THE MODERATION ROLE OF FIRM AND COUNTRY LEVEL FACTORS IN THE RELATIONSHIP BETWEEN BOARD GENDER DIVERSITY AND FIRM PERFORMANCE

EVIDENCE FROM GCC COUNTRIES, UK AND FRANCE

A thesis submitted for the degree of Doctor of Philosophy

By

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ABSTRACT

Increasing representation of women on corporate boards of directors has been on the political and economic agendas of many governments around the world. Following in the footsteps of Norway's institution of a gender quota to its corporate boards in 2003, several EU countries legislated likewise (e.g. France and Spain). However, milder approaches to promote gender equality among its boards characterized initiatives undertaken by other countries (e.g. UK). Between the two approaches one may surmise the interaction different institutional and corporate environments that influence not only the presence of women in such positions but the effectiveness of women as participants in boards in terms of corporate outcomes (i.e. performance).

The empirical evidence on the impact of presence of women on corporate boards is mixed and inconclusive. This might be due to difficulty of capturing complex interactions among endogenous and exogenous variables generating the level -- and effectiveness thereof -- of participation of women in corporate boards. Inadequate theoretical frameworks used to address this relationship and contextual disparities that perturb it also contribute to these inchoate results. In addressing this analytical gap, this doctoral thesis poses a complex question: why does effectiveness of women on boards vary from one country to another? In other words, why would women have a substantive impact on corporate performance in France yet only having a marginal impact on the same in USA? In answering this question, a comprehensive and multi-level literature review from various backgrounds was conducted. Following that, several theoretical frameworks that underpin the relationship between board gender diversity and firm performance are discussed with a view to the elaboration of endogenous and exogenous variables interacting in a conceptual model constructed in line with the integration of agency theory and institutional theory. The integration of both theories allows studying board gender diversity as a part of corporate governance phenomenon that affects firm

performance in an external institutional environment that creates isomorphic pressures on the firm decisions and outcomes.

The moderating role of country- and firm-level factors hypothesized in the relationship between board gender diversity and firm operational and market performance was tested using sixteen hypotheses. Most studies were conducted in western corporate environments with few in emerging economies. In this thesis, notably, substantial differences between western and emerging countries in terms of institutional and corporate environments were evaluated to gauge the extent to which these differences influence the ability of women to impact corporate performance. Panel data models were constructed using variables drawn from the conceptual model to investigate how firm- and country-level factors affect the contribution to firm performance of women on boards. Firms listed in GCC countries' financial markets comprised the sample of the population of all GCC firms for the years (2017-2018). In addition, a control sample from publicly listed companies in France and UK was added. Firm-level data was collected on GCC firms from GCC financial markets and, for firms listed in UK and France, from the Bloomberg database, while country-level data was derived from global research projects (i.e. UNESCO, ILOSTAT, World Economic Forum).

On the firm-level, findings indicated that institutional ownership and board independence influences the relationship between board gender diversity and firm operational and market performance. In contrast, ownership concentration only influences the relationship between board gender diversity and firm operational performance. On the country-level, female tertiary education influences the relationship between board gender diversity and firm operational and market performance. Both female labour market participation and legal support for women representation on boards only impact the relationship between board gender diversity and firm market performance. Moreover, culture only impacts the relationship between board gender diversity and firm operational performance.

This study is the first to empirically investigate the influence of firm- and country-level factors in the relationship between board gender diversity and firm operational and market performance in GCC countries (KSA, UAE, Kuwait, Bahrain, Oman, Qatar). It indicates that effectiveness of women on firm performance is contingent on certain firm- and country-level factors as well as on the performance measure that is used (i.e. market, operational or financial).

On the basis of the findings derived from this study, policies of increasing women participation in boards of directors across all industries in the GCC merit implementation. Legislation should also be considered in order to enhance women representation in corporate leadership positions, as on board of directors, in a suitable form that matches the nature of their institutional and cultural environments such as quotas for at least one woman on corporate boards. On a firm level, corporate governance codes should promote gender diversity on boards of directors to enhance board independence especially in GCC countries.

Key Words: board gender diversity, firm performance, Agency theory, Institutional theory, GCC countries.

DECLARATION

I hereby declare that the material of this thesis has never been submitted to obtain a degree or any other sort of qualifications at this university or any other academic institution. I further declare that this thesis is solely based on my own research work except where acknowledged.

