diversity in terms of education level, nationality, size, and board interlocking, and IC performance likely depends on the frequency of board meetings.

Therefore, the following hypotheses are proposed:

**H6:** The frequency of board meetings positively moderates the relationship between board educational level diversity and bank IC performance.

**H7:** The frequency of board meetings positively moderates the relationship between board nationality diversity and bank IC performance.

**H8:** The frequency of board meetings positively moderates the relationship between board interlocking and bank IC performance.

**H9:** The frequency of board meetings positively moderates the relationship between board size and bank IC performance.

**H10:** The frequency of board meetings positively moderates the relationship between representation of independent directors and bank IC performance.

### **3.5.2 Ownership Structure**

The second group of independent variables forming the research conceptual framework is ownership structure. Ownership structure is viewed as a central determinant of firm performance and can help explain the difference in performance among firms (see for example Chahine & Tohme, 2009; Tian & Estrin, 2008; Douma *et al.*, 2006; Maury, 2006; Chhibber & Majumdar, 1999). It is argued that ownership type can influence firm decision making and performance because it is related to different degrees of risk aversion and the firm's resource endowment (Shah *et al.*, 2012; Chen & Hsu, 2009; Fernandez & Nieto, 2006). According to Douma *et al.* (2006), firm owners influence firm performance differently because of the considerable differences in identity, concentration, and resource endowments among owners which in turn determine their relative power, incentives, and ability to monitor managers. Furthermore, as

owners have different goals, they also have different influence on firm performance (Douma *et al.*, 2006). With this regard, it has been suggested that ownership structure is an important determinant of IC performance that can play important roles in developing IC performance or otherwise (Saleh *et al.*, 2009; Keenan & Aggestam, 2001). Saleh *et al.* (2009) argue that firm owners may provide the incentives to improve IC performance or otherwise. It is for this reason that the present study is interested in examining the relationship between different types of blockholders in GCC banks and IC performance. Therefore, this study includes the element of ownership structure as the second element in its conceptual framework.

The term ownership structure in this study refers to the major owners of the bank (i.e., blockholders) since ownership of GCC banks is concentrated and involved a large set of blockholders including families, government, and institutional investors (Chahine, 2007). Overall, this section covers previous studies related to blockholders and performance. From this review of literature, hypotheses about the potential link between ownership structure and IC performance are developed.

There are a number of theories that explain the relationship between ownership structure (i.e. blockholders) and firm performance such as agency theory, institutional theory, and resource based theory. However, as highlighted in earlier, since this study is related to blockholder ownership and firms' IC performance, the focus will be on agency theory and resource-based theory. The argument is that agency theory is very much relevant to the study as evidenced by previous studies including that of Saleh *et al.* (2009) who examine the relationship between

ownership structure and IC performance. Agency theory prescribes that ownership structure affects the ability of owners to influence corporate risk taking and the type or identity of owners will determine the trend of investing in risky projects such as IC related investments. According to agency theory, the different types of ownership and control may induce conflicting managerial incentives, namely, whether to create more value for the firm or to maximize self-interest (Saleh *et al.*, 2009).

Resource-based theory is important to account for the differences of resource endowments that arise from shareholders being either foreign or domestic, and strategic or non-strategic. Resource-based theory suggests that heterogeneity in resource capabilities of different owners will lead to different impacts on firm performance (Douma *et al.*, 2006). According to Douma *et al.* (2006), agency theory and the resource-based theory are powerful tools and provide important insights in examining the impact of ownership on firm performance.

The following sections discuss the literature related to four different types of blockholders including government ownership, family ownership, domestic and foreign strategic ownership, domestic and foreign non-strategic ownership and their relation to IC performance. From this review of literature, hypotheses about the potential link between the different types of blockholders and IC performance are developed.

### 3.5.2.1 Government Ownership

Governments of GCC countries have a significant stake of ownership in most of GCC banks (Al-Hassan *et al.*, 2010; Chahine, 2007; Pock, 2007). The literature on government ownership and firm performance has been limited and no systematic pattern of relationship between government ownership and firm performance has been uncovered (Ab Razak, Ahmad, and Aliahmed, 2008).

Theoretically, the literature suggests two reasons to believe that government ownership is detrimental to firm performance. First, governments are likely to pay special attention to political and social goals such as low output prices, employment or external effects which in turn may lead to politicizing resource allocation process that may lead to reduced efficiency and value of firms (Najid & Abdul Rahman, 2011; Tian & Estrin, 2008; Bonine, Hasan, and Wachtel, 2005; Pedersen & Thomsen, 2003; La Porta, Lopez-de-Silanes, and Shleifer, 2002). Second, the government is not the ultimate owner, but the agent of the real owners, i.e. citizens. Large numbers of owners lead citizens to delegate their monitoring role to politicians and bureaucrats who may not actively monitor these firms because they lack the personal interest to ensure that an organization is run efficiently or governed well since they do not have any benefit from good governance (Ab Razak *et al.*, 2008; Gugler, 2003). In addition, government owners are risk adverse and they have weak incentives to invest in risky projects such as R&D activities (Shah *et al.*, 2012; Lin, Lin, and Song, 2010) that can determine bank performance in terms of IC.

Saleh *et al.* (2009) argue that political interventions and allocation of resources for political or social purposes in firms with government ownership are more likely to give less attention on long-term sustainability and value maximization activities compared to other firms. Hence, IC performance will be detriment. Saleh *et al.* (2009) further state that government ownership may negatively influence human capital performance of a firm through the appointment of less experienced staff for political or social goals. According to Chahine and Tohme (2009), the appointment of less experienced staff for political or tribal reasons can lessen firm efforts for building trust between management and employees who were hired based on their qualifications. The lack of trust between management and employees may undermine management efforts to direct employees' attention to focus on the tasks that need to be done in order to add value to their organizations, particularly when the desired behaviour falls outside the employees' specified roles (see Mayer & Gavin, 2005, and literature therein). Consequently, human capital performance will decline.

Appointing employees based on political concerns and not on qualifications may affect negatively qualified employees' satisfaction and their loyalty to an organization. Employees dissatisfaction have significant negative impacts on several aspects of an organization that are related to IC performance such as innovative ability of employees (Nnanna, 2009; Jong and Harlog, 2007), ability of a firm to retain and attract talent and skilled employee (Valentine *et al.*, 2006; Shafer, 2002; and Ambrose *et al.*, 2008), firm reputation (Cravens & Oliver,

2006), and relationships with customers (Wangenheim, Evanschitzky, and Wunderlich, 2007; Malhotra & Mukherjee, 2004).

Tian and Estrin (2008) state that in China, the government which has a significant ownership in Sinopec Shanghai Petro Chemical Company enforced the company to continue paying the wages of 4000 employees it was planning to layoff. Although this satisfied the government shareholder's political interests, it was at the expense of the firm's value (Tian & Estrin, 2008). Unfortunately, in GCC countries, hiring practices in governmental firms or in firms in which government ownership is dominated is more likely to subject to political or tribal concerns (Chahine & Tohme, 2009) that may affect negatively IC performance as discussed above.

Prior research has shown evidence that government ownership is negatively associated with the risk taking activities of the firms (Shah *et al.*, 2012). For example, previous studies revealed that government ownership is negatively associated with firms' innovation and R&D investment (Ayyagari, Demirguc-Kunt, and Maksimovic, 2011; Lin *et al.*, 2010; Dong, 2005). John *et al.* (2008) suggest that government may constrain value-enhancing but risky projects to protect the social stability and continued employment. According to Lin *et al.* (2010), politicians and bureaucrats are thought to be unwilling to support high-risk and long-term R&D projects because of their potential political or social cost. For example, Lin *et al.* (2010) state that R&D investment is associated with developing new production processes which in turn may lead to the closing down of some product lines and reallocation of work force or layoffs of some



employees which come at the expense of the social interests of government shareholder. Discouraging firms' innovative activities are expected to affect negatively IC performance since innovation increases firms' stake of intangibles and help to develop IC (Marques *et al.*, 2006). Moreover, discouraging R&D activities may undermine a firm's ability to produce new products and services which are essential for maintaining sustainable relationships with customers who demand more complex products and services.

Moreover, government ownership is generally associated with weaker corporate governance (Borisova, Brockmanb, Salas, and Zagorchev, 2012). Thus, government-controlled firms can be viewed as manager-controlled firms (Gugler, 2003). According to agency theory, managers in government-controlled firms are more likely to benefit from this position to maximize their own interests or exert low efforts (Sapienza, 2004). John *et al.* (2008) find that firms controlled by managers select suboptimally conservative investment strategies and skip risky but value-enhancing projects to protect their expected private benefits. This finding is supported by other studies in banking industry (see e.g. Laeven & Levine, 2009; Saunders, Strock, and Travlos, 1990). Therefore, in such firms, it is reasonable to expect that managers are more likely to avoid investing in IC resources because of the high level of risk and uncertainty that surround IC related projects which are not consistent with managers' risk-averse and myopic nature (Ho & Williams, 2003; Edvinsson & Malone, 1997; Brooking, 1996).

Empirically, Ab Razak *et al.* (2008) and Tian and Estrin (2008) state that a majority of empirical studies strongly support the contention that government

ownership is detrimental to firms' performance and show negative results when looking at government ownership and performance. Among them are: La Porta *et al.* (2002) who observe the top 10 banks controlled by government in 92 countries, Pedersen and Thomsen, (2003) who examine 214 companies spread across 11 European nations, Chahine (2007) who studies 41 banks listed in GCC countries, Bonin *et al.* (2005) who examine 225 banks in eleven transition countries, Zeitun and Tian (2007) who examine 59 publicly listed firms in Jordan, and Tian and Estrin (2008) who examine public listed companies in China.

However, in contrast to the previous studies, Sathye (2003) in India, Staub, Souza, and Tabak (2010) in Brazil, Omran, Bolbol and Fatheldin (2008) in four Arab countries (Egypt, Jordan, Oman, and Tunisia), Ab Razak *et al.* (2008) and Najid and Abdul Rahman (2011) in Malaysia, find that government ownership is significantly and positively associated with firm performance. What is common among these various studies is that they all focus on firm performance in terms of physical capital and ignore firm performance in terms of IC.

With regard to IC performance, Saleh *et al.* (2009) examine the relationship between government ownership and IC performance of 264 firms listed under the MESDAQ market of Bursa Malaysia, for the period 2005-2007. In contrast to their expectations, Saleh *et al.* (2009) find that government ownership does not have any significant effect on IC performance in MESDAQ firms.

Therefore, due to the scarcity of studies that examine the relationship between government ownership and IC performance, further investigation of government

ownership and IC performance relationship is required in different environments such as GCC countries and in different industries which are excluded in the previous studies (i.e. banking industry) in which governments have significant stake of ownership.

Therefore, based on the above discussions, the following hypothesis is proposed:

**H11:** There is a negative relationship between government ownership and bank IC performance.

### **3.5.2.2 Family Ownership**

In addition to government ownership, GCC banks are characterized as having a significant family ownership (Al-Hassan *et al.*, 2010; OECD, 2009; Chahine, 2007; Pock, 2007). Family owners of GCC banks are usually related to rulers and clan rulers, so they are likely to take decisions based on political favoritism rather than on value maximization (Chahine, 2007).

Theoretically, there are two opposite arguments of the effect of family ownership on firm performance. Some authors argue that family ownership could affect positively firm performance whereas some others argue that family ownership is detrimental to firm performance (Saleh *et al.*, 2009). Despite the emphasis of previous studies on the relationship between family ownership and firm performance in terms of physical capital, this study, however, argues that with regard to IC performance, it can be noted that there are two contradictory arguments of the potential impact of family ownership on IC performance.

The first argument suggests that there are several advantages of family ownership which may lead to better IC performance. One of these advantages is that the relationships within family firms are characterized by the existence of a large amount of altruism, loyalty, trust, commitment, and stability (Wu, 2008; Braun & Sharma, 2007; Barth *et al.*, 2005) which in turn have favorable effects on firms' productivity (Barth *et al.*, 2005) and encourage a focus on long term performance (Braun & Sharma, 2007). Moreover, it has been argued that the feeling of confidence and trust between family members is more likely to increase their willingness to invest in risky projects and entrepreneurial activities (Wu, 2008; Chen & Hsu, 2009).

It is further argued that family firms are more likely to have longer investment horizons and less likely to make short-term decisions in response to profit pressures (Chen & Hsu, 2009; Wu, 2008; Braun & Sharma, 2007; Zahra, 2005). This is because they want to create a legacy that survives them or because they wish to maximize their families' wealth (Zahra, 2005). Chen and Hsu (2009) state that family managers are more likely to impose strong stewardship over firm resources which in turn may help to reduce the level of risk and thus, should encourage further investment in other risky projects. Zahra (2005) claims that these features of family ownership that encourage long-term orientation have led some to conclude that family firms are an ideal place for entrepreneurial and creativity activities. Therefore, it can be argued that these features may encourage investing in IC resources such as R&D activities and information technology.

In terms of resources endowment, it is argued that because of their concern with firm's long term performance, family owners are likely to exert more attempts to attract and retain qualified and experienced staff (Wu, 2008; Miller & Le Breton-Miller, 2006). Furthermore, it is found that family firms tend to invest heavily in their employees through high salaries, excellent benefit package and above-average working conditions which in turn increase staff loyalty and ability of firms to retain their employees and keep them motivated (Chen & Hsu, 2009; Miller & Le Breton-Miller, 2006). Consequently, IC performance (human IC) can be enhanced.

In addition, it is argued that family firms are more focused and concerned in establishing and maintaining good relationship with key stakeholders (Zahra, 2005; Chen & Hsu, 2009). Family firms are more willing to invest more time and money in sustaining the associations between their firms and key stakeholders (e.g., customers, suppliers, and capital providers) (Chen & Hsu, 2009) which in turn can improve relational capital performance, a component of IC.

In sum, from the first point of view it can be concluded that firms with family ownership are likely to focus their attention on activities that can increase value creation, such as investing more in training, acquiring new experts, improving processes, procedures, and work culture, and working to enhance their relationships with external stakeholders. These efforts would lead in the ultimate to improve IC performance.

On the other hand, family ownership also suffers from significant drawbacks arising from possibly severe managerial entrenchment and agency problems (Saleh *et al.*, 2009; Braun & Sharma, 2007). Family owners may choose to draw from a restricted labor pool, owing to nepotism in the selection of family members as company executives. They may also exhibit a preference for risk reduction and preservation of firm capital, and extract benefits from the firm at the expense of minority shareholders (Braun & Sharma, 2007; Shleifer & Vishny, 1997). All these significant drawbacks arising from family ownership may detriment IC performance.

In terms of motivation or the willingness to take risks, it is argued that family owners are risk adverse and they have weak incentives to invest in risky projects such as R&D investment and technology (Shah *et al.*, 2012; Paligorova, 2010; Fernandez & Nieto, 2006; Barth *et al.*, 2005; Anderson & Reeb, 2003). According to Anderson and Reeb (2003), families' willingness to take risky projects is weak because they view their firms as an asset to bequeath to family members or their descendents rather than as wealth to consume during their lifetime. Consequently, family owners are more likely to be conservative towards risky projects. Moreover, it is argued that families often invest a high proportion of their wealth in the business and they generally hold poorly diversified portfolios relative to other blockholders such as institutional investors (Paligorova, 2010; Fernandez & Nieto, 2006; Anderson *et al.*, 2003). This caution may make family owners consider short-term horizons and avoid investing in risky projects (Fernandez & Nieto, 2006).

Because investing in resources underlying IC such as R&D investment, information technology, human resources requires a large amount of sunk cost investments (Chen & Hsu, 2009), and involve a high level of risk and uncertain outcomes that can threaten the status quo and the family's welfare through reducing cash flows that family members used to finance their privileged lifestyle (Barth *et al.*, 2005), family owners are more likely to put pressures on management to avoid investing in IC resources which in turn reduce IC performance. According to Fernandez and Nieto (2006), the conservative nature of family ownership limit family firms' ability to acquire knowledge-based assets such as technologies, well known brands or qualified employees which require riskier investments with uncertain results. Moreover, Barth *et al.* (2005) and Anderson and Reeb (2003) state that the conservative nature of family ownership which is risk-adverse limit the introduction of productivity enhancing new technology and lead to inadequate investment in R&D. According to Nieto (2001) as cited by Fernandez and Nieto (2006), empirical studies have found that family ownership is negatively associated with investment in intangibles. For example, Chen and Hsu (2009) provide empirical evidence that family ownership is negatively associated with R&D investment, suggesting that family with high ownership may impede investing in long term R&D investment. This ultimately may detriment IC performance since R&D investment play an important role in facilitating IC development and increase firm's stock of intangibles (Marques *et al.*, 2006).

In terms of resources endowment, family firms are more likely to limit executive management positions to family members, suggesting a restricted labor pool from which to obtain qualified and capable talent, potentially leading to competitive disadvantages relative to non-family-owned firms (Barry, Lepetit, and Tarazi, 2011; Chen & Hsu, 2009; Kellermanns & Eddleston, 2007; Fernandez & Nieto, 2006).

This phenomenon is clear in the GCC countries in which hiring practices are often affected by family involvement and are based on appointing family members in management and other key positions (Chahine & Tohme, 2009; Welsh & Raven, 2006). As discussed in the sub-section 3.5.2.1, these practices in hiring may undermine management efforts in building trust with employees particularly those who are hired on the basis of qualifications (Mayer & Gavin, 2005) leading to reduced human capital performance.

Furthermore, family or tribal based hiring practices may lead to dissatisfied employees and undermining their loyalty to the organization which in turn may lead to reduced human capital performance and can affect negatively other aspects of intellectual capital mentioned earlier in the previous subsections such as innovative ability of employees (Nnanna, 2009; Jong & Harlog, 2007), ability of the bank to retain its current workforce and attract other skilled employees (Valentine *et al.*, 2006; Shafer, 2002; Ambrose *et al.*, 2008), firm reputation (Cravens & Oliver, 2006), and relationships with customers (Wangenheim *et al.*, 2007; Malhotra & Mukherjee, 2004).



Moreover, family owners of GCC banks are likely to take decisions based on political favouritism rather than on value maximization because of their strong ties with rulers and clan rulers (Chahine, 2007). Thus, this may lead to politicizing the resource allocation process that leads to the detriment of banks' IC performance as it has been discussed earlier.

Empirically, previous studies have found mixed results about the effect of family ownership on firm performance. However, except for Saleh *et al.* (2009), these studies focused on firm performance in terms of physical and financial capitals. For example, Anderson and Reeb (2003), Fahlenbrach (2009), Villalonga and Amit (2008), find that US family firms perform better than non-family firms. However, in contrast, Orelund (2006) in Sweden, Barth *et al.* (2005) in Norway, Hillier and McColgan (2005) in the UK, find family ownership and control to be detrimental to firm performance. It is argued that this is mainly caused by the lack of skills to run a firm. On the other hand, Chahine (2007) fails to find any significant relationship between family ownership and market valuation of banks in GCC countries.

With regard to IC performance, Saleh *et al.* (2009) find that family ownership has a negative effect on IC performance, arguing that family owners are more concern in extracting wealth for their private benefits at the expense of minority shareholders, avoiding long-term investments such as investing in IC resources.

Therefore, due to the scarcity of studies that examine the relationship between family ownership and IC performance, it is interesting to investigate this

relationship in a different environment such as GCC countries and in the banking industry which is often excluded in previous studies. GCC banks are characterized as having a significant family ownership. The OECD-Hawkamah survey reveals that family banks in GCC countries tend to extract wealth for private benefits at the expense of minority shareholders through providing lending and other transactions with affiliates and related parties in favorable terms that may harm interests of other banks' shareholders and stakeholders (OECD, 2009). Therefore, this study predicts that this opportunistic behavior may reduce their focus on creating value for the bank, leading to reduced companies' long-term investment in IC, and subsequently lead to a lower IC performance.

Therefore, based on the discussions above, the following hypothesis is proposed:

**H12:** There is a negative relationship between family ownership and bank IC performance.

### **3.5.2.3 Domestic and Foreign Strategic Ownership**

Strategic shareholders are long-term investors with long-term commitment towards the firm in which they invest. They are concerned with fostering their strategic interests, helping their investee-firms in their development, and securing the access of their investee-firms to new markets and technology (Chahine & Tohme, 2009; Chahine, 2007; Douma *et al.*, 2006). Investments of this type of owners are motivated by strategic goals such as regulating competition between firms, underwriting relational contracts, securing markets, and managing

technological dependence (Aguilera & Jackson, 2003). Thus, strategic shareholders have longer investment horizons with a strong interest not only in the financial performance of a firm but also in its strategies, activities, and its relationship with external parties (Johnsen & Greening, 1999). Therefore, it is reasonable to expect that such type of shareholders will be more willing to invest in risky projects such as those related to IC because of their incentive to increase firm value and ensure its future viability. According to Johnsen and Greening (1999), this type of shareholders is more likely to encourage the expenditure that enhance firm long-term performance such as expenditures on R&D, internal development of new products and services, maintaining product and services quality, maintaining good employee relations and social responsibility programs that enhance firm's image and increase employees and customers' loyalty. It is clear that the spending in these activities can enhance IC performance.

The contribution of strategic shareholders to their investee-firms typically goes beyond financial contributions and extends to provision of non-financial resources such as managerial expertise and technical collaborations (Chahine & Tohme, 2009; Douma *et al.*, 2006). However, it is argued that the role of strategic shareholders may differ according to their nationality (Chahine & Tohme, 2009; Chahine, 2007; Douma *et al.*, 2006). From resource-based perspective, nationality of shareholders can be used as a source of sustained competitive advantage (Chahine, 2007; Douma *et al.*, 2006). This issue is quite conceivable particularly in Arab countries where foreign shareholders are more likely to outperform their domestic counterparts in terms of experience, organizational, monitoring and

technological capabilities, and credibility (Chahine, 2007; and Chahine & Tohme, 2009). Therefore, this study expects that given the heterogeneity in resources and organizational capabilities between domestic and foreign strategic shareholders, they will have different impact on IC performance.

Previous studies such as, Chahine and Tohme (2009) in Arab countries, Chahine (2007) in GCC countries, Djankov and Hoekman (2000) in Czech, and Chhibber and Majumdar (1999) in India, all observe that foreign strategic shareholders usually offer greater technical collaborations and organizational and financial resources than domestic strategic institutional shareholders. Foreign strategic shareholders can provide their investee-firms with relevant experience, and know-how, and international expertise which are valuable, rare, imperfectly imitable and not substitutable by domestic strategic shareholders (Chahine, 2007; Douma *et al.*, 2006). For example, Djankov and Hoekman (2000) find that foreign investment in domestic firms in Czech is associated with transfer of generic knowledge such as management skills and quality systems in addition to the transfer of both hard and soft technologies that represent one component of structural intellectual capital. Moreover, advanced management knowledge and skills, quality systems and technologies are expected to manifest itself in higher employees' productivity which in turn promotes human capital performance.

Furthermore, previous studies have shown that foreign strategic shareholders are more likely to be better skilled in implementing common governance devices than domestic strategic shareholders because they are free from political and group ties that may limit their ability to govern effectively (Douma *et al.*, 2006; Unite &

Sullivan, 2003). This is especially true in GCC countries where domestic strategic shareholders are more likely to be affected by political or group ties that mitigate their effectiveness in providing real, objective, external monitoring and are perhaps make them less credible certifying agents (Chahine & Tohme, 2009; Chahine, 2007). According to Chahine and Tohme (2009), Arab people are extremely collectivistic people, and the social interactions and formation of groups are easy among them. This social dynamic can thus increase the potential for political or group ties that may introduce a degree of inertia to the firm and diminish the impact of corporate governance mechanisms. In contrast, foreign strategic shareholders are likely to be better monitors than their domestic counterparts because they are less affected by these complex webs of relationships (Chahine & Tohme, 2009; Chahine, 2007; Douma *et al.*, 2006). Chahine (2007) provides evidence that the greater the level of strategic ownership in GCC commercial banks, the greater the market valuation of GCC banks. He also documents that this effect is higher when the strategic owners are foreign banks. The author attributes this positive impact to the monitoring role played by strategic owners, especially foreigners. Effective monitoring on management can help improve firm's IC performance by enforcing management to pursue strategies and policies for building and improving resources underlying IC (Abidin *et al.*, 2009; Ho & Williams, 2003).

Furthermore, the existence of foreign strategic shareholders may lead to changing the hiring practices in GCC firms which are affected by family or political concerns, and exert pressures on firms to hire more qualified and professional

managers and employees (Chahine & Tohme, 2009). It has been discussed in the previous subsections that the positive effects of adopting qualifications-based hiring practices on trust between management and employees and employees' satisfaction can lead to improved IC performance. Moreover, Chahine and Tohme (2009) argue that foreign strategic shareholders are likely to encourage a more consultative and participative management style which engenders mutual trust between top managers and employees. Furthermore, it is evidenced by Enshassi and Burgess (1991) that consultative management style is to be more effective with multicultural workforces such as those that predominate in GCC countries. This is important for GCC countries since the dominant management style is authoritative and coercive in which managers tend to provide clear directions by informing subordinates to be compliant or obedient (Bakhtari, 1995). Therefore, these effects of foreign strategic shareholders are expected to improve human capital performance and improve other aspects of IC performance which are related with improved human capital such as innovation, relationships with customers, and firm reputation (Nnanna, 2009; Jong & Harlog, 2007; Wangenheim *et al.*, 2007; Malhotra & Mukherjee, 2004; Cravens & Oliver, 2006).

The claim that strategic shareholders positively affects firm performance and that the effect of foreign strategic shareholder is greater than domestic strategic shareholder is supported empirically by several studies such as Chahine and Tohme, (2009), Chahine, (2007), Douma *et al.* (2006), and Sarkar and Sarkar, (2000).

While previous studies focused on firm performance in terms of physical and financial capitals, none seem to have made in terms of IC. Therefore, given the lack of empirical evidence on the relationship between strategic ownership (domestic and foreign) in terms of IC performance, this study aims to fill this gap in the literature

Therefore, based on the arguments above, the following hypotheses are proposed:

**H13a:** There is a positive relationship between domestic strategic ownership and bank IC performance.

**H13b:** There is a positive relationship between foreign strategic ownership and bank IC performance

**H13c:** The positive association of foreign strategic ownership is significantly higher than the positive association of domestic strategic ownership.

#### **3.5.2.4 Domestic and Foreign non-Strategic Ownership**

Non-strategic shareholders refer to corporations from unrelated business holding shares in a firm (Chahine & Tohme, 2009; Chahine, 2007; Duoma *et al.*, 2006). It is argued that institutional shareholders from unrelated businesses generally adopt strategies which attempt to maximize the market value of their shares, as well as their dividend payouts. Therefore, such type of shareholders is more likely to be solely motivated by financial focus and emphasize on liquidity results (Chahine, 2007; Duoma *et al.*, 2006; Aguilera & Jackson, 2003; Johnson & Greening, 1999).

Due to their financial focus, non-strategic shareholders are more likely to focus on short-term investments and avoid risky projects such as the internal development of new products and R&D expenditures (which may ultimately affect IC performance) because of the high risk and uncertainty that surround investments in such projects and the longer time needed to realize gains from them (Haddaji, 2009; Duoma *et al.*, 2006; Johnson & Greening, 1999).

According to Haddaji (2009), the existence of block holders with liquidity and financial focus is associated with lower capital expenditures; lower R&D, lower advertising expenditure, among others. This is consistent with the claim by Johnson and Greening (1999) that financial shareholders are more likely to be negatively related to expenditures on R&D, internal development of new products and services, maintaining product and services quality, maintaining good employee relations, and social responsibility programs that enhance firm's image and increase employees and customers loyalty because they are more likely to view these expenditures as a cost or tax on their profits because of the longer time needed to realize gains with these expenditures. This will ultimately lead to reduced IC performance.

However, it has been argued that the effect of non-strategic shareholders on firm performance may differ according to their nationality because of the considerable heterogeneity in resources and capabilities between domestic and foreign non-strategic shareholders (Chahine, 2007; Douma *et al.*, 2006). With regard to foreign non-strategic ownership, this study argues that foreign non-strategic shareholders can affect IC performance in two contradictory directions.



Because of their financial focus, foreign non-strategic shareholders are more likely to have shorter investment horizons and thus, they may discourage risky long-term investments which require long payback periods and possess high level of risk and uncertainty such as investment in resources underlying IC. This ultimately can affect IC performance negatively.

On the other hand, foreign ownership in general is associated with facilitating of transfer of technology, know how, advanced managerial practices and are endowed with good monitoring capabilities that result in better performing and more efficient banks (see for example, Tian & Estrin, 2008; Chahine, 2007; Bonin *et al.*, 2005). These benefits of foreign ownership could also manifest itself in improvements in IC performance since technology, know-how and advanced managerial practices are components of IC. Furthermore, as highlighted earlier in the previous subsection, foreign non-strategic institutional shareholders may help to change the hiring practices within firms in GCC countries that are affected by political, family or tribal concerns through putting pressures on domestic firms to appoint professional and more qualified employees.

In addition, foreign non-strategic ownership is likely to encourage more consultative management style which is proven to be more effective with multicultural workforces such as those that predominate in GCC countries (Enshassi & Burgess, 1991). Foreign non-strategic ownership also helps create mutual trust between management and employees (Chahine & Tohme, 2009) which in turn help management to direct employees' attention to focus on the tasks that need to be done, to add value to their organizations, particularly when

the desired behaviour falls outside the employees' specified roles (see Mayer & Gavin, 2005, and literature therein). This ultimately may lead to improved human capital performance.

The adoption of consultative management style and hiring practices which are based on professional qualifications, not on family or political concerns are expected to satisfy employees which in turn can lead to a positive impact on human capital performance and other aspects of IC such as innovation, ability to retain its current workforce and attract other skilled employees, maintain firms' reputation, enhance relationships with customers and employees (Nnanna, 2009; Ambrose *et al.*, 2008; Jong & Harlog, 2007; Wangenheim *et al.*, 2007; Cravens & Oliver, 2006; Valentine *et al.*, 2006; Malhotra & Mukherjee, 2004; Shafer, 2002). Based on these arguments, it is reasonable to expect that foreign non-strategic shareholders may help to improve IC performance.

Empirically, the larger body of literature generally supports the positive influence of foreign ownership on firm performance and valuation apart from the foreign ownership is strategic or non-strategic (see Aydin, Sayim, and Yalama, 2007 and literature therein). Only handful studies fail to find any significant effect of foreign ownership on firm performance (see for example Zeitun & Tian, 2007). However, to the best knowledge of the researcher, there is no study that has found a negative association between foreign ownership and firm performance. Chahine (2007), Douma *et al.* (2006), Sarkar and Sarkar (2000), all find that foreign non-strategic ownership is positively associated with firm performance as measured by stock market valuation. However, Douma *et al.* (2006) fail to find any significant

relationship between foreign non-strategic ownership and firm performance as measured by accounting measures (i.e. return on assets).

With regard to IC performance, the study by Saleh *et al.* (2009) fail to find any significant effect of foreign ownership on IC performance from a sample of 264 companies listed under the MESDAQ market of Bursa Malaysia. Saleh *et al.* (2009) attributed the insignificant impact of foreign ownership to the unique nature of listed firms in MESDAQ which are technology-based companies, in which domestic owners have better knowledge over their investment and competency in technology than foreign investors. However, Saleh *et al.* (2009) do not distinguish between strategic and non-strategic foreign ownership and thus, they do not take into considerations the differences arising from foreign shareholders being strategic or non-strategic. Aggregation of these two different types of foreign ownership into one common class of shareholders (i.e. foreign ownership) masks certain important results which can only be determined if they are analyzed separately (Douma *et al.*, 2006).

This study argues that when the positive effects of foreign non-strategic ownership overcome the negative effects resulting from its focus on liquidity results and short-term behavior, the positive relationship appears. However, when the positive effects of foreign non-strategic ownership equal the negative effects, the relationship seems to be insignificant. Therefore, based on the above argument and consistent with the general direction of the majority of previous empirical studies, it is reasonable to expect that the positive effects of foreign non-strategic ownership are more likely to overcome the negative effects resulting from the

focus on liquidity results and short-term behavior. Based on the discussion above, the following hypothesis is proposed:

**H14:** There is a positive relationship between foreign non-strategic ownership and bank IC performance.

With regard to domestic non-strategic ownership, it is argued that this type of ownership is detrimental to firm performance (Chahine, 2007; Duoma *et al.*, 2006). According to Douma *et al.* (2006), domestic non-strategic shareholders possess characteristics that represent the worst of both worlds (i.e. strategic and non-strategic shareholders) since their financial focus leads to short-term behavior and a preference for liquid stocks, while their domestic affiliation often results in a complex web of business relationships with the firm and other domestic shareholders that limit the monitoring role.

Thus, it is reasonable to expect that this type of shareholders is more likely to focus on short-term investments and will put pressure on management to reduce long-term investments and expenditures. Empirical studies provide evidence of the negative effect of domestic non-strategic shareholder on firm performance (Chahine, 2007; Duoma *et al.*, 2006).

Based on the discussion above, the following hypothesis is proposed:

**H15:** There is a negative relationship between domestic non-strategic ownership and bank IC performance.

### **3.5.3 Bank Specific Characteristics**

The third group of independent variables forming the research conceptual framework is bank specific characteristics. Prior research has shown that IC performance is possibly influenced by firm specific characteristics (Abidin *et al.*, 2009; Saleh *et al.*, 2009; El-Bannany, 2008; Swartz & Firer, 2005; Ho & Williams, 2003). However, not much is known about the impact of bank specific characteristics on IC performance since most of the previous studies focused on bank performance in terms of physical and financial capitals and ignore its IC performance (see e.g. Wong, Fong, Wong, and Choi, 2007; Athanasoglou, Brissimis, and Delis, 2008; Kosmidou, 2008). This has encouraged the researcher to examine the element of bank specific characteristics that could influence bank performance in terms of IC, namely, bank internationality, bank's financial performance, the adherence to Islamic Shariah principles, and bank riskiness.

The following subsections review the relevant literature on bank specific characteristics mentioned above and discuss their potential relationship with IC performance, and from which, hypotheses about their linking to IC performance are developed.

#### **3.5.3.1 Bank Internationality**

Bank internationality refers to the involvement of banks in cross-border banking activities through establishing branches or subsidiaries outside its home country. Firms generally expand internationally with a view to improve their long-run financial performance (Brock & Yaffe, 2010). However, the empirical findings of

prior research reported that there seems to be a weight of evidence that international expansion often results in negative returns until some future stage in which firms learn to manage their international activities better (Brock & Yaffe, 2010; Brock & Alon, 2009; Contractor, Kumar, and Kundu, 2007). However, the emphasis of prior research was on the impact of firm internationality on firm performance in terms of physical capital ignoring its impact on firm performance in terms of IC.

Theoretically, it can be argued that there are several reasons to believe that bank internationality can help improve IC performance. From the organizational learning theory perspective, firms that enter foreign markets can enhance the learning of new skills and capabilities that significantly improve a firm's ability to innovate, take risk, and develop new revenue streams (Zahra & Hyton, 2008). Firm's exposure to foreign markets through its foreign subsidiaries provides the opportunity to a parent firm to see different systems of innovation, diverse ideas, and multiple cultural perspectives (Zahra, Ireland, and Hitt, 2000; Zahra & Hyton, 2008; Basely, 2007). These, in turn, enhance firms' ability to learn, acquire new knowledge and skills in technological and managerial aspects, improve the innovation abilities of a firm and increase its stock of knowledge or IC (Zahra *et al.*, 2000; Zahra & Hyton, 2008; Basly, 2007).

The newly acquired knowledge and skills can manifest itself in upgrading and fuel firms' innovation (Zahra & Hyton, 2008), which in turn facilitate IC development and increase firms' stake of intangibles (Marques *et al.*, 2006). It is further argued that operating in developed countries help banks from less

developed countries to learn advanced skills and experience that can be stored in firm's routines and process (organizational intellectual capital) and help to improve the level of management (Basly, 2007; Zhang, 2008). In line with this argument, Mol and Birkinshaw (2009), in their study on the UK firms, provide evidence that operating in international markets help firms to adopt new management practices and innovative ways of doing things they typically discovered in international markets.

Previous studies have shown that the introduction of new management and work practices positively influence both employees' productivity and their innovative behavior and customer offerings' quality (Karatepe, 2013; Khera, 2010; Mol & Birkinshaw, 2009). They are more likely to improve the ability of executives to solve problems and produce innovative managerial decisions (Casillas, Acedo, and Barbero, 2010) which in turn could help to improve IC performance.

In the banking literature, it is found that operating abroad, particularly in developed countries, would provides valuable benefits to domestic banks such as access to advanced skills and technology (Chahine, 2007). These benefits have important implications on IC performance. With this regard, the experience of Australian banks provide excellent example of the benefits that banks can reap by operating abroad. By operating in foreign markets such as the USA, UK, and Japan, Australian banks provide the opportunity to their local staff to learn new skills and expertise by training them in foreign branches. Australian banks also acquired knowledge and skills in new areas of banking operations that help

Australian banks to introduce new products and services and improve the current ones (Merrett, 2002; Fung *et al.*, 2002).

Moreover, through their international banking operations in advanced foreign banking markets such as the USA, Australian banks were able, through inter-bank dealings, to observe innovations by competitors and help in transferring know-how across borders (Merrett, 2002). Furthermore, Fung *et al.* (2002) examine the experience of the National Australia Bank (NAB) in establishing subsidiaries abroad, which began in the mid-1980s. Fung *et al.* (2002) state that by expanding into foreign markets such as the USA, UK, and Japan, management of the NAB learn much about advanced banking technology such as e-payment systems, telephone call centers, and the rapidly growing wealth management business. More importantly, the NAB gains the transfer of knowledge and expertise from their subsidiaries in the U.S. since they implement significant senior management exchanges between the respective head offices to promote transfers of new capabilities to the NAB group. These benefits are expected to lead to better IC performance of Australian banks.

Furthermore, expansion abroad is viewed as an important means to maintain banks' position with their domestic customers and keep long-term relationships with them (Fung *et al.*, 2002; Zhang, 2008; Boldt-Christams, 2001). By expansion abroad, banks can continue to provide their domestic customers (firms and individuals) with financial services in the foreign markets in which they expand their activities (Fung *et al.*, 2002; Zhang, 2008; Boldt-Christams, 2001). This would ultimately increase customers' satisfaction and loyalty, leading to



enhanced customer capital performance. In line with this argument, it is found that one of the highest ranking determinant factors of bank selection in Kuwait is availability of branches abroad (Tarawneh, 2006). The same is expected to be found in other GCC countries.

Therefore, it can be argued that GCC banks that have an international presence are more able to attract new customers and maintain long term relationships with their customers who expand their business abroad leading to improved IC performance (i.e. customer capital). Moreover, with their presence in foreign markets, it is expected that banks can enlarge its customer base through attracting deposits from foreign savers wary of their own domestic banks or they may prefer to use new services and products not provided by their domestic banks. Finally, doing business abroad is expected to leverage banks' reputation (Brock & Alon, 2009) and thus, enhance IC performance.

Thus, based on the discussion above, the following hypothesis is proposed:

**H16:** There is a positive relationship between bank internationality and bank IC performance.

### **3.5.3.2 Financial Performance**

Financial performance of a firm is expected to influence its IC performance. It is argued that if a firm's financial performance is good and considered sufficient, pressures may not be placed on directors and managers to undertake more immediate short-term goals to generate financial returns (Williams, 2000). Thus,

firms have more opportunities to innovate and to allocate available resources to make investments for generating human capital and reputation (Surroca, Tribo, and Waddock, 2010). Greater energy and time may, therefore be dedicated to encourage staff to innovate and to perform better (El-Bannany, 2008) and in turn increase human capital performance.

Wright *et al.* (2005) as cited by Surroca *et al.* (2010) argue that high-performing organizations are more likely to develop commitment-based human resources such as profit-sharing schemes, advanced training, team participation, and other forms of empowerment activities. This could lead to more satisfied and loyal employees which in turn increase innovative ability of employees (Nnanna, 2009; Jong & Harlog, 2007), ability of a firm to retain its current workforce and attract other talented and skilled employees (Valentine *et al.*, 2006; Shafer, 2002 and Ambrose *et al.*, 2008), firm reputation (Cravens & Oliver, 2006), and relationships with customers (Chi & Gursoy, 2009; Wangenheim *et al.*, 2007; Malhotra & Mukherjee, 2004). This ultimately could enhance bank IC performance.

Furthermore, it is stated that profitable firms have more ability to finance R&D projects due to availability of internal funds to support such projects (Helfat, 1997). R&D investments will promote a firm's innovative activities which will in turn increase the firm's stake of intangibles and facilitate IC development (Marques *et al.*, 2006).

On the other hand, it is reasonable to expect that the insufficient financial performance will put additional pressures on bank management to invest in projects offering short-term payback periods and guaranteed returns instead of investing in projects requiring long-term investments and maintenances such as intellectual capital resources. Therefore, this may lead to reduced IC performance.

Prior research has further shown that better firm financial performance enhances a firm's reputation in the eyes of the business community and it is more likely and more reasonable to consider that financial performance causes such views, rather than vice versa (Davies, Chun, and Kamins, 2010; Rose & Thomsen, 2004; Fombrun & Shanley, 1990). Thus, IC performance will be enhanced since firm reputation is one of IC's components (Swart & Firer, 2005; Brennan & Connell, 2000). In the same line, it is found that good financial performance motivates firms to engage in discretionary socially responsible programs that satisfy stakeholders' expectations and increase firms' reputation over a period of time (Hammond & Slocum, 1996). According to Fombrun and Shanley (1990), the public assigns higher reputations to firms that engage in social responsibility programs. Social responsiveness will generate goodwill from employees, consumers, and others that enhance the long-term profitability and viability of firms and protect their own employment.

Several studies have confirmed the expected benefits associated with good reputations. These benefits have positive implications on intellectual capital performance. For example it is argued that a positive firm reputation will attract employees and promote lower employee turnover, improve customer attitudes,

lower a client's perceived risk, and create higher credibility (see Davies *et al.*, 2010 and literature therein). Moreover, it is stated that firms with a good reputation may attract well-educated employees with higher productivity since employees prefer to work for high-reputation firms. Therefore, they will work harder, or for a lower remuneration (Rose & Thomsen, 2004; Robert & Dowling, 2002). This could ultimately promote firms' IC (human capital) performance. Furthermore, according to Roberts and Dowling (2002), customers value associations and transactions with high-reputation firms. Thus, firms with good reputation are more likely to maintain their customer base and attract new ones. This will ultimately enhance IC (customer capital) performance of bank.

There are at least two studies investigate the relationship between bank financial performance and IC performance (Joshi *et al.*, 2011; El-Bannany, 2008). Using a sample of the major British banks group (MBBG), El-Bannany (2008) finds a positive significant relationship between bank financial performance as measured by return on equity (ROE) and banks IC performance arguing that good financial performance motivates bank directors to encourage staff to innovate and to perform better. The finding of El-Bannany (2008) is consistent with findings of previous studies in non-financial industries (Abidin *et al.*, 2009; Saleh *et al.*, 2009; Swartz & Firer, 2005; Ho & Williams, 2003; Williams, 2000). However, using a sample consists of only 11 Australian banks for the period 2005- 2007, Joshi *et al.* (2011) report a positive but an insignificant relationship between bank financial performance and IC performance, concluding that bank financial performance has no impact on IC performance of the Australian banks.

Therefore, to obtain better understanding, it is interested to investigate the relationship between bank financial performance and IC performance in different regions with different economic, political and social infrastructures from the UK and Australia such as the GCC region. Based on the above discussion, it is clear that bank financial performance can influence bank IC performance. Thus, the following hypothesis is proposed:

**H17:** There is a positive relationship between bank financial performance and bank IC performance.

### **3.5.3.3 The Adherence to Islamic Shariah Principles**

In GCC countries, Islamic banks and conventional banks operate side by side. Islamic banks are operating on the basis of Islamic Shariah principles. From the Islamic point of view, Islamic banks are based on more moral and ethical principles that are adherent to the Islamic religion than conventional banks (Al-Ajmi *et al.*, 2009; Hassan *et al.*, 2009; Ariff, 2007; Dusuki & Abdullah, 2007).

The ethical principles are:

(a) The prohibition of *riba* (interest). The ethical factor namely justice and cooperation is the rationale behind the prohibition of interest in Islam since the interest benefits are only confined to a limited number of people while the general public stands to bear the costs (Rosly & Baker, 2003),

(b) The avoidance of financing any economic activity considered not in the long-term interest of society. Examples are prostitution, gambling, production and sale of liquor for intoxication, and

(c) Avoidance of earnings from extremely uncertain and risky financial activities, bordering closely to a level of risk of loss of money as in gambling. This principle arises from the mandate in Koranic law that requires contracted parties to avoid extreme risk.

Pock (2007) states that bank reputation as an Islamic Shariah-compliant bank is expected to have an impact on its performance. This study argues that operating under Islamic Shariah principles and consistent with religious beliefs of employees and customer will create positive perceptions among employees and customers and make them more satisfied. IC performance could subsequently be improved because of the positive association between employees' satisfaction and the different aspects of IC such as innovative ability, customer satisfaction, and corporate reputation.

Prior research finds that employees want their firms to be ethical and they essentially desire consistency between their ethical values and the ethical climate of their organizations (Azmi, 2006; Koh & Boo, 2004; Schwpker, 2001). The unfavorable ethical climate of a firm that result from following organizational practices and procedures that lack an ethical content and not consistent with ethical values of employees can lead to distress and job dissatisfaction (see for example, Deconinck, 2010; Mulki, Jaramillo, and Locander, 2008; Valentine *et*

*al.*, 2006; Koh & Boo, 2004; Peterson, 2003; Shafer, 2002; Schwepker, 2001; Vitell & Davis, 1990).

The link between employee satisfaction and organizational ethics can be explained by the cognitive dissonance theory. The theory argues that individuals strive to minimize dissonance in their environment, and the lack of an ethical fit between employees and their organization will lead to a moral conflict and cognitive dissonance which will reduce employees' satisfaction (Koh & Boo, 2004).

Employees' satisfaction is very important to promote IC performance because it affects several aspects of IC such as innovative ability of employees that positively affect the stock of intangibles and facilitate the development of IC (Marques *et al.*, 2006). It is argued that satisfied employees are more innovative and more willing to generate ideas and use these ideas as building blocks for new and better products, services and work processes (Nnanna, 2009; Jong & Harlog, 2007). Moreover, satisfied employees help firms to retain their current workforce and attract other skilled employees since satisfied employees are less willing to leave the company that fits between personal and organizational ethics (Ambrose *et al.*, 2008; Valentine *et al.*, 2006; Shafer, 2002). This ultimately could enhance IC (human capital) performance.

Customer capital that constitutes one of the most important components of bank IC (Kamath, 2007) may be affected by employees' satisfaction. Many findings show that employees' satisfaction plays an important role in driving customers'

satisfaction especially in the customer-contact businesses such as banks in which the interaction between employees and customers largely determines the level of service quality delivered (Chi & Gursoy, 2009; Wangenheim *et al.*, 2007; Malhotra & Mukherjee, 2004). Moreover, Cravens and Oliver (2006) argue that the satisfied employees are the key means by which firm reputation can be created and supported, stating that it is not possible to create a quality product or provide a quality service without the efforts of employees. Cravens and Oliver (2006) state that actions of employees who interface with customers, potential customers, suppliers, and competitors have a significant impact on the reputation of the firm they represent.

In addition to employees, customers also want their firms to be ethical (Valenzuela *et al.*, 2010; Azmi, 2006). Customers' perception that firm's operations are ethical and its organizational practices and procedures have an ethical content is a critical factor in the formulation and maintenance of long-term customer-firm relationship and develops loyalty to the firm (Valenzuela *et al.*, 2010; Bendixen & Abratt, 2007; Babin *et al.*, 2004; Wilson, 2003; Wilson, 1997). Previous studies have shown that customer assessment of a firm's ethical level is positively related to customer satisfaction and loyalty to the firm (Valenzuela *et al.*, 2010; Huang, 2008 ) which in turn can lead to improved IC performance (i.e. Customer capital). Moreover, the relationship between customer satisfaction and firm reputation (as one component of IC) is well established. For example, Bontis, Booker, and Serenko (2007) find that customer satisfaction enhances reputation in the banking industry.



Prior research on Islamic banking revealed that for Muslim customers, the adherence to Islamic Shariah principles is the most important selection criterion of a bank. The customers believe that Islamic banks are operating based on ethical principles that are consistent with their religious beliefs (see for e.g. Khattak & Rehman, 2010, in Pakistan; Amin, 2008 and Dusuki & Abdullah, 2007 in Malaysia, Al-Ajmi *et al.*, 2007, and Metawa & Almosawi, 1998 in Bahrain; Okumus, 2005 in Turkey; Naser, Ahmad, and Al-Khatib, 1999 in Jordan). Naser *et al.* (1999) argue that banks that operate in line with the Islamic Shariah principles maintain a good reputation and establish customers' confidence in conducting their operations because they operate in compliance with their customers' religious beliefs. Therefore, it is reasonable to expect that the adherence to Islamic Shariah principles could help banks in GCC countries, where Muslim customers hold strong religious values (Welsh & Raven, 2006), to enhance their customer capital performance.

From the arguments stated above, it is clear that the adherence to Islamic Shariah principles can influence IC performance of GCC banks.

Based on the arguments above, the following hypothesis is proposed:

**H18:** There is a positive relationship between the adherence to Islamic Shariah principles and bank IC performance.

#### **3.5.3.4 Bank Riskiness**

The banking industry is described as the most risky industry because banks are highly leveraged when compared to other industrial firms, and the nature of their core business process that is based on managing multiple and seemingly opposing needs (Amidu & Hinson, 2006). Banks should be ready to provide liquidity on demand to depositors through checking accounts and to extend credit as well as liquidity to their borrowers through lines of credit. Thus, banks have always been concerned with both solvency and liquidity (Cebenoyan & Strahan, 2004; Rowe, Jovic, and Reeves, 2004).

For these reasons and due to the pivotal role that banks play in the economy, the banking industry is intensely regulated all over the world (Pathan, 2009; Islam, 2003). The regulations issued by supervisory agencies aim to (i) facilitate banks in serving the public and national interests better and to (ii) prevent banks from becoming too risky by keeping financial risk within acceptable parameters, and prevent the level of liabilities from spiraling out of control (Shubber & Azafiri, 2008; Islam, 2003). By doing so, the risk of bank failure is reduced and the public confidence in a country's financial system is maintained (Garcia-Marco & Fernandez, 2008; Islam, 2003). In all GCC countries, supervisory agencies on banks are characterized as strong and well-developed, and are very active in terms of supervising and monitoring their regulations on the banking sector (Fasano & Iqbal, 2003; Islam, 2003).

In addition to supervisory agencies, market discipline is viewed as a complement mechanism of supervisory agencies` efforts in preventing banks from becoming too risky (Stephanou, 2010; Gilbert, 1990). In its broadest definition, market discipline is the mechanism via which bank stakeholders such as depositors, shareholders, and creditors monitor and discipline excessive bank riskiness (Stephanou, 2010; Kobayashi & Bremer, 2007). According to Berger (1991), market discipline in the banking sector can be described as a situation where bank stakeholders such as depositors, shareholders, and creditors face costs that increase as bank undertake risks, and that stakeholders take actions based on these costs.

This study argues that there are several reasons to believe that bank riskiness can influence negatively banks` IC performance. By exposing to high risks, banks are more likely to be under strict monitoring by supervisory agencies (Pathan, 2009). According to Pathan (2009), in the presence of continued and close monitoring by regulators, bank managers and directors act more conservatively to avoid any lawsuit in case of any default. Therefore, it is reasonable to expect that spending on long-term projects such as R&D projects, employee training programs, and information technology will be reduced because of the restrictions on risky investments.

According to Tiwari, Mohnen, Palm and Loeff (2007), innovative activities and research and development expenditures are mostly taken by firms that have a reasonably sound financial position. Furthermore, directors and managers are more likely to be under pressure to undertake more immediate short-term goals to

generate financial returns and protect banks from failure. In this position, directors and managers will not be motivated to encourage long term investments such as R&D activities. Consequently, the ability of banks to generate new ideas and innovative services and products will be limited, leading to reduced IC performance.

From the market discipline perspective, the perception that an organization is unsafe and is exposed to high levels of risks can plant doubt in the minds of its partners and customers and switch potential businesses elsewhere (Ross, 2005). It is argued and evidenced that riskier banks are disciplined by depositors by withdrawing their deposits from such banks and switch them to safer banks (Stephanou, 2010; Ugan, Caner, and Özyıldırım, 2008; Barajas & Steiner, 2000; Gilbert, 1990). Ugan *et al.* (2008) and Barajas and Steiner (2000) find that depositors prefer highly capitalized and liquid banks because they believe that those banks are more secured and more sound in their financial position. In contrast, high asset risk and leverage are associated with greater deposit withdrawals (Calomiris & Powell (2001) as cited by Ugan *et al.*, 2008). Moreover, bank exposure to high risks may limit banks` ability to provide more credit facilitates and other banking services to customers. As a result of losing depositors` confidence and constraining credit facilities and other banking services, it is reasonable to expect that banks` relationship with customers will damage, customer loyalty will erode, and bank reputation will destroy leading to poor bank IC performance.

A number of studies have examined the relationship between bank risk level and bank performance. A majority of them provide evidence of the negative effect of bank risk on bank performance (see e.g. Sun & Chang, 2011 in eight emerging Asian countries; Ramlall, 2009 in Taiwan; Athanasoglou *et al.*, 2008 in Greece; Brissimis, Delis, Papanikolaou, 2008 in ten countries of European union; Wong *et al.*, 2007 in Hong Kong; Lin, Penm, Gong, and Chang, 2005 in Taiwan). However, the emphasis of these studies was on bank performance in terms of physical capital. The exception is El-Bannany (2008). El-Bannany (2008) examines the relationship between the bank riskiness and IC performance of the major UK banks over the period 1999-2005. El-Bannany (2008) finds that bank risk has a positive impact on IC performance of UK banks. This unfamiliar finding may result from its unfamiliar measurement of bank risk (i.e. the percentage of intangible assets to total assets) that lack any support in banking literature.

From the arguments stated above, it is clear that bank riskiness can influence bank performance in terms of IC. Thus, the following hypothesis is proposed:

**H19:** There is a negative relationship between bank risk and bank IC performance.

### **3.5.4 Banking Industry Specific Characteristics**

The fourth proposed element of this research conceptual framework is banking industry specific characteristics. Prior research has shown that IC performance of

banks is possibly influenced by the banking industry characteristics (El-Bannany, 2008). However, a little is known about the impact of banking industry specific characteristics on IC performance since most of the previous studies focused on bank performance in terms of physical and financial capitals and ignore its IC performance (Wong *et al.*, 2007; Athanasoglou *et al.*, 2008; Kosmidou, 2008). This encourages the researcher to examine the element of banking industry specific characteristics that could influence bank performance in terms of IC. This study selects two of banking industry specific characteristics that may be important in determining IC performance: banking industry concentration and presence of foreign banks. The following subsections review the relevant literature on the banking industry concentration and the presence of foreign banks and discuss their potential relationship with IC performance from which the hypotheses about their link to IC performance are developed.

#### **3.5.4.1 Banking Industry Concentration**

The banking industry in GCC countries is characterized as relatively concentrated with very few domestic players dominating the market (Al-Hassan *et al.*, 2010). Industry concentration term refers to the combined market share of the leading firms. Theoretically, there are two competing hypotheses of the relationship between banking industry concentration and bank performance and efficiency: the structural-conduct-performance (SCP) hypothesis and the efficient structure (ES) hypothesis (Naceur & Omran, 2011). Although these two competing hypotheses have used by previous studies to theorize the relationship between banking

industry concentration and bank performance in terms of physical and financial capital, this study extends the application of these two competing hypotheses to explain the potential relationship between banking industry concentration and bank performance in terms of intellectual capital.

The structural-conduct-performance (SCP) hypothesis is based on the idea that there is an inverse relationship between market concentration and competition, stating that the higher the concentration in a market, the lower the competition, providing a theoretical relationship between market structure (concentration) and conduct (competition) (Rezitis, 2010; Abbasoglu *et al.*, 2007; Bikker & Haaf, 2002). The SCP hypothesis assumes that in markets with limited competitors, there is a high probability of explicit or tacit collusion among competitors to extract higher profits (Al-Obaidan, 2008a; Maudos & Guevara, 2007). In the same line, the quiet life hypotheses (QL) posits that banks that work in a market with higher concentration, and thus low competition, are less efficient since increased concentration leads to a relaxed banking environment with no incentives to improve efficiency and performance (Al-Muharrami & Matthews, 2009; Delis & Papanikolaou, 2009; Al-Obaidan, 2008a; Maudos & Guevara, 2007).

According to Goddard and Wilson (2009), the absence of competition on the part of banks has far-reaching implications for productive efficiency, consumer welfare, and economic growth. Therefore, based on the structural-conduct-performance (SCP) hypothesis and the quiet life hypotheses (QL), it is reasonable to expect that banking industry concentration may influence bank IC performance because of its supposed impact on competition. The link between competition and

IC development is recognized in IC literature (Rudez, 2006). According to Campbell and Rahman (2010), the intense competition among firms in new globalized knowledge-based economy enforces firms to exercise more efforts for developing their IC that becomes the critical factor in creating firm value and sustainable competitive advantage.

Therefore, it is reasonable to expect that under the low competitive pressure in concentrated markets, banks will have less incentives to develop IC because of the large expenditures that are required to invest in resources underlying IC and the high level of risk and uncertainty that surround such investments (Ho & Williams, 2003; Edvinsson & Malone, 1997; Brooking, 1996) leading to reduced IC performance. It is argued that the incentive to invent and introduce new products and services is greater in more competitive (less concentrated) industries as firms seek to create market niches in the product space, predicting that market concentration is inversely related with innovation, R&D investment, and product variety (Voinea, 2008; Bhattacharya & Innes, 2007).

The quiet life that arises from the low competitive pressure in concentrated markets might lead managers to be inefficient and uninterested in innovation. Viscusi *et al.* (2005) as cited by Voinea (2008) argue that in a monopoly industry (i.e. concentrated industry) a monopolist firm is less stimulated to innovate because by doing so it replaces itself, while a competitive firm is more stimulated to innovate because by doing so it becomes a monopoly. There are several studies that supported the argument that higher market concentration reduces innovation and leads to lesser R&D intensity (Voinea, 2008; Medvedev &



Zemplinerova, 2005; Geroski, 1990). Lower innovation and R&D spending have negative implications on IC performance since innovation affects the stock of intangibles and facilitates the development of IC (Marques *et al.*, 2006).

Moreover, prior research asserts that efforts of managers to satisfy their customers and develop the quality of their services and products is associated with the rapidly changing and highly competitive environment which banks are forced to operate within and that push them to rethink their attitudes towards customer satisfaction (see, for example, Arasli, Smadi, and Katircioglu, 2005; Wang, Lo, and Hui, 2003). Therefore, it is reasonable to expect that under low competitive pressures in concentrated markets, managers are more likely to lessen their efforts to satisfy their customers and less interested to provide them with better services and products. This ultimately may damage bank-customer relationship and erode customer loyalty, leading to low IC performance. Berger and Hannan (1998) stress that previous studies found a negative relationship between service quality and market concentration. They argue that bank concentration and other impediments to competition create an environment that affects bank conduct and performance unfavorably from a social viewpoint.

On the other hand, the efficient structure (ES) hypothesis argues that the degree of market concentration will not necessarily result in anti-competitive bank performance. Rather, it should be considered a consequence of the superior efficiency of banks (Berger, 1995). Consequently, banks that operate more efficiently may adopt internal and/or external growth strategies. Therefore, the most efficient banks may gain market share and may be the driving force behind

the process of market concentration. Hence, greater market concentration is not necessarily a consequence of the collusive behavior of banks, or a consequence of impaired competition in banking markets (Rettab *et al.*, 2010; Al- Obaidan, 2008a).

Consistent with the arguments of the efficient structure (ES) hypothesis, contestability theory of industrial organization also suggests that a high level of concentration does not imply a lack of competition (Abdul Majid & Sufian, 1992). Contestability theory states that there are situations where a perfect competition outcome is ensured simply through both free entry into and free exit from the industry, regardless of the number of incumbent firms, since potential competition is able to reduce or even remove any monopoly power (Abdul Majid & Sufian, 1992).

Therefore, based on efficient structure (ES) hypothesis, efficient banks (i.e. those with superior management and production technologies that translate into higher profits) are more likely to focus on enhancing efficiency of value creation activities such as IC performance which is regarded as a source for long-term value creation for a bank. Such efficient banks are more likely to invest abnormal profits which are caused by higher efficiency in innovation activities such as R&D. According to Schumpeter (1942) as cited by Sandulli, Menendez, Duarte, and Sanchez (2012), firms that operate in a concentrated market structure are likely to invest more in innovation activities such as R&D than firms operating in a more competitive environment. This is because market concentration reduces market uncertainty and provides the cash flow required to engage in costly and

risky innovation projects (Sandulli *et al.*, 2012). The abnormal profits that are obtained by monopolists in concentrated markets may provide the incentives for them to engage in innovation and R&D activities since they are in a better position to undertake internal financing of innovation than a firm deriving its profits from normal operations (Subodh, 2002). Consequently, IC performance could be enhanced since innovation affects the stock of intangibles and facilitates the development of IC (Marques *et al.*, 2006).

Bhattacharya and Innes (2007), Weiss (2005), Gayle (2001) all support the argument that higher market concentration leads to higher R&D intensity. For example, Bhattacharya and Innes (2007) find a positive relationship between market concentration and new product introductions and product variety. They assert that abnormal profits which derived from market concentration might help firms to introduce new products and product variety which meet consumers' preference for variety. This ultimately may lead to enhanced bank-customer relationship and customer loyalty, thus an increase in IC performance.

In terms of human resources, it is argued that monopolists have more resources which help them to hire the most skilled and qualified people (Gayle, 2001) which in turn could enhance human capital performance. As discussed earlier, it also seems to argue that abnormal profits which are caused by higher efficiency may encourage efficient banks to engage more in social responsibility programs that enhance firm reputation and satisfy stakeholders' expectations (Hammond and Slocum, 1996). Consequently, banks' relational capital performance could be enhanced.