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PUBLICATIONS AND PRESENTATIONS

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2	The Mediation Role of Public Governance in the Relationship between Entrepreneurship and Economic Growth	International Journal of Managerial Finance	Hamdan, A., Khamis, R., Al Hawaj, A. and Barone, E.	Volume 16, Issue 01, Pp. 1-17; 2020	ABS'2018 2*. ABDC'2019 "A". Scopus.
3	The Impact of Woman on Boards on Improving UAE firms Performance	Public Administration Journal	Khamis, R.	Volume 60, Issue 02, Pp. 1-29; 2020	
4	The Mediating Role of Oil Returns in Relationship between Investment in Higher Education and Economic Growth: Evidence from Saudi Arabia	Economics & Sociology	Hamdan, A., and Khamis, R.	Accepted	ABS'2018 1*. ISI and Scopus. SJR Q2
5	Oil Prices and Stock Market Returns in Oil Exporting Countries: Evidence from Saudi Arabia	International Journal of Energy Economics and Policy	Khamis, R., Anasweh, M., and Hamdan, A.	Vol. 8, No. 3, Pp. 301-306. 2018	SJR Q1 and Scopus
6	The Relationship between Ownership Structure dimensions and Corporate Performance: Evidence from Bahrain	Australasian Accounting, Business and Finance Journal	Khamis, R., Hamdan, A., and Elali, W.	Vol. 9, No. 4, Pp. 37-55. 2015	ABS'2018 1*. ERA "B" and Scopus.

7	Ownership Structure and Corporate Financial Performance in Bahrain Bourse	Corporate Ownership & Control	Khamis, R., Elali, W., and Hamdan, A.	Vol. 13, No. 1, Pp. 419-434. 2015	ABS'2018 1*. ERA "B" and Scopus.
8	The Effect of Dividends and Institutional Ownership on Performance of Companies Listed in Bahrain Stock Exchange	The Jordan Journal of Business Administration	Khamis, R., Elali, W., and Hamdan, A.	Vol. 11, No. 4, Pp. 923-943. 2015	

Conferences:

No.	Article Title	Authors	Conference	Place and date
1	Board Gender Diversity: Review of the Literature	Khamis, R., Al Shirawi, T., Eldabi, T., Barone, E., and Sarea, A.	27th Annual Conference of British Academy of Management. And BAM'2017 Doctoral Writing Workshop	University of Warwick - UK. 4-7 Sep. 2017
2	Board gender diversity and firm performance: a review of the Literature	Khamis, R., Barone, E., and Sarea, A.	15th international conference of World Association for Sustainable Development (WASD)	Ahlia University - Bahrain. 23-24 Aug. 2017
3	Sectoral Response of GCC Stock Markets to International Oil Prices Changes	Khamis, R., and Hamdan, A.	15th International Conference for the Middle East Economists Association (MEEA)	Doha Institute for Graduate Studies - Qatar. 23-25 March, 2016
4	Board gender diversity and firm performance: a review of the Literature	Khamis, R., Barone, E., and Sarea, A.	8th Annual PwR Doctoral Symposium	Ahlia University - Bahrain. Feb. 2017
5	Board gender diversity and firm performance: Integrating agency theory and	Khamis, R., Barone, E., and Sarea, A.	9th Annual PwR Doctoral Symposium	Ahlia University - Bahrain. Feb. 2018

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Book Chapters:

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Board Gender Diversity and Firm Performance: Integrating Agency and Institutional Theory	Women in Management and the Global Labour Market	Khamis, R., Barone, E., Sarea, A., and Hamdan, A.	IGI Global	Chapter 15, Pp. 302-311.
Board Interlocking and IT Governance: Proposed Conceptual Model	Lecture Notes in Business Information Processing	Hamdan, A., Khamis, R., Al-Sartawi, A., and Hassan, A.	Springer	Vol. 341, Chapter 35.