Empirically, neither competing hypotheses receive robust or convincing empirical support. Out of the 44 studies on the banking industry reviewed by Gilbert, 32 studies were found to support the structural-conduct-performance (SCP) hypothesis (Gilbert, 1984). Among the recent studies which support the argument of the SCP hypothesis and the quiet life hypotheses, are Rezitis (2010), Delis and Papanikolaou (2009), Sathye (2001) and Berger and Hannan (1998). These studies find a negative relationship between banking industry concentration and bank performance in terms of efficiency providing strong support of the quiet life hypotheses. However, the alternative hypothesis of efficient structure also finds a strong support by several empirical studies such as Park and Weber (2006), Maudos (1998) and Goldberg and Rai (1996).

In the context of the GCC banking industry, empirical evidence supports the efficient structure (ES) hypothesis and contestability theory. Al-Obaidan (2008a) finds that higher concentration ratio is associated with higher efficiency in the commercial banking industry of the GCC markets. He shows that concentration in GCC banking industry need not be considered a reflection of the collusive behavior of banks, but a consequence of the superior efficiency of banks. Naceur and Omran (2011) also present similar evidence on the impact of banking industry concentration on bank efficiency for a sample of MENA countries which include GCC countries over the period of 1988–2005. Similarly, Rettab *et al.* (2010) assert that their results does not support SCP paradigm and no evidence of the collusive behavior of banks is found in the GCC banking market. Instead, Rettab

*et al.* (2010) state that the performance of GCC banks is driven by efficiency considerations.

In the same vein, the study of Haskour, Abdulqader and Zeitun (2011) provides evidence that greater concentration of GCC banking industry should not be a concern since banks have not contributed to market power edge. In the same line, Muharrami and Matthews (2009) observe a little evidence that banks in the more concentrated GCC markets exhibit lower efficiency, thus not supporting the Quiet Life hypothesis. The study of Al-Muharrami (2008) also finds that although Kuwaiti banking industry is moderately concentrated, Kuwait banks operate under perfect competition. This implies that competition and concentration should not go in opposite directions in Kuwait. The same can be expected in other GCC countries due to the common characteristics of the banking industry in these countries.

Based on the GCC evidence which is consistent with efficient structure (ES) hypothesis, the following hypothesis is proposed:

**H20:** There is a positive relationship between banking industry concentration and bank IC performance.

#### **3.5.4.2 Presence of Foreign Banks**

All GCC countries have acceded to the World Trade Organization (WTO). In line with the WTO accession requirements, GCC countries have implemented a series of procedures to liberalize their financial markets and reduce barriers to foreign

entry to its banking sectors (Al-Obaidan, 2008a; Ghanem *et al.* 2002). The liberalization allows foreign banks to establish branches and subsidiaries in GCC countries. Consequently, according to reports issued by the central banks in the GCC countries, the size of foreign bank subsidiaries in GCC countries reached to 92 branches in 2010. According to Turk-Ariss (2009), foreign banks in GCC countries are competing with domestic banks in different segments of the industry and creating competitive pressures on domestic banks. The domestic banks have to compete with large, financially strong global banks with broader product offerings, high-quality and skilled personnel, and a greater capacity to take risks.

Theoretically, it is argued that the presence of foreign banks leads to improved performance of domestic banks through spillovers of knowledge from foreign banks to domestic banks or increase the competition in the domestic banking sector (Fries & Taci, 2005; Goldberg, 2007; Claessens *et al.*, 2001). It is argued that the presence of foreign banks is associated with the bringing in new of technology and the introduction of new processes, new managerial skills, and new marketing and risk management techniques to the banking industry of the host countries (Aysan & Ceyhan, 2008; Fries & Taci, 2005; Goldberg, 2007; Claessens *et al.*, 2001).

Over time, domestic banks may resort to copying technologies and techniques of foreign banks operating in the domestic market and adopt similar production techniques to those of foreign banks either by observation or hiring skilled workers trained by foreign banks (Nicolini & Resmini, 2010; Chakraborty & Nunnenkamp, 2008; Javorcik, 2004). These advanced technologies, techniques,

skills, and management practices can lead to improved operating efficiency of domestic banks (Goldberg, 2007; Claessens *et al.*, 2001).

In addition to knowledge spillovers, the presence of foreign banks may serve as an effective competitive force, compelling domestic banks to update their production technologies and techniques to improve their cost efficiency (see for example, Fachada, 2008; Fries & Taci 2005; Goldberg 2007; Hasan & Marton, 2003; Claessens *et al.*, 2001). According to Goldberg (2007), the presence of foreign banks helps to reduce the monopolistic excesses of domestic banks through changing the competitive structure of the banking industry, and enforcing domestic banks to increase their efficiency.

Prior research has provided empirical support that greater presence of foreign banks improves the efficiency of the domestic banks (see, for example, Fachada (2008) in Brazil, Claeys and Hainz (2006) in ten Eastern European countries, Fries and Taci (2005) in 15 East European countries, Bhaumik and Piesse (2004) in India, Hasan and Marton (2003) in Hungary, Unite and Sullivan (2003) in Philippine, Denizler (2002) in Turkey, Claessens *et al.* (2001) in eighty developed and developing countries). However, the emphasis of these studies was on bank performance in terms of physical capital, ignoring its IC performance.

Based on the above argument, this study argues that the presence of foreign banks can also help to develop IC performance of domestic banks either by spillover of knowledge or enhancing the competition. The knowledge spillover from foreign banks to domestic banks in terms of new and advanced technologies, processes,

managerial skills, in addition to hiring skilled workers trained by foreign banks can lead to improved IC performance of domestic banks in terms of human capital, customer capital and organizational capital. Furthermore, the new marketing techniques and new products and services that are incorporated from foreign banks may help domestic banks to develop new consumer and advertising policies to attract new profitable customers and meet higher demands for more complex services from domestic customers. This ultimately will help to improve customer capital performance, one component of IC.

In addition to knowledge spillovers, this study argues that the competitive pressures from foreign banks may force domestic banks to focus on improving its IC performance through increased investments in resources underlying IC such as human resources development, technology, and R&D expenditures. This argument is consistent with quiet life hypothesis which views that the increase in competitive pressures that result from the presence of foreign banks may force domestic bank managers to give up their sheltered "quiet life" and use resources more efficiently and adopt new technologies to maintain their market shares (Nicolini & Resmini, 2010; Berger & Hannan 1998).

Prior research asserts that the presence of foreign banks instigated domestic banks to carry out several initiatives to improve their staff performance, banking technology, and customer relationships (Denizer, 2000; Montreevat, 2000) which ultimately will lead to improved IC performance. For example, Montreevat (2000) find that the domestic banks in Thailand conducted several initiatives focusing on introducing new banking products/services, share resources, particularly in e-



banking, know-how, customer information and staff training, aiming at cutting costs and boosting efficiency in the face of foreign competition. It is clear that all these initiatives can help improve IC performance of Thai domestic banks. In the same vein, Denizer (2000) asserts that the presence of foreign banks in Turkey contributes to the domestic financial sector's development in various ways, especially in human capital.

The increase in competitive pressures is expected to enforce domestic banks to exert greater focus on innovation and encourage bank staff to innovate and create new ideas to provide new products and services that help banks to satisfy their customer base and attract new ones. Ayyagari *et al.* (2011) find that facing competition pressures from foreign firms is positively associated with greater innovative activities and introducing new products and technology. This may lead to enhance bank IC performance since innovation affects the stock of intangibles and facilitate the development of IC (Marques *et al.*, 2006). Moreover, satisfied customers would lead to increased customer capital performance, a component of IC.

In addition, it can be argued that the presence of foreign banks will enforce domestic banks to raise wages of their employees to be equal or close to their foreign counterparts that are usually higher. This is expected to increase employee satisfaction and loyalty that reflect itself in increasing their innovative ability and firms' ability to retain and attract talent and skilled employees (Nnanna, 2009; Ambrose *et al.*, 2008; Jong & Harlog, 2007; Valentine *et al.*, 2006; Shafer, 2002). Prior research has shown also that employees' satisfaction enhances firm

reputation (Cravens & Oliver, 2006), and its relationships with customers (Wangenheim *et al.*, 2007; Malhotra & Mukherjee, 2004). This will improve IC performance.

Based on the arguments above, it is clear that the presence of foreign banks can influence intellectual capital performance of domestic banks. Thus, the following hypothesis is proposed:

**H21:** There is a positive relationship between the presence of foreign banks and bank IC performance.

### **3.5.5 Macroeconomic Environment (Economic Growth)**

The macroeconomic environment is largely considered to have an impact on the performance of banks (Al-Khouri, 2011; Davydenko, 2010; Laeven & Levine, 2009; Maudos & de Guevara, 2007). According to Gropp and Heider (2009), macroeconomic effects may be more important for banks than for other firms, because banks' exposure to business cycle fluctuations may be larger than for other firms. It has been argued that the economic growth of a country has a crucial effect on numerous factors related to the supply and demand for loans and deposits, and bank risk which in turn affect bank behavior and its performance (Al-Khouri, 2011; Christopher & Bamidele, 2009; Foos, 2009). According to Davydenko (2010), the banking sector is considered as sensitive to the changes in the overall economic activity.

Empirical research on the association between economic growth and bank performance in both developed and developing countries has been well-documented. For example, Said and Tumin (2011), Davydenko (2010), Kosmidou (2008), Pasiouras and Kosmidou (2007), all find that economic growth has a positive impact on bank performance. Although the emphasis of such previous studies was on bank performance in terms of physical and financial capitals, this study, however, argues that the economic growth could affect bank performance in terms of IC in a number of ways.

Prior research documented that banks adjust their behavior in response to the performance of the whole economy which affects the quality, quantity, and price of financial services ultimately available to bank customers (Al-Khouri, 2011; Staikouras and Wood, 2004). For example, studies have shown that banks adjust their lending behavior in response to the performance of the whole economy (Talavera, Tsapin, and Zholud, 2007). According to Talavera *et al.* (2007), bank loan portfolio including volume, tenor and structure become more flexible during periods of boom and banks tend to make out more loans and curtail lending when the economy is in recession. Hence, it is reasonable to argue that in periods of high economic growth, banks' flexible credit policy is likely to improve and maintain better relationships with its customers, who increase their demand for credit in boom periods, and create high levels of satisfaction among them. Thus, IC performance is expected to increase and vice versa.

The high demand for and easy access to credit as well as lower probabilities of individual and corporate default during boom periods (Al-Smadi, 2011;

Athanasoglou *et al.*, 2008) are expected to improve the financial position of a bank and enhance its financial performance. As highlighted earlier, high-performing banks are more able to engage into activities that could enhance IC performance such as social responsibility programs (Hammond & Slocum, 1996; Fombrun & Shanley, 1990), R&D activities, and advanced training of employees. Consequently, IC performance will increase.

During high economic growth periods, bank exposure to default risk is low (Al-Khouri, 2011) leading the directors to focus on long-term value maximization activities such as R&D spending and staff innovation. Thus, IC performance could be enhanced.

Thus, based on the discussion above, a positive association between economic growth and IC performance is expected. Hence, the following hypothesis is proposed:

**H22:** There is a positive relationship between economic growth and bank IC performance.

### **3.5.6 Control Variable (Bank Size)**

Control variable, i.e. bank size is also included in the analysis. This variable is included as it is identified by the literature as relevant to IC performance (Joshi *et al.*, 2011; Abidin *et al.*, 2009; Swartz & Firer, 2005; Ho & Williams, 2003)

### **3.6 Theoretical Framework**

Figure 4.1 is a framework that shows the relationship between dependent and independent variables, including the moderator variable. Based on the factors specified in the preceding sections and subsections, five groups of variables (board diversity, ownership structure, bank specific characteristics, banking industry specific characteristics, and macroeconomic environment) are linked with banks' IC performance, in addition to the controlling variable. The frequency of board meetings is suggested to moderate the relationship between board diversity and IC performance.

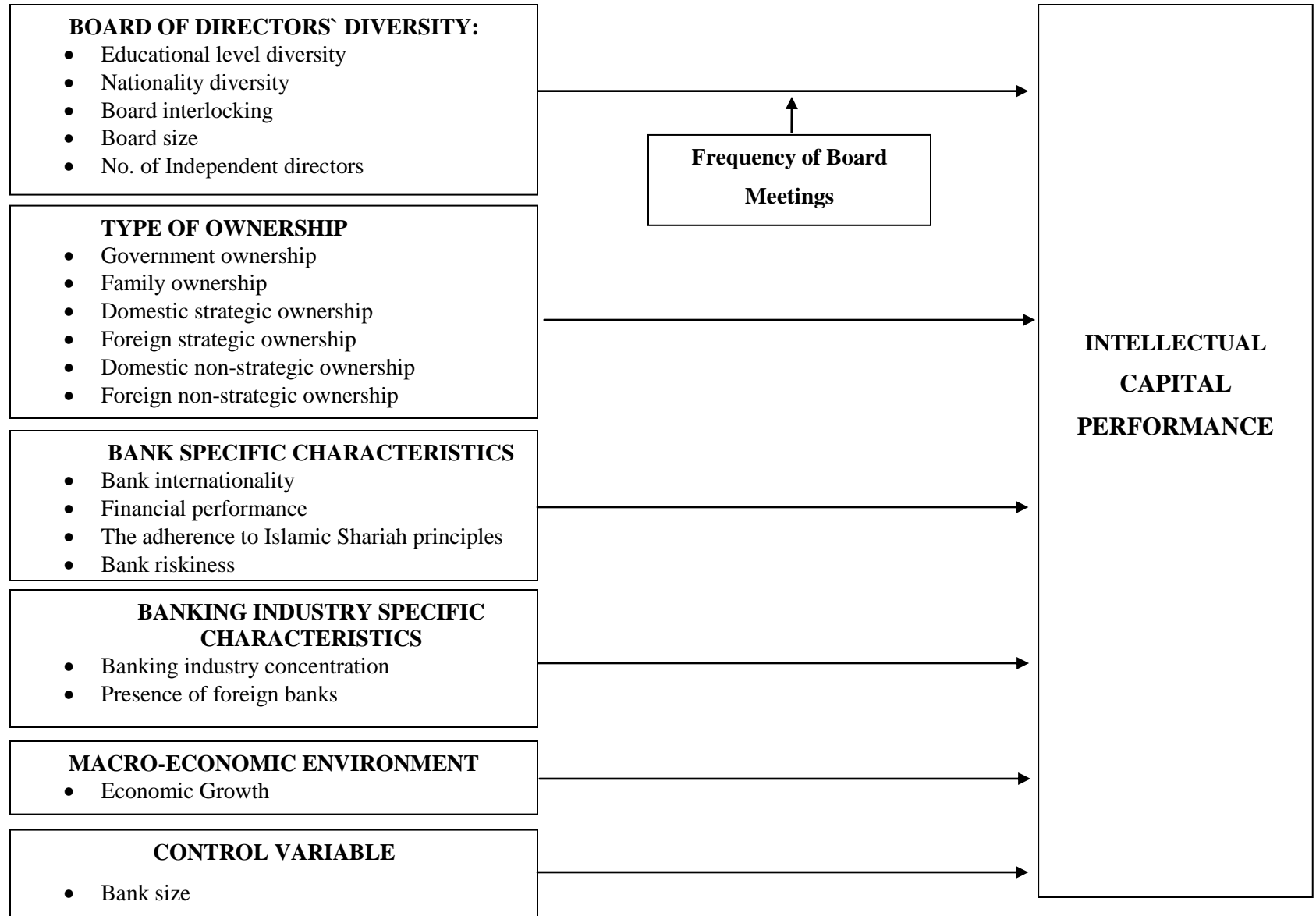


Figure 3-1  
Theoretical Framework

### **3.7 Summary**

In this chapter, a comprehensive explanation of literature reviews of IC and related theories are provided. This chapter identifies the research study model and develops research hypotheses that underlie this research study. The relationship between most of the variables included in this study and firm performance has been tested by previous studies. However, previous studies measured firm performance in terms of physical and financial capitals, but not intellectual capital which is now the pivotal factor of a firm's future wealth-creation. In this chapter, an intensive review of relevant literature is provided, and from which hypotheses about the relationship between independent variables, moderating variable, and IC performance are developed. The next chapter explains about research methodology.

## **CHAPTER FOUR RESEARCH METHODOLOGY**

### **4.1 Introduction**

This chapter explains the process of how the sample is gathered, how the study variables are measured and analyzed to examine the hypotheses developed. In order to meet the research objectives, this study uses secondary data available from annual reports of GCC banks and reports issued by central banks in GCC countries and international organizations such as the International Monetary Fund (IMF). Section 4.2 presents how the sample is selected. Sections 4.3 to 4.6 explain how the variables are measured. Section 4.7 discusses the statistical analysis used in order to test the hypotheses. The chapter ends with a summary in Section 4.8.

### **4.2 Sample Selection**

The sample frame comprises of all listed banks in GCC countries (Bahrain, Saudi Arabia, Qatar, Kuwait, Oman and the United Arab Emirates) during the period 2008-2010. Based on the 2010 annual reports issued by the central banks in the GCC countries, the GCC banking sector consists of about 208 banks, of which 116 are locally owned by these countries (71 banks of them are listed in GCC stock markets in 2010) and 92 are foreign-owned banks from Europe, the USA, and Asia.

Since this study aims to investigate IC performance of GCC banks, only banks that are owned by GCC countries and listed on the GCC stock markets in 2008, 2009 and 2010 are selected. The concentration is on listed GCC banks because the



data of listed banks on the GCC stock exchange markets is thought to be more reliable. Furthermore, listed banks are investigated because they involve the public accountability with regards to the performance (Saleh *et al.*, 2009). Meanwhile, foreign banks have been excluded due to their different styles of operation and management. The annual reports of years 2008, 2009 and 2010 were chosen because they are relatively more recent. Initially, there are 210 bank-years: 68 in 2008, 71 in 2009 and 71 in 2010. Due to inaccessibility of some of the annual reports and incomplete data in some, the final sample consists of 128 bank-years, distributed as in table 4.1

Table 4.1  
*Numbers and Types of GCC Banks Included in this Study*

<b>Country</b>	<b>Conventional banks</b>	<b>Islamic bank</b>	<b>Total</b>	<b>The actual number of banks</b>
<b>Bahrain</b>	23	13	36	39
<b>Kuwait</b>	0	0	0	27
<b>Oman</b>	17	0	17	18
<b>Qatar</b>	9	6	15	24
<b>Saudi Arabia</b>	20	5	25	33
<b>UAE</b>	23	12	35	69
<b>Total</b>	92	36	128	210

As it is clear from Table 4.1, all Kuwaiti listed banks (27 bank-years) are excluded from the sample due to missing relevant information. Out of the 128 observations: 43 are from 2008, 44 are from 2009, and 41 are from 2010.

Financial data and those of study variables are compiled manually from the (i) banks' annual reports of 2008 to 2010, which are available on the GCC stock exchanges websites, (ii) the reports issued by the central banks in the GCC countries for the same period, and (iii) the reports issued by international organizations such as International Monetary Fund (IMF). IC performance data are collected from income statement and balance sheet that are included in the annual reports. Data pertaining to board of directors' diversity, frequency of board meetings, ownership structure, and bank specific characteristics are collected manually by examining the disclosures made in the annual reports and information available on banks' websites. Since data about board interlocking is not provided directly in any of these resources, the researcher creates a dataset by listing the names of all directors and their affiliated companies, sorting the data by name and count the number of directorships held by each director. Data pertaining to industry characteristics are manually extracted from the reports issued by the central banks and information available on their websites. Data pertaining to macroeconomic variable (i.e. real GDP growth rate) is manually extracted from the reports issued by International Monetary Fund (IMF).

#### **4.3 Measurement of Dependent Variable: IC Performance**

To measure IC performance, this study applies value added intellectual coefficient (VAIC) method developed by Pulic (1998), an instrument used by many researchers to measure IC performance (see e.g. Latif *et al.*, 2012; Wang, 2011; Joshi *et al.*, 2010; Abidin *et al.*, 2009; Chan, 2009; Kamath, 2007; Kujansivu &

Lonqvist, 2007; Tan *et al.*, 2007; Yalama & Coskun, 2007; Chen *et al.*, 2005; Goh, 2005; Ho & Williams, 2003). VAIC is suggested as the most appropriate method to measure IC performance of any organization (Joshi *et al.*, 2010; Zeghal & Maaloul, 2010; Kamath, 2007).

A review of the literature supports the use of the VAIC approach for measuring IC performance in the banking sector (see e.g. Ahuja & Ahuja, 2012; Abdul Salam *et al.*, 2011; Ku Ismail & Abdul Karem, 2011; Johshi *et al.*, 2010; Ting & Lean, 2009; Kamath, 2007; Yalama & Coskun, 2007; Goh, 2005; Mavridis & Kyrmizoglou, 2005; Mavridis, 2004; Pulic, 2002; Pulic & Bornemann, 2001). This method is very important because it allows us to measure the contribution of both tangible (physical and financial) and intellectual (human and structural) resources to create value added (VA) by the firm. Algebraically, VAIC is the total sum of the value creation efficiency a business unit's capital employed (physical and financial) and two major components of IC (namely human capital and structural capital), expressed as follows:

$$VAIC = CEE + HCE + SCE \quad (4.1)$$

Where, CEE is an indicator of Value Added efficiency of capital employed; HCE is an indicator of Value Added efficiency of human capital; SCE is an indicator of Value Added efficiency of structural capital. The calculation of the CEE, HCE and SCE follows a number of different steps. The first step is to calculate the firm's ability to create value added (VA). The value added (VA) is calculated as follows:

$$VA = OUTPUT - INPUT \quad (4.2)$$

Output refers to gross income or the total of all income/revenue generated during the fiscal year by an organization by selling its goods or services. Input includes operating expenses excluding personal costs. Input refers to all the costs that are incurred by the organization towards purchase of inputs for operating and continuing the business. Here, the employees' compensation and other costs incurred on them for training and development (that is called personal costs) would be deducted from total expenses for the simple reason that they would be treated as investments and not expenditure (Pulic, 2004). Pulic (1998 and 2004) argues that in knowledge-based economy, employees are becoming the main element of value creation; hence, the expenditures on employees deserve to be described as an investment instead of cost.

The second step is to calculate the Value Added efficiency of human capital (HCE) by dividing the total value added over human capital.

$$HCE = VA \div HC \quad (4.3)$$

HCE is expressed as the amount of value-added generated per monetary unit invested in employees. According to Pulic (2004), employee costs are considered as an indicator of HC. As stated earlier, these expenses are no longer part of the inputs. This means that expenses related to employees are not treated as a cost but as an investment. Thus, the relation between VA and HC indicates the ability of HC to create value in a company.

The third step is to calculate the value added efficiency of structural capital that shows the contribution of structural capital in value creation by dividing the structural capital over the total value added.

$$SCE = SC \div VA \quad (4.4)$$

According to the methodology, structural capital is a result of human capital's past performance (organization, licenses, patents, image, standards, and relationship with customers). Structural capital (SC) may be viewed as a contribution to the value creation process for a given period (Komnenic & Pokrajcic, 2012). Pulic (2004) states that structural capital is obtained when HC is deducted from VA (i.e.  $SC = VA - HC$ ). As this equation indicates, this form of capital is not an independent indicator. Indeed, it is dependent on the created VA and is in reverse proportion to HC. This means that the bigger the share of HC in the created VA, the smaller the share of SC.

The fourth step is to calculate the capital employed efficiency (CEE) by dividing the total value added over capital employed (CE).

$$CEE = VA \div CE \quad (4.5)$$

Capital employed refers to financial and physical capital of a firm (i.e. book value of the net tangible assets of a firm (Pulic, 2004)). CEE is expressed as the amount of value-added generated per monetary unit invested in capital employed. According to Pulic (2004), IC is a dependent variable on physical and financial

capital, i.e. IC alone cannot generate any value. Hence, capital employed cannot be ignored in constructing IC performance index (El-Bannany, 2008).

As mentioned above, VAIC is the sum of the three components of VA efficiency indicators (i.e. HCE, SCE, and CEE). According to Saleh *et al.* (2009), The VAIC score provides a standardized and consistent basis of IC performance measure.

#### **4.4 Measurement of Independent Variables**

This section gives an operational definition of each independent variable identified in the hypotheses. The independent variables are divided into five main components: board of directors' diversity, ownership structure, bank specific characteristics, banking industry specific characteristics, and macroeconomic environment variable.

##### **Board of Directors` Diversity**

##### **Educational Level Diversity**

Educational level diversity is operationalized with Blau's index that has been widely used by previous researchers in top management team and board research (e.g. Talk *et al.*, 2010; Auh & Menguc, 2005 & 2006, Ruigrok *et al.*, 2006; Bantel & Jackson, 1989). Blau's index is described as an ideal measure to capture diversity and variations within a group of people because it meets the four criteria for a good measure of diversity: it varies from a zero point representing no diversity to theoretical maximum of 1. Larger numbers indicate greater diversity.

The index is bounded and assumes that there are no negative values (Miller &

Triana, 2009; Harrison & Klein, 2007). Furthermore, for categorical variables such as educational level diversity, Blau index is suggested as the most suitable measure of diversity for such variables (Bantel & Jackson, 1989).

Educational level diversity is measured using Blau's index by calculating the following mathematical equation:

$$\text{Educational level diversity} = 1 - \sum(P_i)^2 \quad (4.6)$$

Where:

$p$  = the percentage of board members in each educational category.

$i$  = is the number of different educational categories represented on the board.

Consistent with previous studies, the maximum educational level of each board member is identified within four categories: without a bachelor's degree, bachelor's degree, master's degree, and doctoral degree (Kim & Lim, 2010; Talk *et al.*, 2010).

### **Nationality Diversity**

Nationality diversity of board is also measured using Blau's index.

$$\text{Nationality diversity} = 1 - \sum(P_i)^2 \quad (4.7)$$

Where:

$p$  = the percentage of board members in each nationality category.

$i$  = is the number of different nationality categories represented on the board.

This study identifies two categories to capture nationality diversity- locals and foreigners. This measurement is similar to that used by Darmadi (2010) and Ruigrok *et al.*, (2006).

### **Board Interlocking**

Board interlocking is measured as the total number of board seats that each board member holds in other firms and organizations (Wincent *et al.*, 2010; Ong *et al.*, 2003). According to Ong *et al.* (2003), this measure provides an accurate measure of interlocking directorship. 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.

### **Board Size**

Board size is measured as the total number of directors serving on the board. This measurement is similar to that used, among others, by Liang *et al.* (2013), Abidin *et al.* (2009), Chahine (2007), and Ho and Williams (2003).

### **Representation of Independent Directors**

In contrast to the previous studies that measured representation of independent directors as the proportion of independent directors to the total number of board size (Abidin *et al.*, 2009; Ho & Williams, 2003), this study uses the number of



independent directors on the board. Measuring board independence using number of independent directors instead of proportion is viewed as more accurate measure of board independence when independent directors work as providers of resources (Abeysekera, 2010). This is because the number rather than the proportion may effectively capture board independence since the greater the number of independent directors, the greater the number of sources to access and acquire strategic resources, strategic information, and legitimacy.

### **Ownership Structure**

The term ownership structure refers to the major owners of the bank (i.e., blockholders) since ownership of GCC banks is concentrated and involved a large set of blockholders including families, government, and institutional investors (Chahine, 2007). Blockholders are defined as shareholders who own at least 5% of a firm's common shares (Thomsen, Pedersen, and Kvist, 2006). Shareholders with considerable stakes in a company can play an active role in developing a firm's strategies and in shaping the nature of firm's risk taking activity and long-term investments related-decision making. This study, thus, is interested in how the total fraction of shares held by such large owners influences the IC performance of the banks they own. In GCC, information about the number of shareholders is hardly disclosed. However, there is information about the proportion of shares owned by the substantial shareholders (i.e. blockholders) as the GCC stock exchanges require each individual, a corporation or the government that owns 5% or more to disclose their ownership (Al-Shammari, 2008).

### **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 Tian and Estrin (2008), Chahine (2007), Dong (2005), and Gugler (2003).

### **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 is similarly used by Chen and Hsu (2009) and Zahra (2005).

### **Strategic Ownership**

Strategic ownership is defined as the ownership of corporations and other investors from related industry (in this case from the financial industry) in the firm (Chahine & Tohme, 2009, Chahine, 2007; Douma *et al.*, 2006). This definition is based on the assumption that shareholders from the same industry are motivated by strategic goals (Chahine & Tohme, 2009, Chahine, 2007; Douma *et al.*, 2006). Therefore, for the purpose of this study, banks and financial institutions that hold shares in banks are classified as strategic shareholders. According to Chahine (2007), banks are strategic shareholders of banks because they are not necessarily motivated by financial goals. For the purpose of this study, strategic ownership is divided into domestic strategic ownership and

foreign strategic ownership to study the differential impacts of domestic and foreign strategic ownership in IC performance.

Domestic strategic ownership is measured as the aggregate percentage owned by domestic banks and domestic financial institutions who own 5% or more of the ordinary shares. Foreign strategic ownership is measured as the aggregate percentage owned by foreign banks and foreign financial institutions who own 5% or more of the ordinary shares. These measurements are similarly used by Chahine and Tohme (2009) and Chahine (2007).

### **Non-Strategic Ownership**

In contrast to strategic ownership, non-strategic ownership is defined as the ownership of corporations and other investors from unrelated industries in the bank (Chahine, 2007; Douma *et al.*, 2006). This definition is based on the assumption that shareholders from non-related industry are motivated by financial goals (Chahine, 2007; Douma *et al.*, 2006). For the purpose of this study, non-strategic ownership is divided into domestic non-strategic ownership and foreign non-strategic ownership to study the differential impacts of domestic and foreign non-strategic ownership in IC performance.

Domestic non-strategic ownership is measured as the aggregate percentage owned by domestic companies from non-financial industry who own 5% or more of the ordinary shares. Foreign non-strategic ownership is measured as the aggregate percentage owned by foreign companies from non-financial industry who own 5% or more of the ordinary shares. These measurements are used by Chahine (2007).

## **Bank Specific Characteristics**

### **Bank Internationality**

As stated earlier in Chapter three, the term “bank internationality” refers to the geographical presence of banks outside their home country. The international geographical presence of GCC banks includes developing and developed countries (Chahine, 2007). GCC banks, however, do not provide clear information about the number of their subsidiaries per country or the value of foreign assets. Therefore, following Al-Shammari (2008 and 2007) this study uses a dummy variable to measure this variable (i.e. 1 if the bank has at least one foreign subsidiary, 0 otherwise).

### **Financial Performance**

Consistent with the previous studies conducted by El-Bannany (2008) and Chahine (2007) in the banking industry context and Swart and Firer (2005) in non-banking industries, this study uses return on equity (ROE) as a measure of the financial performance of banks. Return on equity (ROE) is calculated as the annual net profit of individual bank before tax divided by average shareholders equity.

### **The Adherence to Islamic Shariah Principles**

This variable is measured by using a dummy variable. The bank will be perceived as adherence to Islamic Shariah principles if it is an Islamic bank giving the value 1 and 0 otherwise. Conventional banks that offer Shariah compliant products and

services to their clients through what is called Islamic windows will score “0” because Islamic windows are not independent financial institutions. Rather they are specialized set-ups within conventional banks (Hoq, Sultana, and Amin, 2010).

### **Bank Riskiness**

This study measures bank riskiness using the bank riskiness index (i.e. Z-score) of each bank. Bank riskiness index (Z-score) is designed by Hannan and Hanweck (1988) to capture the overall risk of a bank. According to Hannan and Hanweck (1988), bank riskiness index (Z-score) provides a comprehensive measure that reflects not only credit risk, liquidity risk but also any other risks that are realized in bank earnings.