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LIST OF ABBREVIATION

Abbreviation	Definition
MENA	Middle East and North Africa
NGOs	Non-Governmental Organizations
2SLS	Two-Stage least squares
ADX	Abu Dhabi Securities Exchange
ANOVA	Analysis of Variance
BB	Bahrain Bourse
BK	Boursa Kuwait
CEO	Chief Executive Officer
DFM	Dubai Financial Market
EPO	Economic Participation and Opportunity
FELSDV	Fixed Effects Least Squares Dummy Variable
FEM	Fixed Effect Models
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GGPI	Global Gender Parity index
ILO	International Labour Organization
ILOSTAT	International Labour Organization data base
KSA	Kingdom of Saudi Arabia
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
QSE	Qatar Stock Exchange
REM	Random Effect Models
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
SDGs	Sustainable Development Goals
UAE	United Arab Emirates
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WOBs	Women on Boards

Chapter One: Introduction

1.1 Background of the study

Economic participation of women in the workplace and advancement in their career life is a matter of concern in the international arena on various levels. Many governments in developing, as well as developed, countries consider participation of women in the economy an urgent policy-issue. In the aftermath of the declaration promulgated by the United Nations General Assembly in 2015 of the Sustainable Development Goals (2030), which recognizes gender equality as a key element of sustainability, many countries prioritized women issues on their agendas and in their visionary plans. In the heart of advancing economic, social and political rights in their activities of women, civil society in general and non-governmental organizations (NGOs), in particular, have joined ranks with governments in fostering proactive initiatives.

Historically, welfare states epitomized by Nordic countries (Iceland, Sweden, Norway and Finland) have served as incubators in advancing and achieving gender equality such that it is not surprising that Nordic states, to an extent greater than any other bloc of countries, have succeeded, according to the Global Gender Gap Report of 2018, in closing the gender gap.

Gender equality or the "justice rationale" is the basis in equity on which many juridical scholars build their arguments, while economists predicate their arguments on the basis of participation of women in labour markets as a human resource that should be successfully tapped to realise economic potential and generate economic growth. The approach towards gender equality of developing countries is more complicated than that of developed countries. For, gender equality in developing countries should be accompanied by socioeconomic development plans on various levels undertaken by a broad array of institutions that increase female educational attainment levels, that

empower women economically and politically and that pass laws and enact legislation consonant with female rights (Pande and Ford, 2012).

Women occupying leadership positions in the political, economic and social arenas are role models for other women to transcend cultural and societal barriers impeding equal opportunities for both genders in all aspects of life. Notwithstanding that women have succeeded in occupying positions of political leadership in developed and developing countries, corporate leadership positions continue to manifest stark gender gaps in many countries. Conducting research in the area of business gender studies presents substantial challenges in that gender studies, as a multidisciplinary field, whose frontiers are continuously moving and growing, exhibit dynamism across broad panoply of disciplines (e.g. economic, legal, governance, political, psychological and management). Firms are an important inflection point in gender studies as they play a central role in national economies that should be analysed in depth in the context of increasing participation of women in boards of directors.

A seismic shift in gender equilibrium was effectuated when Norway imposed a gender quota for women on its boards of directors in 2003. Since then, many governments followed Norway by imposing gender quotas on their boards (e.g. France and Spain). In other instances, other countries, such as the UK, chose milder approaches (comply or explain). Imposition of quotas generated a wide debate among scholars and academics: whether or not such legislation is the most appropriate tool to achieve equality, how corporate performance would be affected by these quotas, to what extent women would be capable of enhancing board performance and to what extent corporate performance would be affected by the presence of women in the upper echelons generally. Researchers aimed at answering questions such as: “How do women affect board dynamics and performance?” (Ararat *et al*. (2015); “Why are women directors different from their male-counterpart directors?” (Adams and Ferreira, 2009); “What factors contribute to the presence of women on board of directors of each company?” (Abdullah, 2014); and “What national differences contribute to the presence (or absence) of women on board of directors?” Grosvold (2011). Yet, the impact of women on firm output such

as performance is inconclusive and empirical evidence has failed to incontrovertibly support any cause-effect relationship between board gender diversity and performance. In 2004, Catalyst hypothesized that female directors are effective in increasing profitability of the firm. This claim triggered a stream of academic research that attempted to explore the link between presence of women on the board of directors and enhancement of firm performance or generation of profits. For various reasons, equity based as well as methodological, many scholars have strenuously objected to this claim known as "the business case" for board gender diversity. In 2008, following the global financial crisis, a big question was raised by governance scholars about the boards of directors of the banks that caused this crisis (e.g. Lehman Brothers) with boards bereft of even a single female director. Since then, many corporate governance codes have encouraged gender and other types of diversity (e.g. ethnic, nationality and age) to eliminate possibilities of "group think" and enrich the decision-making process generated by diversification in background.