Z-score is calculated as follows:

$$\text{Z-score} = (\text{Return on assets} + \text{capital asset ratio}) / \text{the standard deviation of asset returns} \quad (4.8)$$

Where:

Return on assets (ROA) = net profit before tax/average total assets, and

Capital asset ratio = equity/ total assets.

When Z-score is high, this indicates that bank is less risky and more stable (Houston, Lin, Lin, and Ma, 2010; Laeven & Levine, 2009). The risk index as suggested by Hannan and Hanweck (1988) was used by several studies such as

Rachdi and Ben Ameer (2011), Houston *et al.* (2010), Sinha, Taneja, and Gothi (2010), Laeven and Levine (2009), Garcia-Marco and Fernandez (2008), and Bashir (1999). Following previous studies (i.e. Rachdi & Ben Ameer, 2011; Houston *et al.*, 2010; Laeven & Levine, 2009), and because the z-score is highly skewed, this study uses the natural logarithm of the z-score, which is normally distributed.

## **Banking Industry Specific Characteristics**

### **Banking Industry Concentration**

To measure banking industry concentration, this study considers the most frequently applied measure of concentration namely the k-bank concentration ratio (CR<sub>k</sub>) (Haskour *et al.*, 2011; Al-Muharrami, 2008). Simplicity and limited data requirements make the k-bank concentration ratio (CR<sub>k</sub>) the most frequently used measures of concentration in the literature (Bikker & Haff, 2002). Furthermore, according to Al-Muharrami (2008), the k-bank concentration ratio (CR<sub>k</sub>) is a good measure of concentration because it meets the six desirable properties for measures of concentration that is suggested by Hall and Tideman (1967). The properties are: (i) A concentration index should be a one-dimensional measure, (ii) Concentration in an industry should be independent of the size of that industry, (iii) Concentration should increase if the share of any firm is increased at the expense of a smaller firm, (iv) If all firms are divided into K equal parts then the concentration index should be reduced by a proportion 1/K, (v) If all firms are divided into N equal parts then the concentration should be a

decreasing function of N, and (vi) A concentration measure should be between zero and one.

The k-bank concentration ratio (CR<sub>k</sub>) is based on summing only the market shares of the k largest banks in the market, it takes the form:

$$CR_k = \sum_{i=1}^k MS \quad 4.9$$

There is no rule for the determination of the value of k, so that the number of banks included in the concentration index is a somewhat arbitrary decision. The concentration ratio may be considered as one point on the concentration curve, and it is a one-dimensional measure ranging between zero and unity. The index approaches zero for an infinite number of equally sized banks (given that the k chosen for the calculation of the concentration ratio is comparatively small when compared to the total number of banks) and it equals 1 if the banks included in the calculation of the concentration ratio make up the entire industry. As in most studies, including those which are done in GCC, the three-bank concentration ratio (CR<sub>3</sub>) is used to measure the banking industry concentration (Naceur & Omran, 2011; Haskour *et al.*, 2011; Rettab *et al.*, 2010; Al-Muharrami & Matthews, 2009).

### **Presence of Foreign Banks**

Following the literature in foreign bank entry, the presence of foreign banks is measured as the ratio of the number of foreign banks to total number of banks in

the banking system of a country (Bayraktar & Wang, 2004; Claessens *et al.*, 2001).

### **Macroeconomic Environment (Economic Growth)**

Macroeconomic environment, namely economic growth is measured using real gross domestic product growth rate (GDP). GDP is among the most commonly used macroeconomic indicators, as it measures the total economic activity of a country (Said & Tumin, 2011). According to Ramlall (2009), GDP captures movements (upswings and downswings) in the economic activity within a country which manifest themselves in the business cycles. According to Doern and Ziegler (2008), real GDP growth rate is the most important indicator of economic health. Real GDP growth rate is used by several studies to measure macroeconomic environment, namely by economic growth (e.g. Al-Smadi, 2011; Al-Khouri, 2011; Kosmidou, 2008; Maudos & de Guevara, 2007).

### **4.5 Measurement of Moderating Variable**

This study explores the moderating effect of frequency of board meetings on the relationship between board diversity in terms of educational level, nationality, board interlocking, board size, representation of independent directors, and IC performance. Frequency of board meetings is measured as the number of board meetings per year for each bank. This measurement is similar to that adopted by Wincent *et al.* (2010) and Vafeas (1999).



#### **4.6 Measurement of Control Variable (Bank Size)**

Larger banks are expected to have a better IC performance as they are more innovative and they can better afford the large investments that innovation and R&D activities require (Bantel & Jackson, 1989). Consequently, IC performance can be enhanced since innovation increases a firm's stock of intangibles and facilitate the development of IC (Marques *et al.*, 2006). Larger banks are also found to be better able to fund the increase in information technology investments (Whaling, 1996) that constitute one component of IC. Moreover, larger banks tend to be better known to the public and thus, have a relatively better image and reputation (Rose & Thomsen, 2004) that constitute one component of IC.

Bank size is measured as the natural log of total assets of a bank. Logarithm is used to reduce the effect of extremely high and low data values in order to improve the goodness fit of the model (Atan, Zainon, and Wah, 2013). Using total assets to measure bank size is viewed as the best way to measure the organizational size in the banking industry (Bantel & Jackson, 1989). A positive relationship between bank size and IC performance is predicted.

Table 4.2 summarizes the operationalization of the variables used in this study.

Table 4.2:  
*Summary of the Operationalization of the Study Variables*

<b>Variables</b>	<b>Acronym</b>	<b>Operationalization</b>
<b>Dependent Variable:</b>		
IC performance	ICP	Value added efficiency of IC resources (HCE+SCE+CEE)
<b>Independent Variables:</b>		
Educational level diversity	EDLD	Different educational levels represented on a board as measured by Blau`s index
Nationality diversity	NATD	Different nationalities represented on a board as measured by Blau`s index
Board size	BOSIZE	Number of directors serving on the board.
Board interlocking	BILOCK	Total number of board seats held by board member.
Representation of independent directors	INDDIR	Number of independent directors on the board
Government ownership	GOVOWN	The aggregate percentage owned by government who owns 5% or more of the ordinary shares.
Family ownership	FAMOWN	The aggregate percentage owned by family who owns 5% or more of the ordinary shares.
Domestic strategic ownership	DSOWN	The aggregate percentage owned by domestic banks and domestic financial institutions who own 5% or more of the ordinary shares.
Foreign strategic ownership	FSOWN	The aggregate percentage owned by foreign banks and foreign financial institutions who own 5% or more of the ordinary shares.

Table 4.2 (Continued)

<b>Variables</b>	<b>Acronym</b>	<b>Operationalization</b>
Domestic non-strategic ownership	DNSOWN	The aggregate percentage owned by domestic companies from non-financial industry who own 5% or more of the ordinary shares.
Foreign non-strategic ownership	FNSOWN	The aggregate percentage owned by foreign companies from non-financial industry who own 5% or more of the ordinary shares.
Bank internationality	BINTN	Dummy variable with 1 if the bank has at least one foreign subsidiary and 0 otherwise.
Financial performance	FINPER	Annual net profit of individual bank before tax divided by shareholders equity.
The adherence to Islamic Shariah principles	ADISHAR	Dummy variable, 1 if Islamic bank, and 0 otherwise.
Bank riskiness	BANRISK	Measured by Z-score = (Return on assets + capital asset ratio) divided by the standard deviation of asset returns.
Banking industry concentration	BINCONC	Fraction of assets held by the three largest commercial banks in the country.
Presence of foreign banks	PFORBANK	The ratio of the number of foreign banks to the total number of banks in the banking system.
Economic growth	GDPG	The annual rate of GDP growth
<b>Moderator variable:</b>		
Frequency of board meetings	FRMEET	The number of board meetings per year.
<b>Control Variables:</b>		
Bank size	BASIZE	The natural log of total assets of a bank.

#### **4.7 Regression Model**

As highlighted in Chapter one, objectives 2, 4, and 5 of this study are to examine the association between IC performance and board of directors' diversity (namely educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors), ownership structure, (namely government ownership, family ownership, domestic and foreign strategic ownership, and domestic and foreign non-strategic ownership) bank specific characteristics (namely bank internationality, the adherence to Islamic Shariah principles, financial performance, and bank riskiness), banking industry's characteristics (namely banking industry concentration and presence of foreign banks), macroeconomic environment variable namely economic growth, controlling for bank size. The third objective of this study is to examine if the frequency of board meetings moderates the relationship between board diversity (namely educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors) and IC performance.

To achieve the study objectives 2, 4, and 5, this study uses a multiple regression analysis. Multiple hierarchical regression analysis is conducted to test on the moderator and to achieve the third objective of the study. All the data was analyzed using the Statistical Package for Social Science (SPSS) version 18.0 and STATA 8.0.

#### 4.7.1 Multiple Regression Analysis

The following multiple regression model is utilized to determine the extent of the influence of each of the variables in the study on the IC performance:

$$\begin{aligned} \text{ICP} = & \alpha + \beta_1 \text{EDLD} + \beta_2 \text{NATD} + \beta_3 \text{BILOCK} + \beta_4 \text{BOSIZE} + \beta_5 \text{INDDIR} + \\ & \beta_6 \text{GOVOWN} + \beta_7 \text{FAMOWN} + \beta_8 \text{DSOWN} + \beta_9 \text{FSOWN} + \beta_{10} \text{DNSOWN} + \beta_{11} \\ & \text{FNSOWN} + \beta_{12} \text{BINTN} + \beta_{13} \text{FINPER} + \beta_{14} \text{ADISHAR} + \beta_{15} \text{BANRISK} + \beta_{16} \text{BINCONC} \\ & + \beta_{17} \text{PFORBANK} + \beta_{18} \text{GDPG} + \beta_{19} \text{BASIZE} + e \end{aligned}$$

Where:

ICP= intellectual capital performance, EDLD= educational level diversity, NATD= nationality diversity, BILOCK= board interlocking, BOSIZE= board size, INDDIR= representation of independent directors, GOVOWN= government ownership, FAMOWN= family ownership, DSOWN= domestic strategic ownership, FSOWN= foreign strategic ownership, DNSOWN=domestic non-strategic ownership, FNSOWN=foreign non-strategic ownership, BINTN= bank internationality, FINPER= financial performance, ADISHAR= the adherence to Islamic Shariah principles, BANRISK= bank riskiness, BINCONC= banking industry concentration, PFORBANK= presence of foreign banks, FRMEET= frequency of board meetings, GDPG= the annual rate of real GDP growth, BASIZE= bank size, e = error term.

Assumptions of linearity, homoscedasticity, normality, multicollinearity and autocorrelation are also tested in order to confirm that the regression analyses meet the validity requirements.

To achieve the third objective of this study, which is examining if the frequency of board meetings moderates the relationship between board diversity (educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors) and IC performance, controlling for bank size, 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 (bank size) is 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 will be multiplied by the moderator and regressed against the dependent variables.

Only the change in  $R^2$  would indicate that there is a significant moderating effect (Hair, Anderson, Tatham, and Black, 1998). If there is a significant change in  $R^2$  in the last step and an insignificant change in  $R^2$  in the third step the moderator variable is said to be a pure moderator. However, if the changes in  $R^2$  in the third

step and the last step are significant, that moderator is a quasi moderator. Otherwise there is no moderation effect (Chobpien, Haron, and Ibrahim, 2008).

These four models are presented as follows:

Model 1:

$$ICP = \alpha + \beta_1 \text{BASIZE} + e$$

Model 2:

$$ICP = \alpha + \beta_1 \text{BASIZE} + \beta_2 \text{EDLD} + \beta_3 \text{NATD} + \beta_4 \text{BILOCK} + \beta_5 \text{BOSIZE} + \beta_6 \text{INDDIR} + e$$

Model 3:

$$ICP = \alpha + \beta_1 \text{BASIZE} + \beta_2 \text{EDLD} + \beta_3 \text{NATD} + \beta_4 \text{BILOCK} + \beta_5 \text{BOSIZE} + \beta_6 \text{INDDIR} + \beta_7 \text{FRMEET} + e$$

Model 4:

$$ICP = \alpha + \beta_1 \text{BASIZE} + \beta_2 \text{EDLD} + \beta_3 \text{NATD} + \beta_4 \text{BILOCK} + \beta_5 \text{BOSIZE} + \beta_6 \text{INDDIR} + \beta_7 \text{FRMEET} + \beta_8 \text{EDLD} \times \text{FRMEET} + \beta_9 \text{NATD} \times \text{FRMEET} + \beta_{10} \text{BILOCK} \times \text{FRMEET} + \beta_{11} \text{BOSIZE} \times \text{FRMEET} + \beta_{12} \text{INDDIR} \times \text{FRMEET} + e$$

Where, ICP= intellectual capital performance, EDLD= educational level diversity, NATD= nationality diversity, BOSIZE= board size, BILOCK= board

interlocking, INDDIR= presence of independent directors, FRMEET= frequency of board meetings, BASIZE= bank size, e = error term.

#### **4.8 Summary**

This chapter describes methodology used in the study. The sample used comprised of only GCC listed banks over the period 2008 to 2010. The dependent variable is IC performance measured by VAIC, developed by Pulic (1998). The independent variables are: board of directors' diversity (namely educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors), ownership structure, (namely by government ownership, family ownership, domestic and foreign strategic ownership, and domestic and foreign non-strategic ownership) bank specific characteristics (namely bank internationality, the adherence to Islamic Shariah principles, financial performance, and bank riskiness), banking industry's characteristics (namely banking industry concentration and presence of foreign banks), and macroeconomic environment variable, namely economic growth. Bank size is considered as a control factor in testing the relationship. Frequency of board meetings is the moderator variable which is hypothesized to moderate positively the relationship between board of directors' diversity (namely educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors) and IC performance.

To examine whether independent variables have any significant influence on IC performance, multiple linear regression is used. To examine whether the



frequency of board meetings have any moderating effect on the relationship between board of directors' diversity (namely educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors) and IC performance a multiple hierarchical regression analysis is used.

## **CHAPTER FIVE FINDINGS**

### **5.1 Introduction**

This chapter reports and discusses the findings of this study. The chapter is organized as follows: Section 5.2 presents the descriptive statistics of the variables, used in the regression tests and Section 5.3 presents the results of the diagnostic test. Section 5.4 reports the results of the multiple regression analysis, and Section 5.5 presents the results on the moderating effect of the frequency of board meetings using multiple hierarchical regression analysis. Section 5.6 presents the results of several additional analyses to identify the robustness of the earlier tests. Section 5.7 discusses the overall findings of the study. Section 5.8 ends the chapter with a summary.

### **5.2 Descriptive Statistics**

Tables 5.1 to 5.3 present the descriptive statistics of the continuous and dichotomous variables used in the regression tests. As reported in Table 5.1, intellectual capital performance (VAIC) scores for the sample banks varies from -4.28 to 12.10 with a mean of 4.20. The mean score is consistent with those reported by Al-Musalli and Ku Ismail (2011) among UAE domestic listed banks (score of 4.4) for the same period (2008-2010) and Abdul Salam *et al.* (2011) among Kuwaiti banks (score of 4.45) for the pooled data of ten years (1996-2006). However, the average IC performance of the GCC listed banks in this study is low compared to the findings by El-Bannany (2008) for UK banks

(10.80), Goh (2005) for Malaysian banks (7.11), but it is better compared to the findings by Joshi *et al.* (2010) for Australian banks (3.80).

Table 5.1  
*Descriptive Statistics of Continuous Variables*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
IC performance	-4.28	12.10	4.1948	2.67415
Board educational level diversity	0.00	0.69	0.4764	0.15682
Board nationality diversity	0.00	0.50	0.2217	0.19449
Board interlocking	2.00	74.00	28.7031	15.06645
Board size	3.00	13.00	9.1641	1.91462
Number of independent Directors	1.00	10.00	4.7813	2.09212
Frequency of board meetings	3.00	12.00	5.8984	2.06904
Government ownership	0.00	70.48	18.9602	21.53179
Family ownership	0.00	69.98	8.8847	13.26295
Domestic strategic ownership	0.00	99.88	21.0322	27.39763
Foreign strategic ownership	0.00	49.38	6.7322	12.92748
Domestic non-strategic ownership	0.00	24.64	2.4912	5.50426
Financial performance (ROE)	-0.45	0.36	0.1124	0.13834
Bank riskiness	-0.39	2.25	1.2482	0.46019
Banking industry concentration	0.24	0.68	0.4289	0.13619
Presence of foreign banks	0.15	0.49	0.3767	0.12177
GDPG	-3.50	16.40	4.6750	4.55599
Bank size	8.01	10.79	9.8679	0.58686

In terms of board characteristics, educational level diversity scores vary from perfect homogeneity (0) to 0.69, with a mean of 0.47 and a standard deviation of 0.17. This indicates that educational level diversity tends to be moderate on the average. For nationality diversity, the diversity measure varies from 0 to 0.50, with a mean of 0.22 and a standard deviation of 0.19. This indicates that nationality diversity tends to be low on the average. It could be the case that GCC banks are more willing to appoint directors who are similar with respect to nationality, but differ with respect to educational level. In terms of board interlocking, GCC banks have on average 29 interlocking directorates with a maximum value of 74 interlocking directorates. The mean board size of GCC

banks is 9 directors with a minimum of 3 and a maximum of 13 directors. These figures are consistent with figures reported by both Arouri *et al.* (2011) and Chahine (2007) for GCC listed banks. The board size of GCC banks can be regarded as small if compared to board sizes of American, British, Canadian, Spanish, French and Italian banks whose mean board size is 15 or 17 directors (Adams & Mehran, 2012; Andres & Vallelado, 2008).

GCC banks on average have five independent directors on the board comprising on the average 53 percent of total board size. This indicates that there is a balance between insiders and independent directors. Further analysis shows that 85 percent of the GCC banks meet the recommendation of the corporate governance codes in their countries to have at least one third of the board comprising independent directors. Representation of independent directors in GCC banks is however small if compared to the representation of independent directors of American, British, Canadian, Spanish, French and Italian banks with independent directors accounting on average from 67% to 79% of directors (Belkhir, 2009; Adams & Mehran, 2012; Andres & Vallelado, 2008).

Turning to the moderator variable “frequency of board meetings”, the results shown in Table 5.1 indicate that the sampled GCC banks held between 3 to 12 meetings in a year, with a mean and standard deviation 5.89 and 2.07, respectively. The average number of meetings is lower than figures reported for American, British, Canadian, Spanish, French and Italian banks which held on average 10.45 meetings (Andres & Vallelado, 2008). Eighty eight (88) percent of the sample GCC banks complied with the requirements of the corporate

governance codes in their countries to hold a minimum of four board meetings a year. Only 5.8 percent of the sampled GCC banks met ten to twelve times per year which is in line with best practice followed by European banks (OECD, 2009).

In terms of ownership structure, Table 5.1 shows that the percentage of governmental shareholdings for the sample ranges from zero to 70.48 percent, with an average shareholding of about 18.96 percent. This average is smaller than the figure reported by Chahine (2007) for GCC banks for the period 2002 to 2004. Chahine (2007) reports an average of 26.45 percent of government ownership in GCC commercial banks (excluding Islamic banks). Therefore, the lower average of governmental ownership found in this study compared to prior research could be contributed to different sample characteristics. The percentage of family shareholdings for the sample ranges from zero to 69.98 percent, with an average shareholding of about 8.88 percent. This average is smaller than the figure reported by Chahine (2007) for GCC listed banks for the period 2002 to 2004, which is 10.55 percent. Similar to governmental ownership, the lower average of family ownership found in this study compared to prior research could be attributed to different sample characteristics.

As depicted in Table 5.1, there is a clear evidence of a high institutional ownership in GCC banks. This is consistent with a recent study of Arouri *et al.* (2011) which reports that GCC listed banks are dominated by a strong presence of institutional ownership in 2008. Most of strategic owners are domestic with an average of 21 percent compared with an average foreign strategic institutional

ownership of only 6.7 percent. This is consistent with a recent study of Zeitun (2012) that foreign ownership in GCC banks is quite small. The low level of foreign ownership is also consistent with La Porta *et al.* (1999) and Klapper and Love (2004) who argue that foreign shareholders act as minority shareholders. Domestic non-strategic shareholding for the sample ranges from 0 to 24.64 percent, with an average shareholding of about 2.49 percent. In this study, due to the low number of GCC banks with foreign non-strategic ownership and because there is no variance in its values, no test has been performed. Therefore, this type of ownership has not been calculated and no comment has been offered on the hypothesis.

With respect to bank specific characteristics, Table 5.1 shows that the sample banks appear to be financially stable as indicated by their Return on Equity (ROE mean of 11.24 percent). The mean log Z-score is 1.248 with a standard deviation of 0.460. These summary statistics are smaller than those reported by Houston *et al.* (2010) and Laeven and Levine (2009) in looking at larger samples across 69 countries and 33 countries respectively. Houston *et al.* (2010) and Laeven and Levine (2009) report mean Z-scores of 3.240 and 2.85, respectively and a standard deviation of 1.086 and 0.99, respectively.

As far as industry characteristics in concerned, the average of banking industry concentration, as measured using concentration ratio (CR3) for the entire three-year period is 42.89 percent. Banking industry in Oman ranked the highest with a concentration ratio (CR3) of 64.33% followed by Qatar (61%), Saudi Arabia (44.33%), UAE (42%), and finally Bahrain (26%). Table 5.1 also shows that the

mean ratio of the number of foreign banks out of the total number of banks for the entire three-year period is 37.67 percent. The scores according to countries are as follows: Bahrain (48%), Oman (47%), UAE (42%), Qatar (28%), and Saudi Arabia (16%). The growth rate of the GCC economies during the period from 2008 to 2010 is on average 4.68 percent. Finally, the natural logarithm of total assets of bank is used as a control variable. The mean value of log of total assets for a GCC bank for the entire three-year period is 9.87 while the standard deviation is 0.587. The maximum value of log of total assets for a GCC bank for the entire three-year period is 10.79 and the minimum is 8.01.

Table 5.2, shows that 25 percent of GCC banks have subsidiaries in international markets such as the US, UK, and France which is similar to the figure reported by Chahine (2007). Table 5.2 also shows that 28 percent of GCC listed banks in this study are Islamic Shariah-adherent banks.

Table 5.2  
*Descriptive Statistics of Dichotomous Variables*

<b>Dichotomous Variables</b>	<b>Yes</b>	<b>No</b>
Bank Internationality	32 (25%)	96 (75%)
Bank adherence to Islamic shariah principles	36 (28%)	92 (72%)

Further analysis of group-wise annual average VAIC scores show that when compared to conventional GCC listed banks, Islamic GCC listed banks have higher levels of IC performance. Table 5.3 presents the group-wise average (mean) scores for the conventional and Islamic banks. As shown in table 5.3, the average VAIC for Islamic GCC listed banks is 4.534 while that for conventional GCC listed banks is 4.062 implying that the efficiency of IC is higher in the

Islamic banks. This evidence is consistent with that reported by the recent study of Latif *et al.* (2012) that the average IC performance of Islamic banks in Pakistan is much better than the IC performance of conventional banks during the period 2006 to 2010.

Table 5.3  
*Average (Mean) VAIC Scores of Conventional and Islamic Banks*

<b>Group</b>	<b>Mean VAIC score</b>
Conventional banks	4.062
Islamic banks	4.534
All	4.20

Table 5.4 presents descriptive statistics of the components of VAIC. The means and standard deviations of CEE (.021; std = 0.0695), HCE (3.44; std = 2.6558), and SCE (.7394; std = 0.5555), suggest that during 2008-2010, the sample banks were generally more efficient in generating value from its human capital rather than physical and structural capitals.

Table 5.4  
*Descriptive Statistics for Human Capital Efficiency (HCE), Capital Employed Efficiency (CEE), Structural Capital Efficiency (SCE), and Value Added Intellectual Coefficient (VAIC)*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std deviation</b>
HCE	-5.37	11.13	3.44	2.6558
SCE	-1.60	4.47	0.7394	0.5555
CEE	-0.70	0.12	0.0210	0.0695
VAIC	-4.28	12.10	4.1948	2.67415

### **5.3 Diagnostic Test**

To ensure the quality of data and before running the multiple regression analysis, there are a number of key assumptions associated with the multiple regression



analysis. These assumptions must be met to guarantee a model in which the actual errors in prediction are as a result of the real absence of a relationship among the variables and not caused by some characteristic of the data not accommodated by the regression procedure (Hair *et al.*, 1998). These assumptions are: normality, multicollinearity, autocorrelation, linearity, and heteroscedasticity (Hair *et al.*, 1998; Gujarati, 1995). All of these assumptions are tested accordingly.

### **5.3.1 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. Normality for each variable may be checked in a number of ways such as using a histogram with normality plot and the kamagorov smiron, skewness and kurtosis value. As kalmagorov smirnov normality test is very sensitive, standard Skewness and kurtosis have been adapted in this study. Following the guidelines of severe nonnormality (i.e. skewness > 3; kurtosis > 10) proposed by Kline (2005), the values in Table 5.5 fall well within the guidelines and could be regarded as fairly normal for further analyses.

Table 5.5  
*Normality Test*

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
IC performance	0.406	0.214	1.798	0.425
Board educational level diversity	-1.724	0.214	3.041	0.425
Board nationality diversity	0.008	0.214	-1.633	0.425
Board interlocking	0.560	0.214	0.080	0.425
Board size	-0.552	0.214	0.668	0.425
Number of independent directors	0.610	0.214	-0.381	0.425
Frequency of board meetings	0.447	0.214	-0.378	0.425
Government ownership	0.941	0.214	-0.443	0.425
Family ownership	2.095	0.214	5.815	0.425
Domestic strategic ownership	1.334	0.214	1.005	0.425
Foreign strategic ownership	1.864	0.214	2.069	0.425
Domestic non-strategic ownership	2.631	0.214	7.033	0.425
Bank internationality	1.168	0.214	-0.645	0.425
Financial performance	-1.748	0.214	4.284	0.425
Bank adherence to Islamic shariah	0.985	0.214	-1.047	0.425
Bank riskiness	-0.704	0.214	0.841	0.425
Banking industry concentration	0.263	0.214	-0.964	0.425
Presence of foreign banks	-0.930	0.214	-0.765	0.425
Economic growth (GDPG)	0.763	0.214	1.633	0.425
Bank size	-0.568	0.214	0.054	0.425

### 5.3.2 Multicollinearity

The situation in which the independent variables are highly correlated among themselves is referred to as multicollinearity (Hair, Bush, and Ortinau, 2006). The existence of multicollinearity is a serious problem in multiple regressions 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 5.6. 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 check for possible multicollinearity is conducted by using 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. Accordingly, the results of standard tests on VIFs in Table 5.7 indicate that there is no multicollinearity problem, as VIFs are below the threshold value of 10.

Table 5.6

*Pearson Correlation*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 IC performance ( ICP)	1																			
2 Board educational level diversity	-.149 <sup>~</sup>	1																		
3 Board nationality diversity	-.223 <sup>~</sup>	.243 <sup>~</sup>	1																	
4 Board interlocking	-.017	-.022	.093	1																
5 Board size	-.080	.245 <sup>~</sup>	.114	.447 <sup>~</sup>	1															
6 Number of independent directors	-.196 <sup>~</sup>	.129	.105	-.310 <sup>~</sup>	.269 <sup>~</sup>	1														
7 Frequency of board meeting	.045	-.086	-.026	.082	.024	.084	1													
8 Government ownership	.085	.142	-.271	-.034	.219 <sup>~</sup>	-.012	.122	1												
9 Family ownership	-.236 <sup>~</sup>	.086	.196 <sup>~</sup>	-.200 <sup>~</sup>	-.094	.308 <sup>~</sup>	-.306 <sup>~</sup>	-.334 <sup>~</sup>	1											
10 Domestic strategic institutional ownership	-.084	.070	.084	.072	-.284 <sup>~</sup>	-.241 <sup>~</sup>	.219 <sup>~</sup>	-.364 <sup>~</sup>	-.288 <sup>~</sup>	1										
11 Foreign strategic institutional ownership	-.186 <sup>~</sup>	.135	.521 <sup>~</sup>	-.109	.353 <sup>~</sup>	.290 <sup>~</sup>	-.168 <sup>~</sup>	-.128	.154 <sup>~</sup>	-.338 <sup>~</sup>	1									
12 Domestic non-strategic institutional ownership	-.106	-.157 <sup>~</sup>	-.166 <sup>~</sup>	-.108	.009	.105	-.156 <sup>~</sup>	-.166 <sup>~</sup>	.282 <sup>~</sup>	-.067	-.035	1								
13 Bank internationality	-.046	-.011	.001	.269 <sup>~</sup>	.310 <sup>~</sup>	-.035	.142	.327 <sup>~</sup>	-.186 <sup>~</sup>	-.262 <sup>~</sup>	.111	-.151 <sup>~</sup>	1							
14 Financial performance	.672 <sup>~</sup>	-.005	-.220 <sup>~</sup>	-.045	.092	.008	-.087	.192 <sup>~</sup>	-.031	-.207 <sup>~</sup>	-.089	-.006	-.148 <sup>~</sup>	1						
15 Bank adherence to Islamic shariah principles	.079	-.052	-.145	.074	.001	-.168 <sup>~</sup>	-.028	-.428 <sup>~</sup>	-.045	.176 <sup>~</sup>	-.056	.101	-.040	-.180 <sup>~</sup>	1					
16 Bank riskiness	.473 <sup>~</sup>	.038	-.052	.028	.147 <sup>~</sup>	.068	.110	.212 <sup>~</sup>	.020	-.102	-.161 <sup>~</sup>	-.001	-.110	.674 <sup>~</sup>	-.309 <sup>~</sup>	1				
17 Banking industry concentration	.430 <sup>~</sup>	.009	-.049	-.285 <sup>~</sup>	.022	.364 <sup>~</sup>	.115	.069	.119	-.194 <sup>~</sup>	-.102	-.153 <sup>~</sup>	-.118	.366 <sup>~</sup>	-.160 <sup>~</sup>	.334 <sup>~</sup>	1			
18 Presence of foreign banks	-.227 <sup>~</sup>	-.067	.041	.407 <sup>~</sup>	-.204 <sup>~</sup>	-.322 <sup>~</sup>	.258 <sup>~</sup>	-.059	-.188 <sup>~</sup>	.301 <sup>~</sup>	-.346 <sup>~</sup>	.044	-.124	-.199 <sup>~</sup>	.033	-.055	-.311 <sup>~</sup>	1		
19 GDPG	.480 <sup>**</sup>	-.152 <sup>*</sup>	-.112	.088	.074	-.088	.275 <sup>**</sup>	-.015	-.167 <sup>*</sup>	.013	-.123	-.155 <sup>*</sup>	.017	.258 <sup>**</sup>	.053	.244 <sup>**</sup>	.337 <sup>**</sup>	-.098	1	
20 Bank size	.247 <sup>~</sup>	-.046	-.091	-.072	.413 <sup>~</sup>	.118	.057	.518 <sup>~</sup>	-.268 <sup>~</sup>	-.439 <sup>~</sup>	.313 <sup>~</sup>	-.031	.362 <sup>~</sup>	.317 <sup>~</sup>	-.180 <sup>~</sup>	.300 <sup>~</sup>	.121	-.448 <sup>~</sup>	.039	1

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

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

Table 5.7  
*The Results of Standard Tests on VIF*

	Collinearity Statistics	
	Tolerance	VIF
Board educational level diversity	0.671	1.491
Board nationality diversity	0.443	2.259
Board interlocking	0.313	3.195
Board size	0.300	3.335
Number of independent directors	0.530	1.885
Government ownership	0.293	3.412
Family ownership	0.417	2.399
Domestic strategic ownership	0.394	2.536
Foreign strategic ownership	0.299	3.346
Domestic non strategic ownership	0.689	1.452
Bank internationality	0.625	1.601
Financial performance	0.422	2.367
Adherence to Islamic Shariah principles	0.583	1.716
Bank riskiness	0.393	2.545
Banking industry concentration	0.496	2.311
Presence of foreign banks	0.433	2.279
Economic growth	0.712	1.405
Bank size	0.305	3.281

### 5.3.3 Linearity

Multiple regression analysis assumes a linear relationship between the dependent variable and the predictor variables. Linearity can be easily examined through residual plots; however this is not considered a scientific approach. Other scholars have proposed different approaches. According to Hair *et al.* (1998), nonlinearity is not a problem if the standard deviation of the dependent variables is more than the standard deviation of the residuals. Table 5.8 shows that the standard deviation of the dependent variables is greater than the standard deviation of the residuals; thus, nonlinearity is not a problem.

Table 5.8  
*The Standard Deviation of IC Performance and the Residuals*

<b>Variable</b>	<b>Obs</b>	<b>Std.Dev.</b>
IC performance	128	2.67
Residuals	128	1.36

### 5.3.4 Heteroscedasticity

Heteroscedasticity or the presence of unequal variance has been described as one of the common violations. Multiple regression analysis assumes that the residuals in a regression specification have equal (homo) spread (scedasticity) or equal variance. Any increase or decrease of the variance is described as heteroscedasticity, which causes problems for the statistical inference in a regression model. There is an imperative need for the homoscedasticity assumption to be tested before accepting the results of a regression analysis. There are graphical and statistical tests to evaluate heteroscedasticity. To detect the existence of heteroscedasticity using graphical tests, residuals from the model were plotted against the predicted value of IC performance and against each explanatory variable to determine whether the error terms of the model had constant variances. The distribution of residuals can be seen from the scatter plot graph as shown in Figure 5.1. Based on the results of the test, it can be observed that the spread of data do not form a certain pattern and the data is spread around the null number. The scatter plot graph indicates that the data used in this study are free from heteroscedasticity (Hair *et al.*, 1998).

To examine the existence of heteroscedasticity statistically, White's test as suggested by Gujarati (1995) is used. This test includes the regression of the square error from the ordinary least square (OLS) regression on the dependent variable in the model. The null hypothesis for the test of variance homogeneity was conducted. The hypotheses will reject if the  $p$ -value exceed 0.05. Tabel 5.9 shows that the heteroskedasticity  $p$ -value exceeds 0.05. Thus, the data used in this study (the whole sample) are free from heteroscedasticity.

Table 5.9  
*White Test for Heteroskedasticity*

Source	chi2	df	P
Heteroskedasticity	128.00	127.00	0.46

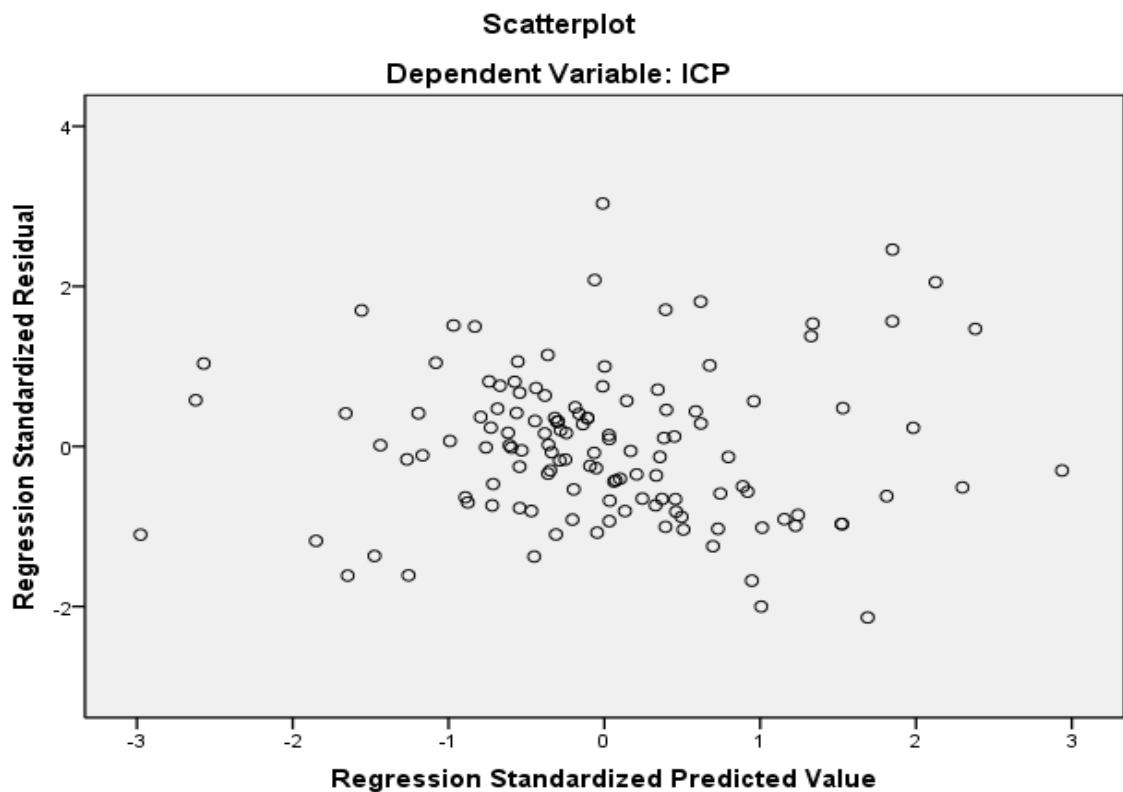


Figure 5-1  
*Graphical test for heteroscedasticity*

### **5.3.5 Autocorrelation**

The autocorrelation function can be used to answer the question of whether the sample data set is generated from a random process. It is expected that the residual terms for any two cases should be uncorrelated (i.e. independent). Autocorrelation is said to exist where residual terms are not independent (Field, 2000).

Durbin-Watson (DW) test is used as a statistical test for detecting autocorrelation. In this regard, Reinard (2006) and Kazmier (1996) state that value of the test statistics can range from 0 to 4.0. Generally, if the value of the statistic is below 1.4, it indicates the existence of a strong positive series of correlation, while a value greater than 2.6 indicates the existence of a strong negative series correlation (Kazmier, 1996). As a rule of thumb, Durbin-Watson should be within the acceptable range of 1.5 to 2.5.

Table 5.10 shows the result of the autocorrelation test, in which the Durbin-Watson value of 2.144 falls in the acceptable range of 1.5 to 2.5, indicating independence of observations.

### **5.3.6 Model Specification**

Omitting other important predictor variables in multiple linear regression model causes a model specification errors (Hair *et al.*, 1998). The estimation of regression coefficient may be affected if specification errors occur. Ramsey regression specification error test for omitted variables is applied to test the null hypothesis that no variable is omitted from the model. Thus, a large significance in p value (more



than 0.05) means that there is no omitted variable from the model. The result of Ramsey test shows p value = 0.41 which is more than 0.05. Therefore no variable is omitted from the model.

#### **5.4 Hypotheses Testing**

In this section, the results of the analysis of the relationship between IC performance (dependent variable) and board of directors' characteristics, ownership structure, bank specific characteristics, banking industry's characteristics, and macroeconomic environment (independent variables) and bank size (a control variable) using a multiple regression technique are presented.

##### **5.4.1 Regression Results**

Table 5.10 summarizes the results from the multiple regression analysis linking board of directors' characteristics, ownership structure, bank specific characteristics, banking industry characteristics, macroeconomic environment, control variable, and IC performance.

The F-value for the pooled data is statistically significant at the 1 percent level. The adjusted  $R^2$  for the combined three-year period is 70.1 percent. The statistics show that the model explains 70.1 percent of the total variance in the IC performance, which is high. According to Gujarati (1995), when determining the fitness of the regression model, the coefficient determination ( $R^2$ ) should have a minimum value of 0.60 (if the model uses time series data) or should have a minimum value of 0.20 (if the model uses cross-sectional data). Since the study model uses time series

data a  $R^2$  of 70.1 is considered sufficiently accurate for predicting the dependent variable.

Although the adjusted  $R^2$  may be considered high, it is lower than those reported by El-Bannany (2008) who investigates the determinants of IC performance in the major UK banks, and Abidin *et al.* (2009) who examine the relationship between board characteristics and IC performance of non-financial Malaysian firms. They reported  $R^2$  of 85 percent and 80.1 percent, respectively. Other studies such as Ho and Williams (2003) and Saleh *et al.* (2009) that test the relationship between corporate governance mechanisms such as board characteristics and ownership structure, however report a lower adjusted  $R^2$ . They reported a  $R^2$  of 40 percent and 48 percent, respectively.

Table 5.10

*Multiple Regression Results- Basic Model*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSOWN + \beta_9 FSOWN + \beta_{10} DNSOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.007	-0.110	0.912
NATD	+	0.071	0.975	0.332
BILOCK	+	0.213	2.460	0.015***
BOSIZE	+	-0.346	-3.902	0.000***
INDDIR	+	-0.132	-1.987	0.049**
GOVOWN	-	0.019	0.213	0.832
FAMOWN	-	-0.277	-3.684	0.000***
DSOWN	+	-0.104	-1.344	0.182*
FSOWN	+	0.008	0.091	0.928
DNSOWN	-	0.080	1.365	0.175*
BINTN	+	0.017	0.274	0.785
FINPER	+	0.451	6.045	0.000***
ADISHAR	+	0.225	3.541	0.001***
BANRISK	-	0.151	1.954	0.053**
BINCONC	+	0.257	3.738	0.000***
PFORBANK	+	-0.267	-3.621	0.000***
GDPG		0.173	3.003	0.003***
BASIZE	+	-0.014	-0.158	0.874
Adjusted R <sup>2</sup>	0.701			
F	17.534			
Sig	0.000			
Durbin-Watson	2.144			

\*p&lt;.10; \*\*p&lt;.05; \*\*\*p&lt;.01.

### **5.4.1.1 Board of Directors' Characteristics and Intellectual Capital Performance**

Table 5.10 reveals that three out of the five characteristics of board of directors are significantly associated with IC performance. The results presented in Table 5.10 show significant associations between board interlocking (INTLCK), board size (BOSIZE), representation of independent directors (INDDIR) and IC performance. Neither board educational level diversity (EDLD) nor board nationality diversity (NATD) was found to be significantly associated with IC performance.

Contradictory to the prediction of the upper echelon theory and resource dependency theory which suggest that greater board educational level diversity is associated with greater IC performance, this study finds an insignificant negative association between board educational level diversity (EDLD) and IC performance ( $t = -0.110$ ,  $P > 0.10$ ). Hence, hypothesis H1 is not supported. The result is however consistent with prior findings by Kim and Lim (2010), Rose (2007) and Certo *et al.* (2006) who find the association between educational level diversity and firm performance (in terms of physical and financial capitals) to be insignificant. Other studies such as Auh and Menguc (2005) also report an insignificant relationship between educational level diversity and innovation.

The relationship between board nationality diversity (NATD) and IC performance is insignificant ( $t = 0.975$ ,  $P > 0.10$ ); thus, hypothesis H2 is not supported. The result is consistent with prior findings by Liang *et al.* (2013), Darmadi (2010), Randoy *et al.*

(2006) and Rose (2007) who find an insignificant association between nationality diversity and firm performance in terms of physical and financial capitals.

Consistent with the expectation, this study finds a positive significant ( $t=2.460$ ,  $P<0.01$ ) association between board interlocking (BILOCK) and IC performance for the pooled data. Hence, hypothesis H3 is supported. The result is in line with resource dependency theory and provides evidence that a high number of board interlocking will provide banks with critical information, ideas and resources that will facilitate IC development and enhance its performance.

Contradictory to the prediction of the resource dependency theory, this study finds a significant negative association between board size (BOSIZE) and IC performance for the pooled data ( $t=-3.902$ ,  $P<0.01$ ). Hence, hypothesis H4 is not supported. This finding suggests that GCC banks with lower board size have higher IC performance. This finding is, however, in contrast with the recent findings by Abidin *et al.* (2009) in Malaysia which suggest that larger boards are significantly and positively associated with IC performance. This finding is also not consistent with that of Ho and Williams (2003), where they conclude that board size does not influence IC performance in South Africa, Sweden and the UK). This study supports the argument by Chahine (2007) who suggests that in GCC banks, less effective communication dominates the marginal benefit of having additional combined expertise provided by larger boards, asserting that boards of directors in GCC banks perform more effectively in a smaller group.

Contradictory to the prediction of the resource dependency theory, this study finds a significant negative association between representation of independent directors (INDDIR) and IC performance ( $t=-1.987$ ,  $P<0.05$ ). Hence, hypothesis H5 is not supported. This finding suggests that banks with lesser independent directors are more likely to have higher IC performance. This finding is opposite to the findings by Abidin *et al.* (2009) and Ho and Williams (2003) with respect to Malaysian and South African firms, respectively. Both studies suggest that there is a significant and positive association between representation of independent directors and IC performance.

#### **5.4.1.2 Ownership Structure and Intellectual Capital Performance**

Regarding governmental ownership (GOVOWN), this study finds the coefficient is not statistically significant ( $t=0.213$ ,  $P>0.10$ ). Hence, hypothesis H11 is not supported. The result is consistent with prior findings by Saleh *et al.* (2009) who found an insignificant association between governmental ownership and IC performance for Malaysian MESDAQ listed companies in years 2005 to 2007.

Interestingly, in the case of family ownership (FAMOWN), this study finds a strong significant negative association between family ownership and IC performance. This suggests that banks with high family ownership are associated with low IC performance. Family ownership is found to be highly significant at the 1 percent level ( $t=-3.684$ ,  $P<0.01$ ). Thus, H12 is supported. This is in line with the notion that the presence of family ownership reduces IC performance, possibly because family owners are risk adverse, and are more concern in extracting wealth for their private

benefits at the expense of minority shareholders (Saleh *et al.*, 2009). The lack of focus by family owners in creating value for the banks would reduce the banks' long term investment in IC, and this will subsequently affect negatively their IC performance. The result of this study is consistent with the prior study by Saleh *et al.* (2009) that reports a negative and significant relationship between family ownership and performance of IC in Malaysia.

Table 5.10 shows that domestic strategic ownership (DSOWN) is negatively associated with IC performance at the 10% level, ( $t=-1.344$ ,  $P<0.10$ , one tail). This finding contradicts the stated hypothesis which expects a positive impact of domestic strategic ownership on IC performance. Hence hypothesis H13a is not supported.

The relationship between foreign strategic ownership (FSOWN) and IC performance is statistically insignificant even at 10% ( $t=0.091$ ,  $P>0.10$ ). This finding is contradictory to the prediction of agency theory and resource based theory. Hence, hypothesis H13b is not supported. The result, however, is consistent with prior findings by Saleh *et al.* (2009) who find an insignificant association between foreign ownership and IC performance in Malaysia. Contradictory to expectations, this study finds a positive relationship between domestic non-strategic ownership and IC performance (DNSOWN), However, the coefficient is statistically significant at 10% ( $t=1.365$   $P<0.10$ , one tail). Hence, hypothesis H15 is not supported.

#### **5.4.1.3 Bank Specific Characteristics and Intellectual Capital Performance**

From the analyses conducted, it is found that among the four bank specific characteristics; three characteristics (bank financial performance (FINPCE), bank adherences to Islamic Shariah principles (ADISHAR), and bank riskiness (BANRISK)) show significant associations with IC performance.

With regards to bank internationality, this study finds that the relationship between bank internationality (BINTN) and IC performance is not statistically significant even at 10% ( $t=0.274$ ,  $P>0.10$ ). Hence, hypothesis H16 is not supported. With regards to bank financial performance, this study finds a positive significant association between bank financial performance as measured by ROE (FINPER) and IC performance ( $t=6.045$ ,  $P<0.01$ ). This result is as predicted and indicates that bank financial performance is positively related to IC performance. Hence, hypothesis H17 is supported. The result is consistent with prior findings by El-Bannany (2008) and Swartz and Firer (2005) who report a positive significant relationship between financial performance as measured by ROE and IC performance.

Consistent with expectations, this study finds a positive significant association between the adherence to Islamic Shariah principles (ADISHAR) and IC performance for the pooled data ( $t=3.541$ ,  $P<0.01$ ). Hence, H18 is supported. This study provides evidence that adherence to Islamic Shariah principles increases IC performance of banks.

With regards to bank riskiness, the regression analysis shows that there is a positive significant relationship between bank riskiness (BANRISK) as measured by Z-score



and IC performance ( $t=1.954$ ,  $P<0.05$ ). Since a higher Z-score indicates that a bank is more stable (less risky), the result of this study suggests that banks with higher Z-scores (low bank riskiness) are associated with greater IC performance. In other words, the findings of this study reveal that there is a negative significant association between bank riskiness and IC performance. Hence, H19 is supported.

#### **5.4.1.4 Banking Industry Specific Characteristics and Intellectual Capital Performance**

With regards to banking industry specific characteristics, the results presented in Table 5.10 show significant associations between banking industry concentration (BINCONC), presence of foreign banks (PFORBANK) and IC performance. Regarding banking industry concentration, this study finds a positive significant association between banking industry concentration (BINCONC) and IC performance ( $t=3.738$ ,  $P<0.01$ ). This result is as predicted and indicates that the level of IC performance is significantly influenced by industry concentration. Hence, H20 is supported.

With respect to the presence of foreign banks variable, this study finds an interesting finding of the relationship between the presence of foreign banks and IC performance. This study finds a significant negative relationship between presence of foreign banks (PFORBANK) and IC performance ( $t= -3.621$ ,  $P<0.01$ ). This result is unexpected as it is predicted that higher presence of foreign banks will lead to higher IC performance of GCC banks. Hence, H21 is not supported.

#### **5.4.1.5 Macroeconomic Environment and Intellectual Capital Performance**

As predicted, the results presented in Table 5.10 show a significant positive association between economic growth as captured by the GDP growth rate (GDPG) and IC performance ( $t=3.003$ ,  $P<0.01$ ). Hence, hypothesis H22 is supported. The result is consistent with prior findings by Said and Tumin (2011), Davydenko (2010), Kosmidou (2008), Pasiouras and Kosmidou (2007), Demircuc-Kunt and Huizinga (2000) who find the association between economic growth and firm performance (in terms of physical and financial capitals) to be positive and significant.

#### **5.4.1.6 Control Variable (bank size) and Intellectual Capital Performance**

With regards to control variable (i.e. bank size), it is expected that larger banks will have better IC performance as they can better afford large investments that innovation and R&D activities require. Furthermore, they have a relatively better image and reputation than smaller banks. However, contradictory to expectations, bank size (BASIZE) does not appear to be significantly associated with IC performance. This finding is however similar to the findings reported by Joshi *et al.* (2010) where they conclude that bank size has no impact on the IC performance of the Australian owned banks. Similarly, Ho and Williams (2003) conclude that firm size is statistically insignificant against IC performance in South Africa, Sweden, and the UK.

## **5.5 Regression Results on the Moderating Effect of Frequency of Board Meetings**

This section examines the moderating effect of frequency of board meetings on the relationship between board of directors diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and IC performance. The results provide the answer to the third question of this study, that is: Does the frequency of board meetings influence the relationship between board diversity (namely educational level diversity, nationality diversity, board interlocking board size, and representation of independent directors) and bank`s IC performance.

Hierarchical regression analysis (also termed as the moderated regression analysis) was conducted to test the moderating effect of frequency of board meetings on the relationship between board of director diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and IC performance. Hierarchical regression analysis is a commonly used technique in indentifying the moderating effects (Kim, Al-Shammari, Kim, and Lee 2008; Auh & Menguc, 2005; Frazier, Tix, and Barron, 2004; Baron & Kenny, 1986). According to Baron and Kenny (1986), hierarchical regression is suggested as a suitable method for determining the moderating effect of a quantitative variable on the relationship between other quantitative variables. In addition to be 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, approach for testing hypothesis about interaction (moderating) effects (Aguinis & Gottfredson, 2010).

To detect moderator effects, interaction terms must be calculated (Aiken and West, 1991). The interaction term is the product of the independent variable and the moderator variable. Interaction terms are typically highly correlated with their component terms and as such, methods should be undertaken to reduce this risk of multicollinearity. In doing so, the predictor and moderator variables were standardized (Aguinis & Gottfredson, 2010; Frazier *et al.*, 2004). Standardizing (i.e., z-scoring) also makes it easier to interpret the effects of the predictor and moderator and help to provide a meaningful interpretation (Aguinis & Gottfredson, 2010; Frazier *et al.*, 2004). After the interaction terms have been created (by multiplying together the z-score of the predictor and moderator variables), everything should be in place to structure a hierarchical multiple regression equation using SPSS to test for moderator effects. To do this, variables are entered into the regression equation through a series of specified blocks or step. The steps used are in accordance with the suggestion by Baron and Kenny (1986) and Frazier *et al.* (2004).

The steps start with the control variable followed with an estimation of the unmoderated equation, then followed by the moderated relationship. As highlighted in chapter 5, 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 third objectives of this study as to examine if frequency of board meetings influences the association between board diversity (namely educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and banks` IC performance.

As shown in Table 5.11 when the bank size is entered as a control variable into the regression model in the first step, coefficient of determination ( $R^2$ ) was found to be 0.061, indicating that 6.1% of the level of IC performance can be explained by the bank size. By adding the independent variables in step 2,  $R^2$  increased to 0.146. This  $R^2$  change (0.085) is significant because F change is significant. This implies the additional of 8.5 percent of variation in IC performance is explained by the board of directors` diversity. The moderator variable was introduced in step 3. However, there is no significant F change. This result indicates there is no major effect from the moderator variable on dependent variable. In the final step when the interaction was entered,  $R^2$  increased from 0.146 to 0.252. This  $R^2$  change (.106) is significant. This indicates that the frequency of board meetings moderates the relationship between board of directors` diversity and IC performance. Because there is a significant change in  $R^2$  in the last step and change in  $R^2$  in the third step is not significant, this means the frequency of board meetings is a pure moderator.

Following Kim *et al.* (2008) and Noor (2010), the beta coefficient for interaction terms has been inspected to determine which characteristic of board diversity characteristics, frequency of board meetings moderates its relationship with IC performance. It is worth to mention that when interpreting the results, it is important

to note that one should interpret the unstandardized beta rather than 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).

Table 5.11  
*The Moderating Effect of Frequency of Board Meetings on the Relationship Between Board Diversity and IC Performance*

<b>Variables</b>	<b>Step1 Control variable</b>	<b>Step 2 Without interaction</b>	<b>Step3 Moderator variable</b>	<b>Step4 With interaction</b>
Bank size	1.125 (2.861)***	1.587 (3.472)***	1.583 (3.441)***	1.533 (3.436)***
Educational level diversity		-0.078 (-0.283)	-0.075 (-0.270)	-0.143 (-0.540)
Nationality diversity		-0.448 (-1.872)**	-0.448 (-1.864)**	-0.333 (-1.394)*
Board interlocking		0.370 (1.382)*	0.366 (1.357)*	0.075 (0.260)
Board size		-0.740 (-2.218)**	-0.739 (-2.205)**	-0.240 (-0.656)
Independent directors		0.013 (0.062)	0.013 (0.061)	0.463 (1.377)*
board meetings			0.037 (0.167)	-0.004 (-0.018)
Educational level diversity* board meetings				-0.059 (-0.172)
Nationality diversity * board meetings				-0.394 (-1.489)*
Board interlocking * board meetings				-0.290 (-0.787)
Board size * board meetings				0.185 (0.518)
Independent directors * board meetings				-0.592 (3.232)***
R <sup>2</sup>	0.061	0.146	0.146	0.252
Adjusted R <sup>2</sup>	0.054	0.103	0.096	0.173
R <sup>2</sup> change	0.061	0.085	0.000	0.106
Significant F change	0.005	0.041	0.868	0.009
Durbin Watson				1.547

\*p<.10; \*\*p<.05;\*\*\*p<.01.

The figures in the parentheses are the t-statistics

It was found that only two interactions out of the five interactions produced significant relationships. Interactions between representation of independent directors and frequency of board meetings and between board nationality diversity and frequency of board meetings produced significant results.

The interaction between representation of independent directors and frequency of board meetings affects IC performance negatively (significant at 1%), which does not support the hypothesized relationship. Similarly, the interaction between board nationality diversity and frequency of board meetings affects IC performance negatively (significant at 10%), which does not support the hypothesized relationship.

Since representation of independent directors and frequency of board meetings and board nationality diversity and frequency of board meetings showed significant interactions, two post hoc graphs are drawn as shown in Figures 5-2 and 5-3 to show the effect of the frequency of board meetings on the relationship between representation of independent directors and IC performance and the effect of the frequency of board meetings on the relationship between board nationality diversity and IC performance, respectively.

It appears from the figure 5-2 that higher number of independent directors was associated with lower IC performance. When the number of independent directors is low, the level of IC performance is higher in banks with high frequency of board meetings than banks with low meetings. However, when the number of independent directors is high, the level of IC performance is lower in banks with high frequency

meeting than those banks with low meetings. In short, higher number of independent directors leads to lower IC performance in banks with higher frequency meetings than lower.

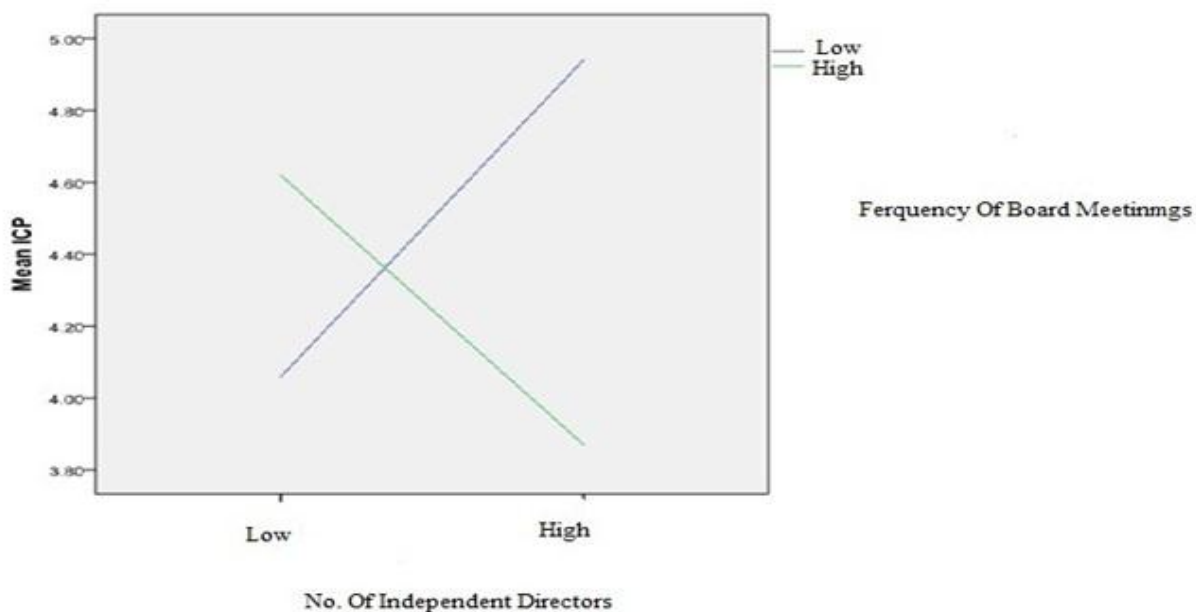


Figure 5-2  
*The relationship between representation of independent directors and IC performance with frequency of board meetings as the moderator*

A graph on the relationship between the IC performance and board nationality diversity with frequent board meetings in Figure 5-3 shows the same direction for banks that practice either high or low frequent board meetings. Both lines indicate a negative relationship between board nationality diversity and the IC performance with low frequent board meetings being much steeper than high frequent board meetings. The increase in board nationality diversity leads to less IC performance when there is a practice of frequent board meetings.



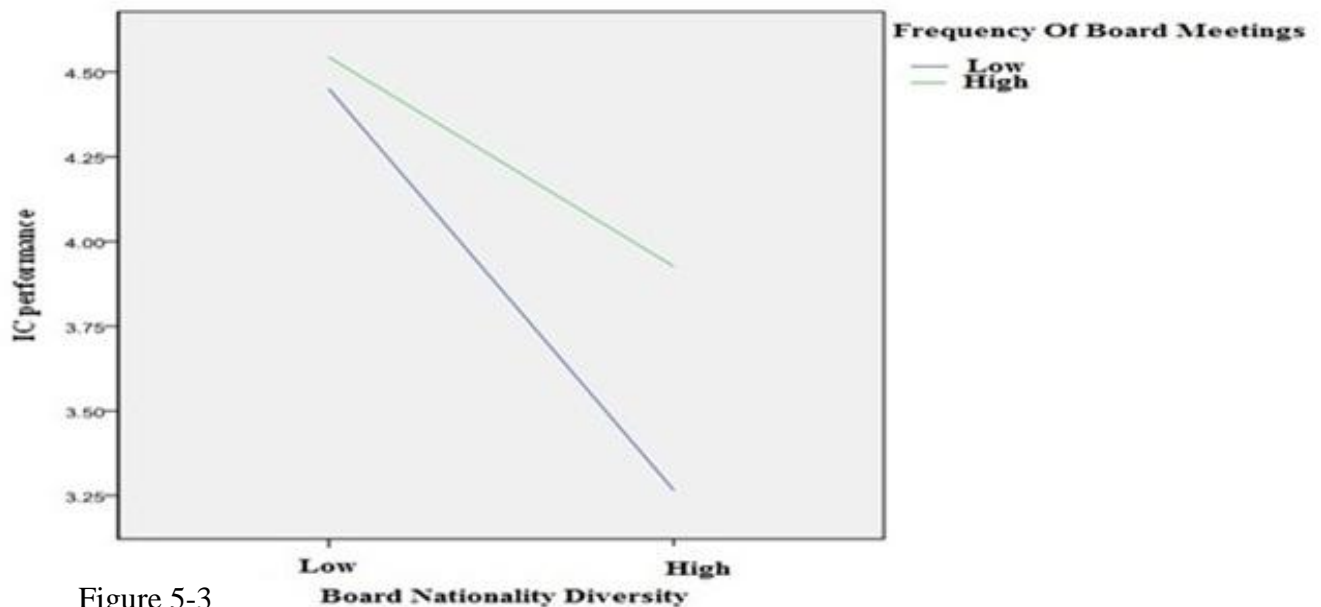


Figure 5-3  
*The relationship between board nationality diversity and IC performance with frequency of board meetings as the moderator*

### 5.6 Additional Analysis

To ascertain the credibility of initial analysis, several additional tests were carried out. The additional tests were conducted to determine the sensitivity of the results as well as to determine the robustness of the findings reported earlier in Section 6.4. This study re-runs the multiple regression analysis by introducing alternative measures of board nationality diversity, board size, representation of independent directors and government ownership. Then, the basic model is further tested by creating a new variable, a global financial crisis year, to examine the influence of the global financial crises of 2008 on GCC bank performance in terms of IC.