1.2 Research Problem

The impact of board gender diversity on firm outcomes (i.e. performance) can be explained in the context of multiple theoretical perspectives while the empirical evidence is mixed and inconclusive even in studies conducted in the same country (e.g. Carter *et al*., 2003, Carter *et al*., 2010 and Erhartd *et al*., 2003). Explanations for such inconclusive evidence may be due to the failure to agree on a theoretical framework for this relationship, involving many theories included but not limited to: agency theory, resource dependence theory, upper echelons theory, social identity theory and stakeholders theory. The failure of empirical models to capture the endogenous relationship between board gender diversity and firm performance is another possible explanation. Finally, the failure to account for contextual contingent variables that interfere with the relationship between board gender diversity and firm performance is yet another. An overemphasis on identification of cross-country Institutional disparities -- cultural, economic, legal and ergonomic – as causal factors driving the presence of women in leadership positions such

as board of directors (Grosvold, 2011; Grosvold and Brammer, 2011 and Carrasco *et al*., 2015) has been to the detriment of a focus on uncovering contingencies in the relationship between board gender diversity and firm performance in terms of institutional disparities. Rare exceptions are studies by (Saeed *et al*., 2016; Low *et al*., 2015 and Post and Byron, 2015).

Notwithstanding that relationship between both variables is not straightforward, many institutional variables demonstrated to affect the presence of women on boards of directors have served to moderate this relationship (Low *et al*., 2015). Similar to all corporate governance practices in that, one size does not fit all business environments, the impact of board gender diversity on corporate performance can be expected to differ in each country depending on certain institutional elements. To better understand whether women affect performance in certain contingencies, an institutional perspective should be included in studies that investigate this phenomenon (Kirsch, 2018).

1.3 Research Needs

Advancing women into leadership positions such as on board of directors through quotas drove a global debate that led to the appointing of more women to boards without certainty as to consequential effects. Quotas may harm firm performance if applied without proper contextualisation (Bohren and Stuabo, 2016 and Low *et al*., 2015). Research in this area would benefit policy making in countries that seek to provide equal opportunities for women, enhancing female labour market participation and the presence of women in leadership positions such as on board of directors. Specifically, studying aspects ignored or neglected in the literature would enrich our understanding of cross-national discontinuities in effect on managerial performance by female participation on boards. In countries following the Anglo-Saxon model of corporate governance, such as Gulf Cooperation Council countries, in particular, more research is needed to uncover the most suitable governance practices with respect to the impact of board gender diversity on performance in light of unique characteristics at the firm and

national levels. Such questions as “Why board gender diversity is effective in certain countries while it is not in others?” (Johnson *et al*., 2013) and “Why this effect may differ between operational and market-based performance measures?” (Abdullah *et al*., 2016 and Haslam *et al*., 2010) also cry out for explication.

1.4 Research Aims and Objectives

This research aims to investigate the role of institutional factors that create isomorphic pressures on firms, thus affecting their outcomes and performance. More specifically, institutional isomorphic pressures (economic, legal and cultural) related to board gender diversity have been investigated in previous studies (Knippen *et al*., 2019; Grosvold, 2011; Grosvold and Brammer, 2011; Carrasco *et al*., 2015 and Terjesen *et al*., 2015). However, investigation of the role of firm level factors in the relationship between board gender diversity and firm performance in varied contextual milieus has not been studied deeply in the literature previously (i.e. Gulf Cooperation Council GCC countries (Kingdom of Saudi Arabia KSA, Kuwait, Oman, United Arab Emirates UAE, Bahrain and Qatar). Such aligns with the recommendations for future research found in studies of: (Johnson *et al*., 2013, Terjesen *et al*., 2015; Abdullah *et al*., 2016 and Kirsch, 2018). This research also aims to integrate two of the most widely used theoretical frameworks in the literature about women representation on board seats: Institutional Theory and Agency theory (governing the relationship between board gender diversity and firm performance) to create a new conceptual model theoretically underpinned by both theories. This integration will hopefully enhance the current understanding of this relationship from a new perspective distinct from the current stream of research.