To test the robustness of the regression analysis performed earlier, the original equation in calculating VAIC, which represents the sum of human capital efficiency, structural capital efficiency, and capital employed efficiency, is replaced by

considering only human capital efficiency and structural capital efficiency (Ho & Williams, 2003) in the regression analysis as another proxy for IC performance.

Finally, to test the robustness of the hierarchical regression analysis performed earlier, another proxy for IC performance which mentioned above is used. Then, the hierarchical regression analysis is further tested after controlling for the 2008 global financial crisis.

### **Alternative Measurement for Board Nationality Diversity**

In the basic model, this study does not find any significant association between board nationality diversity, measured using Blau index, and IC performance. To further investigate this issue, this study explores the possibility of foreign directors' influence on IC performance when they constitute a higher ratio on the board. Perhaps, the results on board nationality diversity may have been better if the variable is measured as a ratio between the number of foreign board members to the total number of board members in the bank's board of directors. Using number of foreign nationals to the total number of members as indicators of board nationality diversity is consistent with prior studies by Darmadi (2010) and Caligiuri *et al.* (2004).

As reported in Table 5.12, the overall results as well as the individual results do not change significantly from the basic model (Model 1). Only the weak relationship between domestic strategic ownership and IC performance becomes insignificant. It appears that board nationality diversity (measured using a ratio between the number

of foreign board members to the total number of board members) does not influence IC performance significantly.

Table 5.12

*Multiple Regression Results- The Number of Foreign Board Members to the Total Number of Board Members*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.006	-0.093	0.926
NATD	+	0.060	0.798	0.426
BILOCK	+	0.218	2.522	0.013***
BOSIZE	+	-0.348	-3.929	0.000***
INDDIR	+	-0.134	-2.012	0.047**
GOVOWN	-	0.022	0.243	0.808
FAMOWN	-	-0.276	-3.651	0.000***
DSOWN	+	-0.096	-1.257	0.211
FSOWN	+	0.018	0.206	0.837
DNSOWN	-	0.082	1.382	0.170*
BINTN	+	0.016	0.258	0.797
FINPER	+	0.447	6.007	0.000***
ADISHAR	+	0.223	3.502	0.001***
BANRISK	-	0.154	1.987	0.049**
BINCONC	+	0.258	3.729	0.000***
PFORBANK	+	-0.266	-3.589	0.000***
GDPG	+	0.172	2.994	0.003***
BASIZE	+	-0.014	-0.155	0.877
Adjusted R <sup>2</sup>	0.70			
F	17.467			
Sig	0.000			
Durbin- watson	2.158			

\*p<.10; \*\*p<.05;\*\*\*p<.01.

### **Alternative Measurements for Board Size**

The result, as shown in Table 5.10, suggests that board size is significantly, but negatively, associated with IC performance. This negative effect is contrary to resource dependency theory and inconsistent with previous evidence of Abidin *et al.* (2009) and Ho and Williams (2003).

In order to confirm the credibility of the results, this study repeats the regression model with alternative measures of board size- by using the natural logarithm of total number of board members (Ahmed & Duellman, 2007; Lam & Lee, 2008; Hasan & Butt, 2009; Yermack, 1996) and above median threshold (DeFond, Hann, and Hu, 2005). Results shown in Table 5.13 maintain the initial finding that board size has a significant negative association with IC performance at the 1% level, suggesting that larger board size reduces IC performance. As reported in Table 5.13, the overall results as well as the individual results do not change significantly from the basic model (Model 1).

Thus far, in the basic and alternative models, board size (BOSIZE) is treated as a continuous variable. This study investigates further the relationship between board size and IC performance by treating board size as a dichotomous variable, labeled as BOSIZE-DUM. In line with resource dependency theory, which suggests that increasing board size links the organization to its external environment and secures critical resources such as IC, board size is assigned 1 if it is greater than the median for all banks and 0 otherwise (DeFond *et al.*, 2005).

Table 5.13

*Multiple Regression Results- The Natural Logarithm of Total Number of Board Members*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	0.008	0.138	0.891
NATD	+	0.049	0.668	0.506
BILOCK	+	0.212	2.474	0.015***
BOSIZE	+	-0.365	-3.972	0.000***
INDDIR	+	-0.122	-1.802	0.074**
GOVOWN	-	-0.012	-0.139	0.890
FAMOWN	-	-0.333	-4.291	0.000***
DSOWN	+	-0.118	-1.528	0.129*
FSOWN	+	0.004	0.046	0.963
DNSOWN	-	0.090	1.533	0.128*
BINTN	+	0.008	0.124	0.902
FINPER	+	0.433	5.773	0.000***
ADISHAR	+	0.220	3.487	0.001***
BANRISK	-	0.167	2.143	0.034**
BINCONC	+	0.263	3.821	0.000***
PFORBANK	+	-0.273	-3.689	0.000***
GDPG	+	0.173	3.020	0.003***
BASIZE	+	0.010	0.107	0.915
Adjusted R <sup>2</sup>	0.702			
F	17.639			
Sign	0.000			
Durbin-Watson	2.123			

\*p<.10; \*\*p<.05; \*\*\*p<.01.

As reported in Table 5.14, the coefficient was negative and still significant at a 1 percent significance level. This result, therefore confirms the initial evidence that larger boards are associated with lower IC performance.

In respect to the other variables, this study finds slightly different results from the initial analysis. Board interlocking still has a significant positive association with IC performance but at a 10 percent significant level instead of 1 percent significant

level. In addition, the weak relationship between domestic non-strategic ownership becomes insignificant. Results of the other variables are similar to the initial analysis.

Table 5.14

*Multiple Regression Results- Board Size Measured Using Dummy*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE-DUM + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.022	-0.369	0.713
NATD	+	0.092	1.253	0.213
BILOCK	+	0.102	1.482	0.141*
BOSIZE-DUM	+	-0.253	-3.488	0.001***
INDDIR	+	-0.166	-2.855	0.005***
GOVOWN	-	-0.038	-0.409	0.683
FAMOWN	-	-0.301	-3.994	0.000***
DSOWN	+	-0.119	-1.524	0.130*
FSOWN	+	-0.052	-0.590	0.556
DNSOWN	-	0.021	0.368	0.713
BINTN	+	0.029	0.463	0.644
FINPER	+	0.478	6.348	0.000***
ADISHAR	+	0.187	2.832	0.006***
BANRISK	-	0.186	2.338	0.021**
BINCONC	+	0.171	2.646	0.009***
PFORBANK	+	-0.288	-3.818	0.000***
GDPG		0.209	3.600	0.000***
BASIZE	+	-0.072	-0.819	0.415
Adjusted R <sup>2</sup>	0.696			
F	17.158			
Sig	0.000			
Durbin-Watson	2.143			

\*p<.10; \*\*p<.05; \*\*\*p<.01.

### **Alternative Measurements for Representation of Independent Directors**

In respect to representation of independent directors, the initial result, as shown in Table 5.10, suggests that higher board independence, as measured using number of independent directors, led to lower IC performance. This finding contradicts the prediction that independent directors, who provide strong governance, more resources, information, and legitimacy to a firm, would positively affect IC performance.

In order to confirm the credibility of the results, this study repeated the regression model with alternative measures of independence: the natural logarithm of number of independent directors (Wu, 2013; Garg, 2007), proportion of independent directors to total directors on board (Liang *et al.* 2013; Pathan & Faff, 2013; Abidin *et al.*, 2009; Ho & Williams, 2003), majority threshold (Klein, 2002; Bedard, Chtourou, and Courteau, 2004), and above-median threshold (DeFond *et al.*, 2005).

Table 5.15 shows the results in which the natural logarithm of the number of independent directors is used as an alternative measures of board independence. Table 5.16 reports the results, in which proportion of independent directors to total directors on board is used. Both results maintain the initial finding that higher representation of independent directors leads to lower IC performance. Both measures are significant at the 5% level. Results on the other variables are similar to the initial analysis. The exception is domestic non-strategic ownership which becomes insignificant when the proportion of independent directors to total directors on board is used as an alternative measure of board independence.

Table 5.15

*Multiple Regression Results- The Natural Logarithm of Number of Independent Directors*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.006	-0.105	0.916
NATD	+	0.076	1.040	0.301
BILOCK	+	0.224	2.602	0.011***
BOSIZE	+	-0.353	-3.993	0.000***
INDDIR	+	-0.122	-1.841	0.068**
GOVOWN	-	0.019	0.213	0.832
FAMOWN	-	-0.289	-3.865	0.000***
DSINOWN	+	-0.117	-1.505	0.135*
FSINOWN	+	0.005	0.052	0.958
DNSINOWN	-	0.080	1.360	0.176*
BINTN	+	0.008	0.134	0.894
FINPER	+	0.446	5.927	0.000***
ADISHAR	+	0.231	3.650	0.000***
BANRISK	-	0.157	2.019	0.046**
BINCONC	+	0.253	3.679	0.000***
PFORBANK	+	-0.276	-3.732	0.000***
GDPG	+	0.174	3.021	0.003***
BASIZE	+	-0.021	-0.240	0.811
Adjusted R <sup>2</sup>	0.699			
F	17.418			
Sig	0.000			
Durbin-Watson	2.142			

\*p<.10; \*\*p<.05; \*\*\*p<.01.



Table 5.16

*Multiple Regression Results- The Proportion of Independent Directors to the Total Number of Board Members*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.010	-0.177	0.860
NATD	+	0.078	1.079	0.283
BILOCK	+	0.198	2.255	0.026**
BOSIZE	+	-0.412	-5.079	0.000***
INDDIR	+	-0.155	-2.247	0.027**
GOVOWN	-	0.025	0.286	0.775
FAMOWN	-	-0.259	-3.409	0.001***
DSOWN	+	-0.110	-1.432	0.155*
FSOWN	+	0.008	0.091	0.928
DNSOWN	-	0.072	1.241	0.217
BINTN	+	0.022	0.366	0.715
FINPER	+	0.447	5.998	0.000***
ADISHAR	+	0.223	3.519	0.001***
BANRISK	-	0.154	2.000	0.048**
BINCONC	+	0.261	3.818	0.000***
PFORBANK	+	-0.255	-3.458	0.001***
GDPG	+	0.174	3.045	0.003***
BASIZE	+	-0.027	-0.307	0.760
Adjusted R <sup>2</sup>	0.704			
F	17.765			
Sig	0.000			
Durbin-Watson	2.168			

\*p<.10; \*\*p<.05; \*\*\*p<.01

Thus far, the variable representation of independent directors (INDD) is measured as a continuous variable. In addition, and consistent with the prior studies by Klein (2002) and Bedard *et al.* (2004) the variable representation of independent directors is measured using a dummy variable with the value of one for majority independence (equals or more than 51%) and 0 otherwise. This is consistent with the international best practice of corporate governance which requires boards to have majority of

independent directors (Mujtaba & Williams, 2011). A dummy variable labeled as INDD\_DUM51% is incorporated into the regression model. The results are shown in Table 5.17. The results show a significant negative coefficient at 1 percent level with regards to the association between representation of independent directors as majority of board members (INDD\_DUM51%) and IC performance. This result, therefore, confirms the initial finding that larger representation of independent directors is associated with lower IC performance. In respect to the other variables, this study finds slightly different results from the initial analysis. Board nationality diversity becomes significant at 10%, and domestic strategic ownership becomes insignificant. Results of the other variables are similar to the initial analysis.

In order to add more credibility to the initial finding that that larger representation of independent directors is associated with lower IC performance, this study repeated the initial regression model with an alternative measure of independence using another dichotomous variable which reflects a value of one if the number of independent directors is greater than the sample median, and zero otherwise (DeFond *et al.*, 2005). A dummy variable labeled as INDD\_DUMMD is incorporated into the regression model. Results shown in Table 5.18 maintain the initial finding that larger representation of independent directors has a significant negative association with IC performance at the 5% level. In respect to other variables, this study finds slightly different results from the initial analysis. Board interlocking still has a significant positive association with IC performance but at 10 percent significance level instead of 1 percent significance level. In addition, the weak relationship between domestic

non-strategic ownership becomes insignificant. Results on the other variables are similar to the initial analysis.

Table 5.17

*Multiple Regression Results- Representation of Independent Directors using Dummy (majority independence: equals or more than 51%)*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDD\_DUM51\% + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.035	-0.594	0.554
NATD	+	0.104	1.446	0.151*
BILOCK	+	0.229	2.804	0.006***
BOSIZE	+	-0.406	-5.078	0.000***
INDD_DUM51	+	-0.176	-2.919	0.004***
GOVOWN	-	0.062	0.703	0.483
FAMOWN	-	-0.235	-3.088	0.003***
DSOWN	+	-0.072	-0.945	0.347
FSOWN	+	0.032	0.368	0.713
DNSOWN	-	0.081	1.406	0.163*
BINTN	+	0.015	0.243	0.809
FINPER	+	0.447	6.123	0.000***
ADISHAR	+	0.245	3.990	0.000***
BANRISK	-	0.167	2.193	0.030**
BINCONC	+	0.262	3.952	0.000***
PFORBANK	+	-0.274	-3.788	0.000***
GDPG	+	0.169	3.005	0.003***
BASIZE	+	-0.001	-0.012	0.990
Adjusted R <sup>2</sup>	0.713			
F	18.490			
Sig	0.000			
Durbin-Watson	2.182			

\*p<.10; \*\*p<.05;\*\*\*p<.01.

Table 5.18

*Multiple Regression Results-Representation of Independent Directors Using Dummy  
(Above the Sample Median)*

ICP= $\alpha + \beta_1 \text{EDLD} + \beta_2 \text{NATD} + \beta_3 \text{BOSIZE} + \beta_4 \text{BILOCK} + \beta_5 \text{INDD\_DUMMD} +$ $\beta_6 \text{GOVOWN} + \beta_7 \text{FAMOWN} + \beta_8 \text{DSINOWN} + \beta_9 \text{FSINOWN} + \beta_{10} \text{DNSINOWN} + \beta_{11}$ $\text{BINTN} + \beta_{12} \text{FINPER} + \beta_{13} \text{ADISHAR} + \beta_{14} \text{BANRISK} + \beta_{15} \text{BINCONC} + \beta_{16}$ $\text{PFORBANK} + \beta_{17} \text{GDPG} + \beta_{18} \text{BASIZE} + e$					
Variables	Predicted sign	Coefficients	t-stat	Sig	
EDLD	+	-0.022	-0.369	0.713	
NATD	+	0.092	1.253	0.213	
BILOCK	+	0.102	1.482	0.141*	
BOSIZE	+	-0.253	-3.488	0.001***	
INDD_DUMMD	+	-0.166	-2.855	0.005***	
GOVOWN	-	-0.038	-0.409	0.683	
FAMOWN	-	-0.301	-3.994	0.000***	
DSINOWN	+	-0.119	-1.524	0.130*	
FSINOWN	+	-0.052	-0.590	0.556	
DNSINOWN	-	0.021	0.368	0.713	
BINTN	+	0.029	0.463	0.644	
FINPER	+	0.478	6.348	0.000***	
ADISHAR	+	0.187	2.832	0.006***	
BANRISK	-	0.186	2.338	0.021**	
BINCONC	+	0.171	2.646	0.009***	
PFORBANK	+	-0.288	-3.818	0.000***	
GDPG	+	0.209	3.600	0.000***	
BASIZE	+	-0.072	-0.819	0.415	
Adjusted R <sup>2</sup>	0.696				
F	17.158				
Sig	0.000				
Durbin-Watson	2.143				

\*p<.10; \*\*p<.05; \*\*\*p<.01.

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### **Alternative Measurement of Government Ownership-Dichotomous Variable**

In the earlier analysis, the government ownership variable is treated as a continuous variable. It appears that using the ratio of the total number of shares held by government over the total shares is not significantly associated with IC performance. To further investigate this issue, this study explores the possibility of government ownership influence on IC performance when a government holds a majority of shares that is 51% or more (Chhibber & Majumdar, 1998). According to Chhibber and Majumdar (1998), the extent of control the government can exercise is implemented via the percentage of equity that the government holds in a firm, asserting that holding a majority of shares transfers control over most aspects of a firm's operations and activities to the government. Otherwise, the government acts as a passive investor with no impact on firm operations, particularly, on strategic plans of a firm. A dummy variable labeled as GOVOWN\_DUM is incorporated into the regression model. The variable takes a value of one if 51 percent or more of bank shares is held by the government; otherwise, it takes a value of 0.

It is interesting to note that using a dummy variable to measure government ownership changes the result of the relationship between government ownership and IC performance reported earlier. As predicted, the results presented in Table 5.19 show that the variable GOVOWN\_DUM is negative and significant at the 5 percent level (one tail). Results on the other variables are almost similar to the initial analysis in which domestic strategic ownership becomes significant at 5% instead of 10%. In

addition, the weak relationship between domestic non-strategic ownership becomes insignificant. The results indicate government ownership generates a negative and significant impact on IC performance when the government holds a majority of the shares.

Table 5.19

*Multiple Regression Results- Government Ownership Using Dummy*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN\_DUM + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} BGDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.027	-0.465	0.643
NATD	+	0.051	0.711	0.478
BILOCK	+	0.171	2.031	0.045**
BOSIZE	+	-0.301	-3.421	0.001***
INDDIR	+	-0.194	-2.643	0.009***
GOVOWN_DUM	-	0.134	1.800	0.075**
FAMOWN	-	-0.291	-4.076	0.000***
DSOWN	+	-0.165	-2.179	0.031**
FSOWN	+	0.023	0.285	0.776
DNSOWN	-	0.057	0.992	0.323
BINTN	+	0.019	0.320	0.750
FINPER	+	0.439	5.950	0.000***
ADISHAR	+	0.186	3.277	0.001***
BANRISK	-	0.148	1.939	0.055**
BINCONC	+	0.241	3.545	0.001***
PFORBANK	+	-0.222	-2.954	0.004***
GDPG	+	0.157	2.744	0.007***
BASIZE	+	-0.015	-0.177	0.860
Adjusted R <sup>2</sup>		0.709		
F		18.226		
Sign		0.000		
Durbin-Watson		2.156		

\*p<.10; \*\*p<.05; \*\*\*p<.01.

## Global Financial Crisis

The robustness of the results has been further demonstrated by including a dummy variable to control for the 2008 global financial crisis, which occurred during this study sample period. A dummy variable labeled as CRISIS is incorporated into the regression model, taking a value of 1 in the years 2008 and 2009, and 0 otherwise (Ahrend & Schweltnus, 2012; Hooy & Lee, 2010). The results presented in Table 5.20 show that the dummy variable, global financial crisis, has no influence on IC performance. The remainder of the coefficients show similar results to those found in Table 5.10.

Table 5.20

### *Multiple Regression Results- Global Financial Crisis Using Dummy*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILCOK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} CRISIS + \beta_{19} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.006	-0.103	0.918
NATD	+	0.070	0.950	0.344
BILOCK	+	0.214	2.457	0.016***
BOSIZE	+	-0.348	-3.901	0.000***
INDDIR	+	-0.131	-1.953	0.053**
GOVOWN	-	0.019	0.211	0.833
FAMOWN	-	-0.277	-3.670	0.000***
DSINOWN	+	-0.103	-1.326	0.188*
FSINOWN	+	0.010	0.108	0.914
DNSINOWN	-	0.081	1.377	0.171*
BINTN	+	0.015	0.249	0.804
FINPER	+	0.446	5.814	0.000***
ADISHAR	+	0.226	3.533	0.001***
BANRISK	-	0.154	1.971	0.051**
BINCONC	+	6.258	3.730	0.000***
PFORBANK	+	-0.266	-3.576	0.001***
GDPG	+	0.176	3.008	0.003***
CRISIS	-	0.017	0.335	0.738
BASIZE	+	-0.010	-0.118	0.907

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Adjusted R <sup>2</sup>	0.698
F	16.482
Sig	0.000
Durbin-Watson	2.144

---

\*p<.10; \*\*p<.05; \*\*\*p<.01

### **Alternative Measurement of IC Performance**

Value added intellectual coefficient (VAIC), which is a composite sum of three indicators formally termed (1) Capital Employed Efficiency (CEE), (2) Human Capital Efficiency (HCE), and (3) Structural Capital Efficiency (SCE), is widely used as an indicator of IC performance ( Joshi *et al.*, 2010; Saleh *et al.*, 2009; Goh, 2005; Swartz & Firer, 2005, among others). This aggregated indicator indicates the intellectual ability of an organization (Kamath, 2007; Pulic, 2004). According to Saleh *et al.* (2009), the VAIC score provides a standardized and consistent basis of IC performance measure. Although IC consists of both human capital and structural capital (defined this way in the context of VAIC), Pulic (2004) asserts that IC is a dependent variable on physical and financial capitals, i.e. IC alone cannot generate any value. Therefore, capital employed which represent (physical and financial capitals) cannot be ignored in constructing an index of intellectual capital performance (El-Bannany, 2008). However, other authors prefer to focus only on the subordinate concept of VAIC, Intellectual Capital Efficiency (ICE), which is calculated by summing together human capital efficiency and structural capital efficiency to describe the efficiency of IC within a company. They argue that ICE reflects the efficiency of value created by the IC employed (Kujansivu & Lonnqvist, 2007; Ho & Williams, 2003).



To test the robustness of the analysis reported earlier, the VAIC is replaced by the Intellectual Capital Efficiency (ICE), as the dependent variable in the basic model. The results are presented in Table 5.21. The overall results, as depicted in Table 5.21, are consistent with the prior analysis using VAIC as individual results are almost a replication of the results in Table 5.10.

Table 5.21  
*Multiple Regression Results-ICE*

$$ICP = a + \beta_1 EDLD + \beta_2 NATD + \beta_3 BILOCK + \beta_4 BOSIZE + \beta_5 INDDIR + \beta_6 GOVOWN + \beta_7 FAMOWN + \beta_8 DSINOWN + \beta_9 FSINOWN + \beta_{10} DNSINOWN + \beta_{11} BINTN + \beta_{12} FINPER + \beta_{13} ADISHAR + \beta_{14} BANRISK + \beta_{15} BINCONC + \beta_{16} PFORBANK + \beta_{17} GDPG + \beta_{18} BASIZE + e$$

Variables	Predicted sign	Coefficients	t-stat	Sig
EDLD	+	-0.006	-0.105	0.917
NATD	+	0.073	0.997	0.321
BILOCK	+	0.216	2.485	0.014***
BOSIZE	+	-0.349	-3.926	0.000***
INDDIR	+	-0.132	-1.972	0.051**
GOVOWN	-	0.017	0.185	0.853
FAMOWN	-	-0.283	-3.750	0.000***
DSINOWN	+	-0.108	-1.397	0.165*
FSINOWN	+	0.011	0.121	0.904
DNSINOWN	-	0.108	1.397	0.175*
BINTN	+	0.020	0.321	0.749
FINPER	+	0.443	5.904	0.000***
ADISHAR	+	0.227	3.558	0.001***
BANRISK	-	0.154	1.975	0.051**
BINCONC	+	0.260	3.761	0.000***
PFORBANK	+	-0.268	-3.623	0.000***
GDPG	+	0.176	3.044	0.003***
BASIZE	+	-0.013	-0.150	0.881
Adjusted R <sup>2</sup>	0.699			
F	17.353			
Sig	0.000			
Durbin-Watson	2.134			

\*p<.10; \*\*p<.05; \*\*\*p<.01.

### **Testing the Moderating Effect Using the Alternative Measurement of IC Performance**

To test the robustness of the hierarchical regression analysis reported earlier, the VAIC is replaced by the Intellectual Capital Efficiency (ICE) as the dependent variable in the initial hierarchical regression analysis. The results are presented in Table 5.22. The overall results, as depicted in Table 5.22, are consistent with the prior analysis using VAIC as individual results are almost a replication of the results in Table 5.11.

### **Testing the Moderating Effect after Controlling of Global Financial Crisis**

To test the robustness of hierarchical regression analysis, the analysis repeated after controlling of the global financial crisis. The results are presented in Tables 5.23. The overall results, as depicted in Table 5.23 are consistent with the prior hierarchical regression analysis as individual results are almost a replication of the results in Table 5.11.

Table 5.22

*The Moderating Effect of Frequency of Board Meetings on The Relationship Between Board Diversity and IC Performance Using Alternative Measurement of IC Performance*

<b>Variables</b>	<b>Step1 Control variable</b>	<b>Step 2 Without interaction</b>	<b>Step3 Moderator variable</b>	<b>Step4 With interaction</b>
Bank size	1.122 (2.882)***	1.581 (3.493)***	1.576 (3.462)***	1.528 (3.464)***
Educational level diversity		-0.084 (-0.307)	-0.081 (-0.294)	-0.149 (-0.568)
Nationality diversity		-0.433 (-1.829)**	-0.433 (-1.820)**	-0.320 (-1.354)*
Board interlocking		0.372 (1.405)*	0.369 (1.380)*	0.081 (0.286)
Board size		-0.732 (-2.217)***	-0.730 (-2.203)***	-0.239 (-0.659)
Independent directors		0.015 (0.070)	0.015 (0.069)	0.463 (1.392)*
Board meetings			0.036 (0.164)	-0.009 (-0.039)
Educational level diversity* board meetings				-0.055 (-0.162)
Nationality diversity * board meetings				-0.404 (-1.542)*
Board interlocking * board meetings				-0.294 (-0.805)
Board size * board meetings				0.179 (0.506)
Independent directors * board meetings				-0.590 (-3.256)***
R <sup>2</sup>	0.062	0.146	0.146	0.253
Adjusted R <sup>2</sup>	0.054	0.103	0.096	0.175
R <sup>2</sup> change	0.062	0.084	0.000	0.108
Significant F change	0.005	0.043	0.870	0.008
Durbin Watson				1.542

\*p<.10; \*\*p<.05;\*\*\*p<.01.

The figures in the parentheses are the t-statistics

Table 5.23

*The Moderating Effect of Frequency of Board Meetings on The Relationship between Board Diversity and IC Performance-Global Financial Crisis*

<b>Variables</b>	<b>Step1 Control variable</b>	<b>Step 2 Without interaction</b>	<b>Step3 Moderator variable</b>	<b>Step4 With interaction</b>
Bank size	1.135 (2.876)***	1.605 (3.500)***	1.599 (3.468)***	1.552 (3.475)***
Crisis	0.297 (0.601)	0.372 (0.771)	0.375 (0.773)	0.477 (1.022)
Educational level diversity		-0.084 (-0.304)	-0.080 (-0.290)	-0.151 (-0.569)
Nationality diversity		-0.449 (-1.874)**	-0.449 (-1.865)**	-0.338 (-1.415)*
Board interlocking		0.366 (1.363)*	0.361 (1.337)*	0.074 (0.257)
Board size		-0.751 (-2.244)***	-0.749 (-2.231)***	-0.252 (-0.689)
Independent directors		0.003 (0.016)	0.003 (0.015)	0.470 (1.397)*
Board meetings			0.043 (0.190)	-0.001 (-0.005)
Educational level diversity* board meetings				-0.047 (-0.137)
Nationality diversity * board meetings				-0.421 (-1.581)*
Board interlocking * board meetings				-0.262 (-0.708)
Board size * board meetings				0.168 (0.469)
Independent directors * board meetings				-0.600 (-3.271)***
R <sup>2</sup>	0.064	0.15	0.15	0.258
Adjusted R <sup>2</sup>	0.049	0.100	0.093	0.174
R <sup>2</sup> change	0.064	0.086	0.000	0.108
Significant F change	0.016	0.039	0.849	0.008
Durbin Watson				1.568

\*p<.10; \*\*p<..05;\*\*\*p<.01.

The figures in the parentheses are the t-statistics

## **5.7 Discussion of results:**

### **5.7.1 Board of Directors' Characteristics and IC performance**

#### **5.7.1.1 Educational Level Diversity**

Contradictory to the prediction of the upper echelon theory and resource dependency theory, the relationship between board educational level diversity (EDLD) and IC performance is found to be non-significant. This finding provides support to previous studies that found no association between educational level diversity and firm outcomes such as innovation that plays an important role in increasing firm's stock of intangibles and facilitate the development of IC. For example, Auh and Menguc (2005) and Van der Vegt and Janssen (2003) find that educational level diversity has no association with innovation. Other studies such as Rose (2007) and Certo *et al.* (2006) find an insignificant association between educational level diversity and firm performance in terms of physical and financial capitals.

The reason which possibly contributes to the insignificant relationship between board educational level diversity (EDUD) and IC performance is that the work carried out on bank board does not require any specific educational level. Just as long as board members have a university degree or even without a degree, board members have sufficient equivalent skills to understand IC-related information that is provided by the board of directors. The equivalent skills may be obtained from a career as CEO in other firms or from a substantial experience in business life. It appears that to add value to IC performance, perhaps, what is necessary is not merely

a diverse in levels of academic qualifications, which provide diverse skills of research and analysis, but specific skills such as accounting, finance, marketing, and human resource management.

#### **5.7.1.2 Nationality Diversity**

Contradictory to the prediction of the upper echelon theory and resource dependency theory, this study does not find any significant association between board nationality diversity and IC performance in the basic model as well as in the alternative models. Thus, this study concludes that including foreign members in GCC bank board does not lead to higher IC performance. This finding is consistent with prior research findings of Liang *et al.* (2013), Darmadi (2010), Randoy *et al.* (2006) and Rose (2007) who find an insignificant association between nationality diversity and firm performance in terms of physical and financial capitals.

The insignificant finding between board nationality diversity and IC performance may be attributed to the fact that GCC banks 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 directors (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). On the other hand, local directors are closer connected and better communicated

with the managers (Chahine & Tohme, 2009). Hence, due to their poor knowledge of firm-specific information, foreign directors in GCC bank may be unable to make significant contributions related to IC development.

Another explanation for the insignificant finding may be due to the social psychological dynamics of the locals that may lead to a resistance toward foreign directors (Westphal & Milton, 2000). Due to their common cultural and social ties, local directors may categorize themselves as the nationals-group and foreign directors as a foreigners group. In making decisions, local directors may bias decisions favoring the national-group due to their commonality. Given the power of locals in the decision making and resource allocation processes of a firm, the effect of self-categorization by local directors is that the decisions of foreign directors will be given limited consideration or ignored completely. Furthermore, it can be argued that the low number of foreigners on GCC banks' boards of directors may possibly explain the insignificant findings of this study. Further analysis of GCC board composition reveals, on average, only 16.5 percent of GCC board members are foreigners. Hence, foreign directors are still a minority in the board room.

Another reason why board nationality diversity does not improve IC performance is that Arab firms are usually characterized by a coercive or authoritative style of management, without listening to or permitting much subordinate input (Bakhtari, 1995). In such an environment, foreign board members may have decided to assimilate into the traditional circles by suppressing any special feature stemming from the board members' unconventional background. In other words, there might

be a process of socialization where the foreign board members have had adopted the behavior and norms of the local board members/business leaders who in majority represent family and governmental interests and are likely to contribute to low IC performance (Saleh *et al.*, 2009). The reason is that accepting and following norms and thinking styles of locals societies might be the only way to be qualified in the eyes of the top decision makers for high positions in society including access to firm`s board rooms. As a consequence, the gains from having foreign board members are never realized or reflected in IC performance.

#### **5.7.1.3 Board Interlocking**

Consistent with expectations, this study finds a positive significant association between board interlocking (INTLCK) and IC performance, supporting the contention that a high number of board interlocking will provide the bank with critical information, ideas and resources (Haniffa & Hudaib, 2006; Hillman & Dalziel, 2003; Johnson *et al.*, 1996) that may facilitate IC development and thus enhance its performance.

The finding of this study supports the resource dependency theory, which suggests that interlocking directorates could help in enhancing IC performance through 1) transferring of knowledge and know-how such as innovative management practices (organizational capital) which help people (human capital) to act in new ways and improve both employees` productivity and the quality of customer offerings, 2) helping banks to form or strengthen advantageous contracting relations with other



firms (relational capital), and 3) legitimize firms' actions and improve firm reputation (relational capital).

#### **5.7.1.4 Board Size**

Contradictory to the prediction of the resource dependency theory, this study finds a high significant negative association between board size and IC performance at a 1 percent significance level in the basic model as well as in the alternative models. This finding suggest that larger boards are associated with lower IC performance, which is contradictory to both the resource dependency theory prediction and prior finding of Abidin *et al.* (2009) in Malaysia who find that larger boards are significantly and positively associated with IC performance. This finding is also inconsistent with the earlier study by Ho and Williams (2003) who find that board size is statistically insignificant against IC performance in South Africa, Sweden and the UK.

The finding of this study supports Chahine (2007) argument that less effective communication dominates the marginal benefits of having additional combined expertise provided by larger boards in GCC banks. The finding supports the notion that the benefits resulting from larger boards are outweighed by the incremental costs of the potentially poorer communication and decision-making processes associated with larger groups (Jensen, 1993; Lipton & Lorsch, 1992). Jensen (1993) and Lipton and Lorsch (1992) argue that firms should not appoint too many directors to the board and suggested a maximum of seven or eight directors. Jensen (1993) and Lipton and Lorsch (1992) observe that when a board of directors expand beyond

seven or eight people, it is less likely to function effectively and easier for the CEO to control them. An insight into the data reveals that 73% of the observations had more than eight members.

Literature on board size suggests that larger boards are less cohesive, less participative and less cooperative and consequently less able to reach to a consensus on important decisions, process and tackle strategic problems of the organization and initiate strategic actions (Sunday O, 2008; Eisenberg *et al.*, 1998; Yermack, 1996; Goodstein *et al.*, 1994; Judge & Zeithaml, 1992). Judge and Zeithaml (1992) find that a large board is less involved in strategic decision making, arguing that the negative impact of large boards on the implementation of the 4Cs (i.e., communication, coordination, collaboration, and cohesiveness) may inhibit effective participation by board members in the strategic decision process. In the same line, Cheng (2008) finds that the R&D spending, which is likely to be associated with IC performance and its variability, is negatively associated with board size. Cheng (2008) argues that firms with larger boards are less likely to reach consensus to take high-risk projects.

According to Dwivedi and Jain (2005), the absence of coordinating and interaction in board with too many directors may make it difficult for the members to use their knowledge and skills effectively and to conduct effective discussions. Furthermore, it has been argued that the monitoring effect of larger boards may be offset by lower communication and poorer decision-making processes (John & Senbet, 1998).

In addition, according to Dwivedi and Jain (2005), larger boards may suffer from the problem of diffusion of responsibility or social loafing, wherein individual members of the board discount the likelihood that others will detect their poor contributions. All these disadvantages of being a large board could lead to negative effects on IC performance.

Another explanation for the negative findings found in this study may be because GCC banks, on average, do not select their board members optimally. The OECD-Hawkamah Survey reveals that most of the selected directors on the boards of GCC banks lack the necessary skills and adequate understanding of the banking environment (OECD, 2009) which may lead to lack of coordination and communication, resulting in decision making problems.

#### **5.7.1.5 Representation of Independent Directors**

In contrast to resource dependency theory and findings of previous studies (Abidin *et al.*, 2009; Ho & Williams, 2003), representation of independent directors shows a significant negative association with IC performance in the basic model as well as in the alternative models. The negative direction indicates that boards with greater independent directors do not enhance IC performance.

The high information asymmetry problem which characterizes GCC banks (Chahine, 2007) may possibly explain the negative coefficient of board independence. It is evidenced that the effectiveness of independent directors depends on the cost of acquiring information about a firm (Pathan & Faff, 2013; Duchin, Matsusaka, and

Osbaiz, 2010). Duchin *et al.* (2010) document that independent directors significantly improve firm performance when their information cost is low, but they hurt performance when their information cost is high. According to Barton, Coombes, and Wong (2004), companies may well be reluctant to give any outside directors too much insight into their performance or strategy for fear that this information will be used against them. As a result, independent directors may face significant difficulty to acquire detailed knowledge of the firm's operating, financing, and investing activities and process substantial firm-specific information to effectively perform their advising and monitoring duties. According to Klein, Shapiro and Young (2005), independent directors with less knowledge of the firm may lower company efficiency by distracting managers and by causing them to focus on short-run goals. Hence, when these factors exist in independent directors themselves, the IC performance is negatively affected.

Another explanation for the negative findings found in this study may be due to the fact that independent directors lack knowledge and expertise in understanding banking affairs (Pathan & Faff, 2013; OECD, 2009). The lack of knowledge may limit the independent directors' ability to evaluate and ratify banks' long-term strategies such as IC-related strategies. According to Klein (1998), boards need specialized, expert-provided information about firms' activities to evaluate and ratify the long-term strategies. However, the attainment of this knowledge requires both time and firm-specific expertise on the part of the director, two things that inside directors have but independent directors lack (Carpenter & Westphal, 2001; Klein 1998). In contrast, inside directors who often interact with CEOs during work, may

be in a better position to evaluate the quality of the CEOs' strategic decision making and recommend appropriate awards for risky, but justifiable, strategic decisions (Johnson *et al.*, 1996). In the same vein, Goodstein *et al.* (1994) assert that boards dominated by independent directors could create stifling strategic actions.

Furthermore, the result of this study suggests that the independent directors in boards of GCC banks may not be independent enough to contribute significantly to banks' IC performance. According to Chahine (2007), GCC banks have mainly dependent board members (managers and/or shareholders), and there is no clear evidence on the absence of ties between the remaining directors and GCC banks. Mujtaba and Williams (2011) state that the concept of independent directors is relatively new in the GCC region and there are challenges associated with the recruitment of suitable independent directors on the boards of companies in the GCC region. Mujtaba and Williams (2011) further argue that the boards are unclear about the expected roles of independent directors. It seems that the independent directors sit on the board to fulfill the requirements made by the GCC codes of corporate governance, but may not be able to exercise their power.

Additionally, the strong influence of family owners in GCC banks, especially family-owned, in appointing independent directors (OECD, 2009) might prevent GCC bank from appointing 'truly' independent directors. The family directors may nominate independent directors who are less likely to challenge the private interests they derive from control that is in contrast with the development of IC resources (Saleh *et al.* 2009). Moreover, arguably, those independent directors, who may feel

beholden to family owners for their positions on the board, are less likely to support any decision that contradicts with family owners' interests such as development of IC resources.

Further, it is often proposed that independent directors are less likely to exert control over strategic decision making when they lack formal or social independence from management as indicated by the prevalence of friendship ties or other social connections between managers and directors (see Carpenter & Westphal, 2001 and literature therein). Prevalence of friendship ties or other social connections between independent directors and managers or major shareholders such as family owners is more likely to happen in GCC banks since Arabs are considered an extremely collectivistic, group-oriented society (Hofstede, 1980 as cited by Chahine & Tohme, 2009). In addition, there is great ease in social interactions and the formation of groups in Arab countries (Chahine & Tohme, 2009). Arguably, those independent directors are more likely to support management decisions and family owners' interests which are more likely to discourage the expenditures that enhance IC performance such as human resources development, expenditures on R&D, internal development of new products and services.

The results of this study raise concern regarding the appropriateness of policy directives in GCC countries that call for at least one-third of the board to be independent directors. It has been argued that in countries where ownership structure is concentrated, especially when it is in the hands of family members, it is essential to have some independent directors, but a majority often might not be feasible (Klein

*et al.*, 2005; Barton *et al.*, 2004). Further, several studies documented that when independent directors have high difficulty in acquiring and processing information due to information asymmetry problem, as the case in GCC banks, firms should choose to have relatively few independent directors (e.g., Linck, Netter, and Yang, 2008; Lehn, Patro, and Zhao, 2009).

Overall, the negative and significant result between representation of independent directors and IC performance supports the stewardship theory argument which suggests that if there were much independent directors on the board, the board would not be in a position to fully understand the company (Klein *et al.*, 2005). It would only have access to information provided by management and would lack the contextual nature to make more informed decisions (Klein *et al.*, 2005). As a result, decisions made by a board dominated by independent directors would be of a lower quality and this would in turn lead to low firm performance.

### **5.7.2 Ownership Structure and Intellectual Capital Performance**

Ownership structure is viewed as a complementary mechanism to a board of directors and has an important influence on the priorities set by the board and its decisions regarding IC (Saleh *et al.*, 2009). Thus, this study views ownership structure as a part of the governance mechanisms within a company that would contribute in explaining variations in the level of IC performance.

### **5.7.2.1 Governmental Ownership**

Using the ratio of the total number of shares held by government over the total shares as a measurement of government ownership, this study does not find a significant relationship between government ownership and IC performance. This result which is consistent with that reported by Saleh *et al.* (2009) is contrary to the theoretical model and the stated hypothesis which predicts a negative relationship between government ownership and IC performance. Nonetheless, interesting findings were found when the study used a dummy variable (a cutoff point of 51 percent) to explore the possibility of government ownership influence on IC performance. This study documents a negative significant relationship between government ownership and IC performance when the government has a majority of the shares. This finding supports the arguments of Chhibber and Majumdar (1998) that the significant negative impact of government ownership on various dimensions of firm performance appears when government holds a majority of shares. They argue that this level of ownership permits the government to exercise control over strategic decisions concerning a firm. This in turn helps the government to significantly direct the resource allocation process in a way that serves its political and social goals even if it is at the expense of firm efficiency and value.

Furthermore, as mention in Chapter 3, government-controlled firms can be viewed as manager-controlled firms (Gugler, 2003) in which managers are more able to be free riders because bureaucrats are less likely to be careful monitors of managers than private owners. Managers in such firms are more likely to benefit from this position to maximize their own interests at the expense of value-enhancing projects (John *et*



*al.*, 2008; Sapienza, 2004). Managers in government-controlled banks are more likely to avoid investing in IC resources because of the high level of risk and uncertainty that surround IC related projects which are not consistent with managers' risk-adverse and myopic nature (Ho & Williams, 2003; Edvinsson & Malone, 1997; Brooking, 1996).

On the other hand, it seems that when the GCC government acts as a minority owner with less than 50% of the shares, it allows control over key aspects of a bank to be retained by the private partners. This case is similar to the role of Korean government in information technology industry. In Korea, the government invests in information technology firms but allowed control over key aspects of the firms to be retained by the private partners (Chhibber & Majumdar, 1998).

In addition, the government's nominees on the board are typically bureaucrats with minimal expertise in banking 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 either negative or no impact on IC performance. The OECD-Hawkamah Survey revealed that the existing board nomination procedures followed by GCC banks lack the transparency and are affected by the influence of major shareholders, which in turn lead to selecting bank directors with inadequate skills and poor understanding of banking 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.

#### **5.7.2.2 Family Ownership**

Consistent with expectations and similar to a study by Saleh *et al.* (2009), this study finds a negative significant association between family ownership (FAM) and IC performance. The result confirms the managerial entrenchment hypothesis which suggests that high family ownership indicates high probability of opportunistic behavior of families in pursuing their objectives at the expense of minority shareholders and value creation activities. A good example of the opportunistic behaviour of GCC family-controlled banks is that in many cases banks lend to their owners, their associates or companies in the same business group and it is not surprising that the loans granted to related parties on favourable terms are more likely to default and are harder to recover than loans to non-related parties (OECD, 2009). Subsequently, banks with high family ownerships would experience lower efficiency in utilizing their knowledge assets and in the end, result in lower IC performance than banks with low level of family ownership.

This study provides evidence that the significant drawbacks arising from managerial entrenchment and agency problems resulting from concentrating shareholdings in the hands of family investors will detriment IC performance. For example, the conservative nature of family ownership and their risk-adverse attitude would limit the investment in IC-related resources such as human resources and new technology due to the high level of risk and uncertain outcomes that surround such investments.

In addition, high family ownership is related to the cognitive conflicts in maintaining professional relationships versus family relationships that may limit a bank's ability to acquire qualified employees and would hamper cooperations and effective decision making (Kellermanns & Eddleston, 2007).

Greater family ownership in GCC banks is likely to limit the effectiveness of corporate governance practices in monitoring, structuring and formulating IC related strategies and policies. This is due to the dominant role of families in structuring board of directors and selecting its members who are mostly dependent and related to main owners (Chahine & Tohme, 2009; OECD, 2009; Chahine, 2007).

### **5.7.2.3 Domestic Strategic Ownership**

Despite the sound theoretical basis for expecting a positive relationship between domestic strategic ownership and IC performance, this study, however, finds a moderate significant negative relationship between domestic strategic ownership and IC performance.

A plausible explanation for the moderate negative significant finding between domestic strategic ownership and IC performance is that most GCC banks and other domestic financial institutions are still government- and/or family-controlled institutions (OECD, 2009; Chahine, 2007). It appears that managers of those institutions do not necessarily have the proper incentives to positively influence the GCC banks' management to improve IC performance. The dominant role of family investors in GCC domestic banks and other domestic financial institutions is

more likely to encourage managers to have short investment horizons. Therefore, managers of domestic strategic institutions will find themselves with no incentives to encourage their counterparts in other GCC banks to invest in resources underlying IC such as human resources development and R&D which require long payback periods and possess high level of risk and uncertainty.

Furthermore, the weak association between domestic strategic ownership and IC performance suggests that existence of social and political ties and network in GCC domestic markets as well as family involvement may offset or alleviate the monitoring and governance advantages of domestic strategic shareholders and make them less effective in providing real and objective external monitoring (Chahine & Tohme, 2009).

#### **5.7.2.4 Foreign Strategic Ownership (SOWF)**

Based on agency theory and resource-based theory, this study hypothesizes that foreign strategic institutional investors would contribute in improving IC performance because they can provide their investee-banks with generic knowledge, know how, advanced technology and new ways in doing businesses which are valuable, rare, and imperfectly imitable and not substitutable by domestic shareholders. In addition, foreign strategic institutional investors have better ability to govern effectively as a result to being free from social ties and political networks in domestic markets. However, this study finds a surprisingly insignificant relationship between foreign strategic ownership and IC performance. This result

suggests that foreign banks and other foreign financial institutions do not improve IC performance of GCC banks.

One plausible explanation for the insignificant finding is that a significant part of foreign strategic ownership is attributed to foreign banks from non-GCC Arab countries such as Jordan, Libya, and Egypt, in addition to other developing countries such as Pakistan. This study shows that (foreign strategic ownership from developing countries constitutes in average 3.26% compared to 3.62% for foreign strategic ownership from developed countries such as the USA and the UK. According to Jbili *et al.* (1997), the financial sectors in the Arab states of the GCC are developed, technologically advanced, and more integrated into the world economy than in the rest of the Middle East and North Africa (MENA) region. Therefore, it is reasonable to argue that foreign banks from the MENA region are more likely to be importers of knowledge, know-how, and advanced technology and banking techniques from GCC banks rather than to being exporters or transferors of knowledge and technology to GCC banks. Hence, it is sensible to find that their impact on IC performance of GCC banks is insignificant.

The association between foreign strategic ownership and IC performance is also insignificant when this study segregated the foreign strategic ownership into foreign strategic ownership from developing countries and foreign strategic ownership from developed countries. A possible reason that contributes to the insignificant association between foreign strategic ownership from developed countries and IC performance may be due to the restrictions on foreign ownership by GCC countries

which prevent foreign banks and financial institutions to enhance the size of their investment stakes in GCC banks to the level at which they can affect GCC bank`s strategies and exercise effective control.

According to Zeitun (2012), due to foreign ownership restrictions, foreign ownership in GCC banks is quite small and insignificantly affects banks decisions. Except for Bahrain, the maximum limit of foreign ownership ranges from 35 percent in Oman to 49 percent in Qatar. Chhibber and Majumdar (1999) conclude that foreign ownership does have a positive and significant influence on firm performance, but only when it has a majority of shares (that is 51 percent) that would enable it to make changes in a bank`s long term strategies as well as changes in internal governance structure with consequent impacts on IC performance. It has been argued that in situations involving low owneship of foreign strategic investors, foreign investors have low motivation to introduce advanced technologies, new products, and suitable corporate governance mechanisms (Shen, Lu, and Wu, 2009). This will make their impact on IC performance insignificant.

Another possible explanation to the insignificant relationship between foreign strategic institutional ownership from developed countries and IC performance could be attributed to the fact that GCC region is regarded as risk-prone especially with respect to political risks (Laabas & Abdomoula, 2005). Therefore, banks and other financial institutions from developed countries may prefer to keep short-term relationships with domestic banks, focusing on profitability opportunities in GCC

domestic markets instead of focusing on transfer knowledge, technology, and new management styles and skills to investee-domestic banks.

Another possible reason for the insignificant relationship between foreign strategic ownership from developed countries and IC performance could be due to the potential resistance of GCC bank managers and family members on the board of directors. Family members who are influenced by traditional values and norms that prefer personal relations, individuals from influential tribes and authoritative style of management (Chahine & Tohme, 2009) are more likely to discourage and stand against efforts of foreign investors to adopt new management styles, new employment practices and new ways and approaches in doing a banking business. The additional descriptive analysis provides evidence of the low representation of foreign directors on boards of GCC banks since percentage of foreign directors on boards of GCC banks is 17% (i.e. around one foreign director versus four local directors) which in turn limit the ability of foreign investors to enforce GCC banks managers to adopt IC-related strategies and policies such as human resources development.

#### **5.7.2.5 Domestic Non-Strategic Ownership**

Contradictory to the stated hypothesis which predicts that the domestic corporations from unrelated industries are likely to affect IC performance negatively due to their financial focus and weak monitoring role, this study finds that the coefficient of domestic non-strategic ownership is positive and significant at the 10% level (one tail). A plausible explanation for the positive association between domestic non-

strategic institutional ownership and IC performance is that domestic companies from outside the financial sector and GCC banks are both more likely to belong to a group of companies (OECD, 2009). The domestic companies within the company group to which the bank belongs, tend to keep good and long-term relationship with the bank to benefit from favorable terms of credit that are more likely to be granted. In addition, motivated by the duty of loyalty to the joint group, those domestic companies may work to strengthen their names and reputation of their affiliate banks through word-of-mouth which in turn could help to attract more customers and expand customer base of a bank. With increased customer relations, the bank's IC performance may become greater.

### **5.7.3 Bank Specific Characteristics and Intellectual Capital Performance**

#### **5.7.3.1 Bank Internationality**

Based on the organizational learning theory, this study hypothesizes that banks with international presence through subsidiaries can enhance the learning of new knowledge, skills and capabilities that significantly improve their ability to innovate, take risk, and develop new revenue streams which in the end will enhance IC performance. However, contradictory to the prediction of the organizational learning theory, this study finds an insignificant relationship between bank internationality and IC performance. This indicates that international expansion of GCC banks through establishing subsidiaries does not help to improve IC performance.



One plausible explanation for the insignificant finding between bank internationality and IC performance is that the ability of GCC banks to absorb, internalize and exploit new knowledge and skills from foreign markets (i.e. absorptive capacity) is low. It has been argued that although the international expansion may give firms new knowledge and skills that can fuel their innovation and new business creation, their success to capture and effectively exploit this knowledge is contingent upon its absorptive capacity (Zahra & Hyton, 2008). Absorptive capacity, which is defined by Cohen and Levinthal (1990) as a firm's ability to import, comprehend and assimilate the knowledge obtained from external sources (e.g., suppliers and customers in foreign markets), enables the firm to import externally created knowledge and transform it into innovative products and gain a competitive advantage (Zahra & George, 2002). Hence, the ability of a bank to absorb, internalize and exploit this knowledge can influence the extent to which it can achieve higher IC-related value added from international operations.

Investments in R&D are viewed as the base to build innovative capabilities and acquire, assimilate, and creatively exploit new knowledge from foreign operations (Zahra & Hyton, 2008). However, GCC banks' expenditures on R&D, that is the most popular measure of absorptive capacity, are still extremely low (Jabsheh, 2002). The low R&D expenditures by GCC banks can be used as an indicator of the weakness of their absorptive capacity which possibly contributes to their inability to benefit from advantages of international expansion in developed markets to improve IC performance.

Another reason why bank internationality does not improve IC performance may be due to the substantial role of families in GCC banks (OECD, 2009; Chahine, 2007). The conservative nature of family ownership may push management of GCC banks to focus on profitability opportunities in international markets instead of focusing on acquiring and transfer knowledge, skills, and technology from international markets. The negative relationship between family ownership and acquiring knowledge based assets, the introduction of productivity enhancing new technology and investment in R&D is well documented in the literature (Chen & Hsu, 2009; Fernandez & Nieto, 2006; Barth *et al.*, 2005; Anderson & Reeb, 2003).

#### **5.7.3.2 Bank Financial Performance**

The positive relationship between bank financial performance as measured by ROE and IC performance in this study supports prior findings by El-Bannany (2008) who finds that bank profitability has a positive impact on IC performance of UK major banks. He suggests that directors of high performing banks will be motivated to encourage staff to innovate and perform better which will in turn increase IC performance (human capital performance). Consistent with El-Bannany (2008), this study further suggests that high-performing banks are more likely to engage in activities and programs that would enhance IC performance such as R&D activities and social responsibility programs. R&D activities would promote banks` ability to introduce new financial products and services and increase firms` stake of intangibles which in turn facilitates IC development (Marques *et al.*, 2006). Social

responsibility programs would increase banks` reputation over time and satisfy stakeholders` expectations.

### **5.7.3.3 The Adherence to Islamic Shariah Principles**

Interestingly and consistent with expectations, this study finds a positive significant association between the adherence to Islamic Shariah principles and IC performance at a 1 percent significant level. The positive result implies greater IC performance when banks operate in line with the Islamic Shariah principles. Furthermore, additional descriptive analysis provides evidence that Islamic banks outperform their conventional counterparts in terms of IC performance.

The positive and significant association between the adherence to Islamic Shariah principles and IC performance supports the theoretical argument that the adherence to Islamic Shariah principles related to banking transactions (“banking Moamalat”) by GCC banks can inevitably enhance the likelihood of IC performance for both human capital and customer capital, the most important component of IC in banks. This is the case because Muslims view banking related to Islamic Shariah principles as part of their ethical principles stemming from their religious beliefs. In consistent with this theoretical argument, previous empirical literature evidences that employees and customers are concerned about the ethical issues of the companies they deal with. In support for this, several studies (e.g. Valenzuela, *et al.*, 2010; Koh & Boo, 2004; Schwpker, 2001) have shown that employees and customers` level of satisfaction increases when companies operate within ethical context. This consequently, will improve IC performance.

Furthermore, the positive and significant association between the adherence to Islamic Shariah principles and IC performance supports the cognitive dissonance theory that suggests that employees want their firms to be ethical and they essentially desire consistency between their ethical values and the ethical climate of their organizations (Azmi, 2006; Koh & Boo, 2004; Schwepker, 2001). The cognitive dissonance theory suggests that the ethical fit between employees and their organization (that result from following organizational practices and procedures with ethical content and are consistent with ethical values of employees) can lead to employee satisfaction (Deconinck, 2010; Mulki *et al.*, 2008; Valentine *et al.*, 2006; Koh & Boo, 2004; Peterson, 2003; Shafer, 2002; Schwepker, 2001; Vitell & Davis, 1990). As discussed in Chapter 3, the positive relationship between employee satisfaction and several aspects of intellectual capital such as employees` innovative ability, firms` ability to retain their current workforce and attract other skilled employees, and customer satisfaction, is well documented in the literature (Nnanna, 2009; Ambrose *et al.*, 2008; Jong & Harlog, 2007; Wangenheim *et al.*, 2007; Cravens & Oliver, 2006; Valentine *et al.*, 2006; Malhotra & Mukherjee, 2004; Shafer, 2002).

#### **5.7.3.4 Bank Riskiness**

With respect to bank riskiness, this study uses the z-score of each bank to measure bank riskiness. The z-score is a measure of bank stability and indicates the distance from insolvency, defined as a state where losses surmount equity (Laeven & Levine, 2009). According to Laeven and Levine (2009), Z-score is the inverse of the

probability of insolvency. Thus, a bank with a relatively high z-score is more stable and less risky compared to that with a relatively low z-score. The coefficient of bank riskiness (i.e. Z-score) is positive and significantly associated with IC performance, as predicted. This result supports the theoretical argument that more stable banks (less risky) are more likely to engage in IC development-related strategies such as human resources development and R&D activities. In contrast, with increased bank riskiness, the attention of management may be directed towards its own requirements (bank survival) and short-term projects that will generate financial returns and protect bank from failure.

Furthermore, the negative significant association between bank riskiness and IC performance supports the market discipline perspective-based arguments which suggest that banks with excessive risk will be disciplined by their stakeholders such as depositors who are more likely to withdraw their deposits from such banks and switch them to safer banks (Stephanou, 2010; Urgan *et al.*, 2008; Barajas & Steiner, 2000; Gilbert, 1990). As a result of losing depositors' confidence, banks' relationships with customers will damage, customer loyalty will erode, and bank reputation will destroy, leading to negative effects on banks' IC performance.

#### **5.7.4 Banking Industry Characteristics and Intellectual Capital Performance**

##### **5.7.4.1 Banking Industry Concentration**

Consistent with expectations, the results of the regression analysis indicate that the degree of banking industry concentration has a positive effect on the level of IC

performance. The positive association between banking industry concentration and IC performance supports the efficient structure (ES) hypothesis which suggests that the degree of concentration is not considered a reflection of the collusive behaviour of banks, but rather a consequence of the superior efficiency of the banks (Rettab *et al.*, 2010; Al-Obaidan, 2008a; Berger, 1995). In light of this view, the concentration process would go hand in hand with a more efficient banking system. Hence, efficient banks (i.e. those with superior management and production technologies that translate into higher profits) are more likely to focus on enhancing efficiency of value creation activities such as IC performance which is regarded as a source for long-term value creation for a bank. The finding of this study supports the conclusion of previous studies that banking industry concentration in GCC countries does not lead to inefficiency of GCC banks and the performance of GCC banks is driven by efficiency considerations (Haskour *et al.*, 2011; Rettab *et al.*, 2010; Al-Obaidan, 2008a).

In contrast, the positive association between banking industry concentration and IC performance does not support the contention that banks in a highly concentrated market may behave according to the quiet life hypothesis. The quiet life hypothesis suggests that the increased concentration leads to a relaxed banking environment with no incentives for managers to invent and satisfy their customers by developing the quality of their services and products.

#### **5.7.4.2 Presence of Foreign Banks**

The results of the regression analysis indicate that the presence of foreign banks has a strong negative significant association with IC performance at a 1 percent significant level. This unexpected finding contradicts the argument that the presence of foreign banks will lead to improved IC performance of GCC banks either by spillover of knowledge or enhancing of competition. This finding indicates that the increase in the presence of foreign banks in GCC countries would lead to deterioration in IC performance of GCC banks.

One plausible explanation for the significant negative finding between the presence of foreign banks and IC performance of GCC banks is that GCC banks may not have sufficient competency to adapt to a new competitive environment resulting from the presence of foreign banks. Foreign banks in GCC countries such as Citigroup, HSBC, BNP Paribas, ABN Amro and Standard Chartered are characterized by having advanced technology, broader product offerings, high-quality, sophisticated risk management techniques and qualified human capital<sup>6</sup> (Turk-Ariss, 2009). These advantages of foreign banks are likely to motivate customers in GCC countries to switch to foreign banks because foreign banks are better able to meet customers' needs and demands for superior and innovative products and services. According to Fathi (2010), domestic banks in developing countries such as GCC countries would be unable to withstand the fierce competition by the presence of foreign banks which are comparatively more efficient and more able to attract the best and more

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<sup>6</sup>All these foreign conventional banks have set up separate Islamic windows to structure Islamic financial products and are offering Islamic banking services to their Muslim clients (Awan, 2009).

profitable customers of domestic banks due to the latter`s ability to provide better services to their customers. This scenario is more likely to happen in GCC countries where customers are becoming more demanding and less loyal to domestic banks (El-Saadani, 2011). This in the end would lead to eroding customer base of GCC banks and detriment their IC (customer capital) performance.

Another possible reason that contributes to the significant negative findings of this study is that foreign banks usually face high costs of acquiring information about local firms and borrowers in domestic markets in comparison to domestic banks (Cull & Peria, 2010; Clarke, Cull, and Pería, 2006). Hence, in order to have a deep understanding of local businesses and to mitigate information costs of doing businesses in the local markets, foreign banks may resort to introduce a higher remuneration package and wages than that introduced by domestic banks so as attract the most skilled and qualified local bankers and employees. According to El-Saadani *et al.* (2011), the presence of foreign banks in GCC countries increases the competition for skills and talent. El-Saadani *et al.* (2011) indicate that the demand for skilled banking staff is outstripping the supply in the GCC countries. Shortage of skills is the biggest challenge facing the GCC banking industry, aside from new regulations, especially as more global banks enter the market. Foreign banks in GCC countries are characterized as being larger and financially stronger than GCC banks (Turk-Ariss, 2009) which help the former to attract more local-skilled and qualified banking staff. As a result, GCC banks that fail to compete with foreign banks in terms of employee wages and remuneration package may fail to retain their skilled



and talent workforce and attract new ones. Consequently, human capital performance would be detrimental.

Furthermore, it has been argued that the expected knowledge spillovers from foreign banks to domestic banks are not guaranteed (Weller & Hersh, 2002). Weller and Hersh (2002) suggest that foreign banks know well their competitive advantage and they would be reluctant to diffuse their advantages in terms of management or technological know-how. Thus, there is no guarantee of efficiency gain for local banks, following the entry of foreign banks.

Overall, the negative effect of foreign bank presence on IC performance may be one of the short-term negative effects of foreign banks presence. In the long-term, the IC performance of GCC banks is expected to improve because GCC banks are more likely to increase their investment in resources underlying IC such as human resources development, developing new and innovative products and services, and adopting new technology. However, improved IC performance occurs gradually.

#### **5.7.5 Macroeconomic Environment (Economic Growth)**

Consistent with expectations, this study finds a positive significant association between economic growth (as measured using GDP growth rate) and IC performance at a 1 percent significant level. This result provides evidence of the critical role of macroeconomic environment in accounting for IC performance supporting the theoretical argument that higher economic growth leads to higher IC performance.

### **5.7.6 Moderating Effect of Frequency of Board Meetings on the Relationship between Board Diversity and IC Performance**

This study hypothesizes the relationship between board diversity (namely, educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and IC performance would be more pronounced under certain contextual conditions. This study theorizes that frequency of board meetings is a critical factor that can suppress the costs of board of directors' diversity while harnessing the benefits of such diversity. Frequency of board meetings is expected to smooth out salient differences and encourage the fullest potential of diversity. More specifically, Hypotheses 6-10 predict that frequency of board meetings would positively moderate the relationship between board diversity and IC performance.

Findings of this study indicate little support for the contingency arguments of frequency of board meetings. The interactions between (i) representation of independent directors and frequency of board meetings and (ii) board nationality diversity and frequency of board meetings significantly affect IC performance, but in a negative way. The interaction effects of frequency of board meetings and other board diversity variables tested in this study do not significantly influence bank IC performance.