In alignment with these research aims; several objectives can be delineated involving:

- Development of a new conceptual framework using country and firm specific characteristics that interfere with board gender diversity.

- Exploration of the moderating role of firm-specific factors extracted from the literature (i.e. ownership structure and board characteristics) related to board gender diversity in the relationship with firm performance.
- Exploration of the moderating role of country specific factors (cultural, legal, economic) related to board gender in its relationship with firm performance.
- Implementation of a comparative study between different contexts of GCC countries vis-a-vis those of the United Kingdom and France.
- Validation of the proposed conceptual framework using panel data from GCC countries, UK and France at the firm and country levels.

Hopefully, these objectives will be achieved in the study iteratively through successive chapters with a view to resolving the current regional debate concerning the merits of enhancing female representation on boards of directors in GCC countries. Through this prism, the role of governing elites in bringing institutional change (Terjesen *et al*., 2015) will be put into focus as well.

1.5 Research context

Board gender diversity has a priority on the agendas of many governments. This thesis compares between three different cultural contexts which are Arab, Anglo-Saxon and French cultures. Gulf Cooperation Council (GCC) Countries are representatives of the Arab culture while France and UK are representatives of the French and Anglo-Saxon culture.

1.6 Research Design

This thesis follows a quantitative deductive research approach. The philosophical paradigm of the research is positivism. Literature of board gender diversity was reviewed thoroughly from various backgrounds. Building on two of the most widely used theoretical backgrounds, agency theory and institutional theory, the conceptual framework was derived with a view to answering the major research question: Why board gender diversity impact on firm performance differs from one country to another? The thesis relies on a conceptual framework largely drawn from the literature.

The basic argument of the thesis postulates that the impact of board gender diversity on firm performance is contingent on many institutional factors related to board gender diversity itself and firm level factors related to corporate governance as well. These institutional and governance factors were derived from the literature that focuses on female representation on board of directors on a national level, on one hand, and the impact of board gender diversity on firm performance on a firm level, on the other. The institutional isomorphic factors include cultural, legal and socioeconomic factors such as education and labour market participation. The thesis used panel data models to investigate the validity of the conceptual model, applying it to a sample that includes firms listed in GCC countries (KSA, Kuwait, Oman, UAE, Bahrain and Qatar) stock exchanges and, for control validation, firms listed in the UK (FTSE 100) and France (SBF 120). This sample is unique, as GCC countries, aligned with the Anglo-Saxon model of corporate governance, share many socioeconomic similarities inasmuch as they form a cultural cluster of the Arab culture (Gupta *et al*., 2002). The validity of panel data regression models was checked and hypotheses that were built on the literature were tested. Cross-country panel data capture better results rather than single country studies and cross-sectional country studies.

1.7 Thesis Outline

This thesis consists of seven chapters (Introduction, Literature Review, Theoretical framework and Conceptual Model, Methodology, Results, Discussions and Conclusion). The content of each chapter is as below.

- Chapter one presents the background of the study, research problem, research aims and objectives, research needs, research design and finally, the thesis outline.
- Chapter two lays out a comprehensive and critical review of the literature about board gender diversity that included studies from different disciplines such as psychology, law, business, finance and economics. The review was performed on the micro-, meso- and macro-levels to answer two major questions why and how

do women affect board and firm performance? A research gap was uncovered and the direction for this thesis was flesh out in detail.

- Chapter three posits the theoretical frameworks related to board gender diversity and describes the thesis' theoretical framework based on the gap previously determined in the literature review chapter (Chapter two). The study variables were limned, and the conceptual model of the thesis was constructed in line with the integration of agency and institutional theories.
- Chapter four expatiates on the methodology followed by this thesis. Following an elaboration of the context of the study justifying the comparative approach adopted by the thesis through a comparison of the effect of board gender diversity on firm performance along three different cultural clusters (Arab, Anglo and French), philosophical paradigms (i.e. positivism and interpretivism) are analysed. In turn, the study hypotheses, the research design, mathematical modelling of the thesis conceptual model are elaborated. Sources of data are presented in detail with due explication paid to sampling techniques and the rationale for using panel data.
- Chapter five overviews the results of the descriptive statistics of the study, data and model validity checks, fixed and random model diagnostics. Finally, results of hypotheses testing are presented.
- Chapter six is a deep discussion of the findings and results obtained from chapter five. The aims of the research are revisited to ensure that findings fulfil these aims and objectives.
- Chapter seven is the final chapter of the thesis that outlines the theoretical, contextual and methodological contributions of the thesis. Conclusions drawing together all previous chapters are presented along with study recommendations for policy makers, limitations and avenues for future research.