A possible explanation for the insignificant moderating effect of frequency of board meetings on the relationship between board diversity namely educational level, board interlocking, and board size and IC performance is that the preparation and

active participation of directors in board meetings are poor. According to the GCC Board of Directors Institute survey, 82% of GCC board members stated that they do not receive the appropriate information to prepare ahead for meetings (GCC Board of Directors Institute, 2011). GCC board members stated that they do not receive sufficient and appropriate information about corporate strategy and industry trends as well as organizational information. Consequently, they do not participate actively during board meetings (GCC Board of Directors Institute, 2011). According to Jensen (1993), even if board members are highly talented, the limitation of information given to them severely hinders their ability to contribute effectively to the monitoring and evaluation of the company`s strategy. Arguably, as a result of not receiving sufficient and appropriate strategic information, GCC board members who lack the necessary skills and adequate understanding of banking environment (OECD, 2009) are less likely to actively participate in meetings and involve in strategic decisions such as those related to IC development.

Another reason for the insignificant moderating effect of frequency of board meetings on the relationship between board diversity (namely educational level, board interlocking, and board size) and IC performance may be due to the fact that Arab companies would usually have a coercive or authoritative style of management, giving lesser room for subordinate input (Bakhtari, 1995). Such organizations are likely to discourage or limit the exchange of ideas in board meetings and thus limit the opportunities for diverse boards to benefit from the fullest potential of diversity and interlocking. In addition, it has been suggested that routine tasks take much of a board`s meeting time at the expense of substantive issues (Jensen, 1993). This thus

limits the opportunities for diverse boards to exercise meaningful control over management and be involved in strategic decisions such as those related to IC performance.

Findings of this study indicate that even when directors with diverse educational level meet frequently, they do not add value to IC. This finding may lend support to the prior justification of this study that mere diversity of educational level among board members is not sufficient to add value to IC. However, it is perhaps the diversity of the type of education and expertise that matter. Furthermore, with regards to board interlocking, this study suggests that interlocking directors may perform better and add value to IC when their meeting schedule is not overloaded. This is because interlocking directors are busy and have less time to spend in board meetings. Thus, perhaps when interlocking directors meet often, they may be under stress and uncertainty which in turn may limit their ability to provide useful advice and contribute effectively.

As mentioned earlier, the frequency of board meetings negatively moderates the relationship between (i) board nationality diversity and IC performance and (ii) representation of independent directors and IC performance. Hence Hypotheses 7 and 10 are not supported. A possible explanation for these unexpected findings is that both foreign directors and independent directors are working in an environment characterized by high information asymmetry problem (Chahine, 2007). As discussed earlier, foreign directors and independent directors are more likely to have larger asymmetries of information about firm activities than domestic or dependent

directors do- which in turn impede the formers` ability to access and acquire strategic information. In addition, independent directors in general lack specialized knowledge about the firm's activities that help them to evaluate and ratify the firm's long-term strategies (Klein, 1998). Therefore, under this condition, perhaps when boards with many independent directors or foreign nationals meet often, they tend to change strategic plans and overly complicate things. Thus, frequent meetings with many independent directors or foreign directors may create stress, conflict, and uncertainty among highly independent boards or highly nationality diverse boards which are counter productive and impedes the development of good IC related decisions and strategies. This would result in poor IC performance.

The unexpected findings of this study suggest that other aspects of board meetings may need to be considered. For example, questions that relate to the “quality of meetings” that need to be addressed include: (i) Do board members receive sufficient and appropriate information about substantive issues such as IC related information? (ii) Is there free-flowing of the exchange of ideas in board meetings? and (iii) To what extent are meetings used for routine tasksas and substantive issues?

## **5.8 Summary**

In this chapter, the findings of the present study are presented. A number of additional analyses including using different measurements of nationality diversity, board size, representation of independent directors and government ownership are conducted. In addition, this study further analyses if the global financial crisis influences GCC bank performance in terms of IC. This study also modifies basic

model as well as the hierarchical regression analysis by replacing the Value added intellectual coefficient (VAIC) by the Intellectual Capital Efficiency (ICE) as a dependent variable. All these tests are conducted to test the stability and the robustness of the findings. The results are as summarized in Table 5.24. The next chapter draws the conclusions, implications, limitations as well as suggestions for future research of the study.

Table 5.24  
*Summary of Hypotheses Testing*

	Hypothesis	Findings	Additional analysis
H1	<u>Educational level diversity</u> There is a positive relationship between board educational level diversity and bank IC performance.	Not supported	
H2	<u>Nationality diversity</u> There is a positive relationship between board nationality diversity and bank IC performance.	Not supported	Not supported
H3	<u>Board interlocking</u> There is a positive relationship between board interlocking and bank IC performance.	supported	
H4	<u>Board size</u> There is a positive relationship between board size and bank IC performance.	Not supported	Not supported
H5	<u>Representation of independent directors</u> There is a positive relationship between the representation of independent directors and bank IC performance.	Not supported	Not supported

Table 5.24 (Continued)

	Hypothesis	Findings	Additional analysis
H6	<p><u>Moderating effect of frequency of board meetings on the relationship between educational level diversity and IC performance</u></p> <p>The frequency of board meetings positively moderates the relationship between board educational level diversity and bank IC performance.</p>	Not supported	
H7	<p><u>Moderating effect of frequency of board meetings on the relationship between nationality diversity and IC performance</u></p> <p>The frequency of board meetings positively moderates the relationship between board nationality diversity and bank IC performance.</p>	Not supported	
H8	<p><u>Moderating effect of frequency of board meetings on the relationship between board interlocking and IC performance</u></p> <p>The frequency of board meetings positively moderates the relationship between board interlocking and bank IC performance.</p>	Not supported	
H9	<p><u>Moderating effect of frequency of board meetings on the relationship between board size and IC performance</u></p> <p>The frequency of board meetings positively moderates the relationship between board size and bank IC performance.</p>	Not supported	

Table 5.24 (Continued)

	Hypothesis	Findings	Additional analysis
H10	<p><u>Moderating effect of frequency of board meetings on the relationship between the representation of independent directors and IC performance</u></p> <p>The frequency of board meetings positively moderates the relationship between representation of independent directors and bank IC performance.</p>	Not supported	
H11	<p><u>Governmental ownership</u></p> <p>There is a negative relationship between government ownership and bank IC performance.</p>	Not supported	Supported
H12	<p><u>Family ownership</u></p> <p>There is a negative relationship between family ownership and bank IC performance.</p>	Supported	
H13a	<p><u>domestic strategic institutional ownership</u></p> <p>There is a positive relationship between domestic strategic institutional ownership and bank' IC performance.</p>	Not supported	
H13b	<p><u>foreign strategic institutional ownership</u></p> <p>There is a positive relationship between foreign strategic institutional ownership and bank' IC performance</p>	Not supported	
H13c	<p>The positive association of foreign strategic ownership is significantly higher than the positive association of domestic strategic institutional ownership.</p>	Not supported	



Table 5.24 (Continued)

	Hypothesis	Findings	Additional analysis
H14	<u>Foreign non-strategic institutional ownership</u> There is a positive relationship between foreign non-strategic institutional ownership and bank IC performance.	Not tested	
H15	<u>Domestic non-strategic institutional ownership</u> There is a negative relationship between domestic non-strategic institutional ownership and bank IC performance.	Not supported	
H16	<u>Bank internationality</u> There is a positive relationship between bank internationality and bank IC performance.	Not supported	
H17	<u>Financial performance</u> There is a positive relationship between bank financial performance and bank IC performance.	Supported	
H18	<u>The adherences to Islamic Shariah principles</u> There is a positive relationship between the adherences to Islamic Shariah principles and bank IC performance.	Supported	
H19	<u>Bank risk</u> There is a negative relationship between bank risk and bank IC performance.	Supported	
H20	<u>Banking industry concentration</u> There is a positive relationship between banking industry concentration and bank IC performance.	Supported	
H21	<u>Presence of foreign banks</u> There is a positive relationship between the presence of foreign banks and bank IC performance.	Not supported	
H22	<u>Economic growth</u> There is a positive relationship between economic growth and bank IC performance.	Supported	

## **CHAPTER SIX**

### **SUMMARY, CONCLUSIONS, 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 potential implications of the study. Section 6.4 discusses research limitations and offers several possible avenues for further research. Finally, Section 6.5 concludes the chapter.

#### **6.2 Summary**

With the ascendancy of knowledge-based economy, the importance of IC has greatly increased. IC has now become the key factor in creating and maintaining an organization's competitive advantage and shareholder value. This is especially so in knowledge-intensive industries like the banking industry as their key resources are intangible and intellectual in nature. A review of the current state of IC research recognizes that research related to determinants of IC performance is still in its infancy. This motivates the researcher to address this issue, extending the work of prior research on determinants of IC performance, by focusing on GCC countries which are often excluded in previous studies.

Recognizing the urgency for diversifying their economy, promoting sustainable economic growth and reducing their dependency on the export of oil and gas as revenues, GCC governments began to promote the development of knowledge-based

sectors. GCC governments have encouraged companies to adopt strategies to boost their productivity, innovative ability and acquire the right skills. In the same line, the GCC countries are exerting intensive efforts to transform their economies into world financial hubs. The banking sector dominates the financial industry in GCC region, controls most of the financial flows, and possesses most of the financial assets in the region (Al-khouri, 2011). The banking sector is considered by GCC governments to be one of the most economically viable diversification options (Al-obaidan, 2008a: Al-obaidan, 2008b).

As stated by many researchers (Ahuja & Ahuja, 2012; Latif *et al.*, 2012; Ting & Lean, 2009; Kamath, 2007; Goh, 2005), IC is the key factor in the value creation process of the banking sector and it determines the quality of services provided to customers. This study, thus, aims to identify the level of IC performance of GCC banks and to contribute in the current debate about the possible factors contributing to or limiting IC performance.

This study examines the effect of the board diversity, ownership structure, bank specific characteristics, banking industry's characteristics, and macroeconomic environment on the IC performance of GCC listed banks. This study, further, investigates the hypothesized impact of frequency of board meetings in moderating the relationship between board of directors' diversity (namely, educational level diversity, nationality diversity, board interlocking, board size, and representation of independent directors) and IC performance.

To measure IC performance, this study employs the Value Added Intellectual Coefficient (VAIC) method developed by Pulic (1998) which has recently been

considered as one of the best proxy for IC performance (Latif *et al.*, 2012; Kamath, 2007; Goh, 2005).

To examine the impact of the independent variables and moderator variable on IC performance, a total of 128 GCC listed banks over the period 2008-2010 are observed. A multiple regression analysis has been adopted to test the hypotheses. To identify the possible effect of the moderator variable (i.e. frequency of board meetings) on the relationship between board diversity and IC performance, a multiple hierarchical regression analysis is conducted.

From the analyses conducted, it was found that three out of the five characteristics of board diversity tested in the study are significantly associated with IC performance. While the conventional wisdom accepts the need for greater diversity among board members in terms of educational level and nationality, this study shows that neither board educational level diversity nor board nationality diversity is found to be significant. In contrast to upper echelon theory and resource dependency theory, the findings show that higher board diversity in terms of educational level and nationality does not lead to superior IC performance.

This finding points to the need for identifying the importance of bank relevant skill set appropriate for the respective GCC bank boards. The low representation of foreign directors on the GCC bank boards and the high level of information asymmetry that characterized GCC banks may be the main factors which limit the ability of foreign directors to significantly contribute in developing IC performance. This study also found that frequency of board meetings does not moderate the relationship between educational level diversity and IC performance. However,

frequency of board meetings is found to negatively moderate the relationship between board nationality diversity and IC performance.

As expected, this study finds that board interlocking is significantly and positively associated with IC performance. However, this relation is not contingent on frequency of board meetings. On the other hand, while the resource dependency theory predicts a positive relationship between board size and IC performance, this study finds a significant but negative association between board size and IC performance. This suggests that banks with larger boards have lower IC performance. This finding may be attributed to those 4Cs problems (i.e., communication, collaboration, coordination, and cohesiveness) which dominate the marginal benefits of having additional combined expertise provided by larger boards, and make it difficult for the members to use their knowledge and skills effectively. Moreover, in the GCC context, the OECD-Hawkamah Survey reveals that most of the selected directors of GCC banks lack the necessary skills and adequate understanding of the banking environment (OECD, 2009). This may lead to coordination, communication, and decision making problems. This study also does not find any significant moderating effect of frequency of board meetings on the relationship between board size and IC performance.

With respect to representation of independent directors, while the resource dependency theory predicts a positive relationship between a higher representation of independent directors on board and IC performance, this study finds a significant but negative association between number of independent directors and IC performance.

This suggests that banks with a lower number of independent directors have better IC performance. This finding may be attributable to several reasons. Among them are the high concentration of family ownership and the information asymmetry problem in GCC banks. Consequently this raises concerns of the effectiveness of some requirements such as calls for one third of directors to be independent when there is a scarcity of qualified independent directors.

Surprisingly, this study finds a significant, but negative moderating effect of frequency of board meetings on the relationship between representation of independent directors and IC performance. This finding is inconsistent with the hypothesis. It has been argued that many independent directors do not fully understand the bank`s operations due to the high information asymmetry problem and the lack of financial sophistication and expertise in banking matters. Therefore, when they meet too often, they tend to change strategic plans and complicate things. Thus, frequent meetings with many independent directors may create stress, conflict, and uncertainty among highly independent boards which is counter-productive. As a consequence, it would result in poor IC performance.

In line with the findings by Saleh *et al.* (2009), this study finds that family ownership has a significant negative impact on IC performance. This suggests that the conservative or opportunistic behavior of family members in pursuing their objective at the expense of minority shareholders does not help promote IC performance. Additionally, this study finds that government ownership does not influence IC performance. This study suggests that the negative impact of government ownership

on IC performance takes place only when a government holds a majority of shares in a firm. Otherwise, the government acts as a passive investor with no impact on firm operations, particularly, on strategic plans of a bank. This study also documents that IC performance is negatively associated with ownership held by domestic banks and financial institutions which contradicts the prediction of this study. However, the role of foreign strategic ownership is found to be insignificant. This suggests that foreign strategic ownership does not contribute in improving IC performance of GCC banks. Additionally, this study finds an interesting finding of the relationship between the domestic non-strategic ownership and IC performance. Contradictory to the expectation, there is a moderately significant positive relationship between domestic non-strategic ownership and IC performance.

The bank-specific characteristics examined are bank internationality, bank adherence to Islamic Shariah principles, bank financial performance, and bank riskiness. Interestingly, the adherence to Islamic Shariah principles shows a significant positive association with IC performance, supporting the cognitive dissonance theory that the ethical fit between employees and their organization will lead to increased employees' satisfaction. In addition, consistent with El-Bannany (2008), bank riskiness and bank financial performance are also found to be able to predict IC performance. However, bank internationality is not related to IC performance. With respect to banking industry characteristics, it is found that the degree of banking industry concentration has a positive effect on the level of IC performance, providing support for efficient structure (ES) hypothesis. On the other hand, the presence of foreign banks reduces IC performance. With Regards to the macroeconomic

environment, the results indicate that economic growth strongly and positively influence IC performance.

### **6.3 Implications of Study**

#### **6.3.1 Implications for Theory**

The findings of this study show that board demographic diversity (i.e. educational level and nationality) is not related to IC performance. Thus, the study fails to support the resource dependency theory and upper echelon theory in terms of the association between educational level diversity, nationality diversity and IC performance. However, the findings seem to support the theoretical assumption by scholars like Talke *et al.* (2010) and Certo *et al.* (2006) that board demographic diversity exhibits no main effect on firm performance. They suggest that instead of investigating a simple direct relationship between board demographic diversity and firm performance, variables that affect this relationship should be explored. The findings, however, indicate no support for the contingency arguments of board meeting frequency.

Furthermore, the significant impact of board interlocking on IC performance supports the resource dependency theory which suggests that interlocking directors influence decision in the favour of firm for which they are affiliated and sustaine its performance (Lawal, 2012; Muth & Donaldson,1998). The theory argues that interlocking directors could facilitate the transfer of knowledge and know-how to the focal firm, legitimize firms` actions and improve firms` reputation, thus positively



impacts the IC performance. The study however fails to support the resource dependency theory in terms of the association between board size, representation of independent directors and IC performance. In fact, this study documents a negative significant relationship between both board size and board independence and IC performance. This challenges the normative advice of good governance, particularly in relation to a greater representation of independent directors on the board.

It appears that the results relating to board size is more consistent with the stewardship theory which stresses the need for smaller board size in line with organizational behaviourists/psychologists argument that small teams promote group cohesiveness and bonding that propel high performance (Muth & Donaldson, 1998). With respect to the role of the representation of independent directors, the results of this study are also more consistent with the stewardship theory which suggests that boards should be dominated by inside directors (Koerniadi & Tourani-Rad, 2012; Nicholson & Kiel, 2007).

Overall, the findings of this study lend support to the notion that board characteristics play an important role in determining of IC performance. The findings add further to the view that there is no single theory explains the nexus between board of directors and performance (Jackling & Johl, 2009). Thus, Adopting a multi-theoretical approach that include several theories such as the resource dependency theory, stewardship theory, institutional theory as well as agency theory will help researchers to get deeper understanding of the relationship between board diversity and IC performance.

This study also provides limited support for the hypothesized moderation effect. It appears that frequency of board meetings does not provide a contextual condition under which the four types of diversity (i.e. educational level, nationality, board interlocking, and board size) can positively affect IC performance. On the contrary, it seems that frequency of board meetings increases the negative effects of representation of independent directors on IC performance. This suggests a promising area for future research, exploring the various aspects of board meetings that need to be considered in terms of the impact on board diversity-IC performance.

While agency theory and resource-based theory provide important insights in examining the impact of ownership structure on IC performance, findings of this study imply that it is important to take into consideration how the institutional context, in which GCC banks are embedded, such as legal restrictions on foreign ownership and identity of controlling shareholders, influence the behavior and ability of foreign and domestic shareholders to effectively contribute to improve IC performance. According to Douma *et al.* (2006), combining agency and resource-based theories with institutional theory yields a deeper understanding of the influence of various shareholders in determining firm performance especially among emerging economies.

This study finds a strong association between bank adherence to Islamic Shariah principles and IC performance. This finding supports the cognitive dissonance theory and previous empirical literature which suggests that employees and customers are concerned about the ethical issues of the companies they deal with. The cognitive

dissonance theory is an applicable theoretical framework to explain the association between IC performance and ethical behavior of organizations-related variables. Additionally, findings of this study provide support for efficient structure (ES) hypothesis as a relevant conceptual framework to examine and explain the influence of market structure on IC performance.

### **6.3.2 Implications for Policy Makers and Regulators**

The findings of this study may help the banking regulators in GCC region to address the factors affecting IC performance of banks in order to take actions towards developing their IC performance and maximizing their value creation. This study strongly supports the use of VAIC by banking regulators to benchmark banks. Based on the efficiency rankings, regulators can identify banks that are weak in value creating potential and may subsidize them for the establishment of a resilient banking sector.

The insignificant effect of educational level diversity on IC performance suggests that merely a diverse level of academic qualifications, which provide diverse skills of research and analysis, does not add value to IC performance, but there is a need for identifying the importance of bank-relevant skill sets that are appropriate for GCC banks. Similarly, nationality diversity is not significantly related to IC performance. Consequently, this raises concerns of the benefits of recruiting more foreign nationals on GCC boards, (as recommended by GCC corporate governance institutions), suggesting that this procedure is not a quick way to enhance IC performance. A policy implication from this finding is that more research is needed

in order to understand whether foreign members experience difficulties in promoting better corporate governance and adding value to IC performance.

The positive impact that interlocking directors have on IC performance confirms the hypothesized role of interlocking directors in facilitating IC development. Thus, results of this study do not necessitate the imposition of stringent limits on multiple positions of directors in institutional contexts akin to GCC banking sector.

This study provides evidence that large boards perform ineffectively. This may be due to the 4C problems (i.e., communication, collaboration, coordination, and cohesiveness) which may dominate GCC large boards. This implies that regulators in GCC countries may wish to limit the number of board members.

The findings of this study warrant further investigation on the nature of the role played by independent directors of GCC banks in developing IC performance. As a high number of independent directors is found to be associated with low IC performance, the GCC policy makers and regulators must analyze whether the recommendations for GCC firms to have a board of directors dominated by independent directors is appropriate. The regulators should bear in mind that GCC banks are operating in small stock markets and it may not be easy for GCC banks to have qualified independent directors due to their lack of expertise, skills and knowledge in understanding the banking environment (OECD, 2009). In addition, the high information asymmetry in the GCC banking sector are more likely to make GCC banks do not benefit from having a large number of independent directors. Furthermore, the dominant role of the controlling shareholders in nominating and

selecting independent directors might prevent banks from appointing ‘truly’ independent directors.

With regards to frequency of board meetings, findings of this study indicate that there is a need for more effective meetings through providing appropriate and sufficient information to directors particularly in strategic issues such as those related to IC. By doing so, board members would be better prepared and more involved in meetings. In addition, findings of this study may lend support to the recommendation issued recently by GCC Board of Directors Institute (2011) that GCC boards need to allocate more time to discuss strategic issues.

The findings of this study indicate that a high level of family ownership may restrain IC performance. This in turn may impair the bank’s long-run success and minority shareholders’ gains, suggesting that policy makers and regulators should consider the detrimental effect of family ownership on GCC banks’ future viability. The negative effect of government ownership on IC performance appears when government owns the majority of bank shares which enable it to exercise control over key decisions of the bank. The adverse effect of domestic strategic ownership on IC performance suggests that domestic banks and financial institutions do not play an active role in improving IC performance. In fact, their high investment in banks reduced IC performance. This may be due to the fact that most of GCC banks and other domestic financial institutions are still government and/or family controlled institutions and that may explain the negative effect of these institutions on IC performance. Therefore, the results of this study show the urgent need for reforms in

the ownership structure of the banking sector in the GCC countries. It appears that regulators should consider the requirement for GCC banks to have a dispersed ownership structure and/or they should consider refining the law to increase the punishment of controlling shareholders who expropriate the minority shareholders. It has been argued that highly concentrated ownerships in Asian countries are a consequence of poor enforcement of legal protection of shareholders in such countries. Therefore, in GCC countries, where the legal protection for shareholders is poor (Al-Kuwari, 2009), the regulators should strengthen the enforcement of legal protection of shareholders to protect minority shareholders' interests.

Results of this study show that the existence of foreign strategic ownership has no positive effects on IC performance of domestic GCC banks. This result is very interesting and suggests that restrictions on the maximum limit of foreign ownership do not help foreign investors to exercise strategic control and enable them to make changes in bank strategies and internal governance structure. This means that the GCC banking industry may miss the opportunities in terms of unrealized spillover effects, arising from the presence of foreign banks in ownership structure of domestic GCC bank. Therefore, as foreign strategic ownership would have no impact on IC performance, the GCC regulators must analyze whether the current maximum limits of foreign ownership is appropriate.

The finding that bank adherence to Islamic Shariah principles has a strong significant positive association with IC performance implies that regulators and policy makers should consider the importance of a favorable ethical climate and culture in the

banking organization. To some extent this finding raises questions with regards to whether the regulators in GCC countries should encourage the conversion from the conventional to an entire Islamic banking system, similar to countries like Sudan and Iran. It appears that the adherence to Islamic Shariah principles gives GCC banks a competitive advantage over their foreign peers.

With respect to banking industry characteristics, this study finds a significant positive effect of banking industry concentration on IC performance or efficiency of value creation activities in GCC banks suggesting that concentration need not be considered a reflection of the collusive behavior of banks, but a consequence of the superior efficiency of bank in GCC region. This finding is in line with prior research on the relationship between banking industry concentration and efficiency of GCC banks which suggests that the concentration of GCC banking industry should not stand as a worry since they have not contributed to market power edge and inefficiency (Haskour *et al.*, 2011; Rettab *et al.*, 2010; Al-Muharrami, 2008; Al-Obaidan, 2008a). In light of this evidence the recent GCC governments` policy to encourage mergers in the banking sector may be justified on the grounds of efficiency and international competition.

While this study claims that the presence of foreign banks would help GCC banks to improve their IC performance through either knowledge spillovers or enhancing the competition, the result is however disappointing. The presence of foreign banks does not improve, but rather deteriorate the performance of IC. As highlighted earlier, the negative impact of presence of foreign banks on IC performance could be one of the

short-term negative effects on domestic banks. In the long run, GCC banks would undergo major changes in order to improve IC performance and to resist competitive pressures by foreign banks.

The negative significant association between the presence of foreign banks and IC performance of GCC banks implies that the liberalization of the GCC banking sector should be organized carefully. Gradually opening up will help domestic banks to adapt themselves to the new environment and survive. Otherwise, the liberalization process might be harmful to GCC banks. This finding suggests that banking regulation and supervision should consider the influence of presence of foreign banks to GCC banks to make them more efficient and able to compete on an equal platform with their foreign peers. Banking regulation and supervision should encourage domestic GCC banks to focus on investments focused on implementing new services and products, improving the quality of existing activities, improving management, and the upgrading of staff. In the long turn, this could help domestic banks to reduce the negative effects of foreign banks presence on their IC performance.

### **6.3.3 Implications for Management and Shareholders**

The results presented in this study could be useful to management who are concerned with improving IC performance and corporate governance practices in their banks. It should create awareness among management of the importance of best corporate governance practices and bank specific characteristics in enhancing IC performance. Findings of this study provide information about board characteristics



and bank specific characteristics that significantly affect IC performance of GCC banks. These characteristics should be considered by the management if it intends to improve IC performance. With respect to bank internationality, the results highlight a need for managerial action that builds and harvests banks` absorptive capacity. Without building its R&D capabilities, GCC banks cannot recognize, assimilate, and exploit new knowledge or acquire other capabilities to be gained from international operations and employ it in a way that would contribute in improving IC performance.

Shareholders may also find the results of this study to be of value. Investors who seek to invest in GCC banks can utilize this study`s findings in determining features that may provide an indication of future IC performance. With respect to board characteristics, for example, results suggest those with corporate governance structures having higher board interlocking, lower board size and lower representation of independent directors had higher level of IC performance. Investors, therefore, may seek to invest in GCC banks with such corporate governance features in order to generate higher returns.

Due to the critical role of owners in determining the IC policy and subsequently its performance as revealed in this study, investors should pay more attention to a bank`s ownership structure when they select investment targets. For example, if investors invest in a GCC bank with high family ownership, the GCC bank may be seen as very likely to under-invest in IC resources which in turn may jeopardize their long-term investment.

#### **6.3.4 Implications for Academic Researchers**

The results presented in this study could be useful to academic researchers studying determinants of IC performance worldwide. This study provides evidence that board diversity, ownership structure, bank specific characteristics, banking industry characteristics, and macroeconomic environment influence IC performance. It is worth to extend the study to other markets in the future, especially in emerging markets.

#### **6.4 Limitations of the Study and Future Research**

As with any research, this study has some of limitations that should be highlighted in order to warrant a fair interpretation of the results. The sample in this study is restricted to only GCC listed banks, all non-financial related firms are excluded as they are regulated by different Acts. Hence, the outcomes from this study cannot be generalized to these institutions. Since data related to non-listed banks is not publicly available, the results of this study may not be generalized to non-listed banks. In addition, this study covers only three years from 2008 to 2010 which is a short period for the time series data. Further studies should seek to have larger span of time in order to better understand the long term relationship between corporate governance and IC performance in GCC countries.

Due to limitations to the data accessibility and transparency within the region, this study does not examine other variables that may affect IC performance. For example, industry expertise, investment in information technology (IT) systems, and spending on R&D are not included in this study.

Nevertheless, the above limitations highlight rooms for improvement in future IC performance studies. Extension to the current study is possible in the following areas:

1. This study focused only on certain set of board characteristics for their impact on IC performance. While the characteristics covered are important, there are other diversity variables such as age of directors, expertise of directors, and length of service of directors appointed to the board, that could be considered.
2. With respect to board independence, further investigation is needed to assess the effectiveness of the independent directors because of the unsatisfactory results from this study. Future research could perhaps distinguish between 'independent' and 'grey' directors in the GCC context, such as Beasley's (1996) study of US firms, to provide a more precise measure of board independence and its relationship to IC performance. Furthermore, because independent directors are more likely to have less informative about a firm's operations, future research could also investigate the moderating effect of information asymmetry on the relationship between the representation of independent directors and IC performance.
3. Since this study finds that frequency of board meetings does not provide a contextual condition under which the five types of diversity (i.e. educational level, nationality, board interlocking, board size, and representation of independent directors) can positively affect IC performance, future research could investigate other contingent conditions under which board diversity

would in fact lead to greater IC performance. Moreover, findings of this study suggest a promising area for future research, exploring the various aspects of board meetings that need to be considered in terms of the impact on board diversity-IC performance. The insignificant or the significant but negative moderating effect of frequency of board meetings raise concerns and questions that are related to the quality of meetings in GCC banks. Hence qualitative factors such as the behavior of the directors in board meetings are relevant.

4. This study finds that foreign strategic ownership has no impact on IC performance. As suggested by Saleh et al (2009), the nature of foreign ownership (level of foreign strategic ownership, participation in decision making or origin) that may bring in more positive effects to the IC performance is subject to future research.
5. Instead of differentiating strategic institutional ownership based on domestic or foreign basis, future research could also use other classification such as dividing the institutional ownership into two classes, which are pressure-insensitive institutions and pressure-sensitive institutions (Brickley, Lease and Smith, 1988). This may provide useful insights on the role of different types of institutional investors on IC performance.
6. Since this study finds a high significant relationship between bank specific characteristics, banking industry characteristics, macroeconomic environment variables and IC performance, future research could also consider other bank

specific characteristics, other banking industry characteristics and other macroeconomic environment variables.

7. Since this study fails to find a significant impact of bank internationality on IC performance (which contradicts the organizational learning theory predictions), it would be useful for future studies to examine the contingent conditions under which bank internationality could lead to greater IC performance. This study suggests that the association between bank internationality and IC performance is contingent upon the firm's absorptive capacity. However, this suggestion should be tested empirically.
8. 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 banking industry concentration also exist in other Arab countries such as Egypt, Jordan, and Tunisia. Perhaps, replicating this study in these countries can provide more powerful tests of the relationships examined in the study.
9. Finally, future studies could conduct a comparative analysis, for example between GCC banks and other sectors within GCC countries or between GCC countries and another nation.

### **6.5 Concluding Remarks**

This study has contributed to the field of IC related studies, particularly with regards to determinants of IC performance. To the knowledge of the researcher, this study is the first study that examines the determinants of IC performance in the GCC region,

an emerging region. The findings of this study will stimulate scholars in the corporate governance-IC performance relationship in examining this relationship from a multiple theoretical perspectives.

The findings of the study raise questions about whether the western practices of corporate governance are applicable in GCC region where business and institutional environments are different. It appears that because of GCC region exhibit different business and institutional environments, it is not appropriate to merely adopt the western styles of governance. The findings of this study would be useful to GCC countries in terms of reviewing the current practices of corporate governance and determine the future directions for improvement.

Researchers should also consider the impact of firm specific characteristics, industry characteristics, and macroeconomic environment variables on IC performance. The findings of this study provide more insights to the regulators of GCC banking sector, particularly in areas such as market structure, presence of foreign banks, and Islamic banking.

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## **Awards**

Universiti Utara Malaysian's Dean's Award for Excellent Academic Achievement in the Master of Science (International Accounting), 2009.