Chapter Two: Literature Review and Previous Studies

2.1 Introduction

In the previous chapter of this thesis, several issues received attention beginning with the background of the study, followed by the research problem, aim and objectives. Perspective garnered from adducing of new concepts and understanding of complex relationships related to board gender diversity and firm outcome (i.e. performance) will transcend the lack of conclusive evidence on the relation between board gender diversity and firm performance.

In this chapter, a comprehensive coverage, critique and analysis of the literature on board gender diversity is provided to determine the research gap and direction. The literature review chapter aims at answering questions such as: "What affects presence of women on board of directors globally?" and "Why and how board gender diversity affects firm outcomes (e.g. performance)?" To elicit answers to these complex questions, several directions in the literature were employed to provide a deep understanding of board gender diversity as a phenomenon and how it affects performance of the firm. Studies were classified according to three levels of analysis: micro (i.e. individual level); meso (i.e. board, firm and sector levels); and macro level (i.e. country and institutions). The reviewed studies covered different theoretical backgrounds (discussed further in chapter three) and different disciplines (i.e. corporate governance, economics, law, sociology and psychology). At the beginning, an overview on board gender diversity phenomenon in different countries is provided in section (2.2.), followed by an analysis of research papers from three levels (i.e. micro, meso and macro) starting from the individual female director to the board of directors level, firm, and, finally, institutional and country levels from section (2.3) to section (2.10). An overview of the research paradigms within the literature of board gender diversity is presented (i.e. ethical and business perspectives) in section (2.11).

2.2 Board gender diversity: an international perspective

The imbalanced gender representation on corporate boards drove many countries to promote policies that facilitate enhancing representation of women on corporate boards. In 2011, Catalyst denominated proportions of female representation on corporate boards in countries such as United Kingdom (15%), Finland (24.5%) and Italy (3.7%). From that time till currently, numbers have increased; however, variance between countries is still significant. According to the latest published statistics by Catalyst (2017) the proportion in United Kingdom has reached (26.8%), Finland (33.7%) and Italy (35.8%). In countries such as Norway, Iceland, Finland and Sweden where quota laws, penalties and regulations to reach targeted women representation on corporate boards has been promoted, the numbers are the highest worldwide. The following table illustrates proportions of women on boards in selected countries around the world and whether these countries have quotas or not:

Table 2.1 Women's global representation on boards (2010-2017)

Country	**% Women directorships, 2017**	**% Women directorships, 2010**	**% With three or more WOB, 2017**	**% With one or more WOB, 2017**	**% With zero WOB, 2017**	**Quota and year introduced**
Australia	28.7%	10.2%	48.5%	95.6%	4.4%	No
Canada	25.8%	12.9%	57.9%	95.8%	4.2%	Pending
Finland	33.7%	24.2%	75.0%	100.0%	0.0%	Yes, 2008
France	40.8%	12.7%	100.0%	100.0%	0.0%	Yes, 2010
Germany	20.9%	10.7%	80.0%	94.5%	5.5%	Yes, 2015
India	13.8%	4.5%	13.2%	93.4%	6.6%	Yes, 2013

Italy	35.8%	3.6%	100.0%	100.0%	0.0%	Yes, 2011
Japan	5.3%	0.9%	0.6%	47.7%	52.3%	No
Netherlands	22.1%	13.9%	57.1%	96.4%	3.6%	Yes, 2013
Switzerland	21.3%	9.2%	35.0%	97.5%	2.5%	Yes23
United Kingdom	26.8%	8.9%	64.3%	100.0%	0.0%	No
United States	21.7%	12.3%	39.2%	97.4%	2.6%	No

Source: Catalyst (2017)

2.3 Gender differences and board of directors

There has been a significant attention paid to the gender differences between male and female directors in the literature. A study by Kennedy and Kray (2014) showed that females are more ethical than their male counterparts and are less able to compromise their ethical values, especially in business organizations, where the primary and ultimate organizational goal is profit maximization. This conclusion was also espoused earlier by (Franke *et al*. 1997), when they conducted a meta-analysis on studies concerned gender differentiation with respect to ethical issues. They found that females are more likely to perceive hypothetical business practices to be unethical. This was also proved by Hillman (2015) in her study regarding board gender diversity, where she concluded that boards with gender diversity were more ethical in decision taking.

Another point regarding gender differences was raised in a study for (Adams and Ferreira, 2009) where they found that females had advantage over their male counterparts in having better attendance levels and having better monitoring abilities; thus, they were assigned more to monitoring committees. Furthermore, Bart *et al*. (2013) pointed out that female directors are better in taking decisions in favour of stakeholders when there are competing interests on the stake.

A study like Neilsen and Huse (2010) focused on gender differences in performing different tasks like leadership and other board tasks. Using group effectiveness theories, they proved that effectiveness of the presence of women is highly dependent on the type

of tasks performed by the board. The relation was mediated by board processes to enhance or inhibit board processes.

Hillman (2015) also mentioned that diversity of boards may lead to better decision taking. She also indicated that female directors evince a better ability to keep efficient employees which may lead to reduced turnover costs. Female directors were also found to have a better understanding of the market and of customer needs.

2.3.1 Risk taking behaviour

Many studies assessed the differences between males and females in the behaviour of risk taking and the possible outcomes of that to firms. Khaw *et al*. (2016) mentioned that promoting women in boards may help in reducing risk taking behaviour that may harm corporations especially in emerging markets. This finding was corroborated by Loukil and Yousfi (2016), as they found that women have risk perception that leads to risk avoidance behaviour. However, they could not find significance in the relation between gender diversity and the propensity to take financial and strategic risks. Built on previous studies like Byrnes *et al*. (1999) study that conducted meta-analysis for a wide range of studies that focused on the risk taking behaviour differences between both genders, these findings lend credence to the presence of a gender gap in the risk-taking behaviour in many life aspects and decisions.

2.4 Board gender diversity and corporate governance

Boards are key element in governance, and they have a crucial role in supervising and monitoring management. Many studies linked gender diversity to governance attributes which may have effect on performance of firms.

Terjesen *et al*. (2015) focused on two important governance attributes, board independence and ownership structure, and studied their interaction with gender diversity on a multi-country level. They found that presence of women enhances the

effectiveness of independent directors on firm performance; institutional and insider ownership were dependent on-board diversity in their effect on performance. The study took into consideration many variables that may interact with these relationships like dividends, economic conditions, levels of corporate governance, percentage of women in the work force and countries' Gross Domestic Product GDP in order to render comprehensive comparisons across countries. An important finding was that board independence becomes secondary when not addressing the issue of board gender diversity. Carter *et al*. (2003) agreed in part with that finding. They indicated that the fraction of women decreases when the number of insiders increases. These findings build on the argument that diversity enhances board independence.

Ben-Amar (2013) conducted a study that links gender diversity with ownership structures and mergers and acquisitions (M&A) which is a strategic decision that interacts with performance. He pointed out that ownership structure affects the effect of diversity on performance. He also found an impact for diversity on M&A decisions. Institutional ownership was an important variable that was handled in this study as it exists in the Canadian context where the study was conducted. In an effort to extend that work, Ararat *et al*. (2015) explored the channels through which diversity, including gender diversity, affects firm performance. The results of this study are more reliable as it built a diversity index with multiple variables instead of single one. It demonstrated that diversity positively affects the monitoring role of the board. However, this effect was nonlinear and synergetic as well. It also linked diversity to independence in the presence of concentrated ownership structures in line with Terjesen *et al*. (2015). Bianco *et al*. (2015) reached a similar conclusion when they asseverated that board diversity should be accompanied with board independence to enhance performance. In addition, they also found that some governance attributes were positively affected by presence of women like number of board meetings. These studies extended the results of studies like (Choi *et al*., 2007, Cho & Kim 2007, Black and Kim, 2012 and Liu *et al*., 2015), where the interactions between board independence and ownership structures were studied. Each propounded the importance of board independence in firms with concentrated

ownership structures and differentiated between certain types of ownership structures like family and governmental ownership.

The relation between ownership structure and governance was addressed by Desender *et al*. (2013), when they postulated that best governance practices are highly dependent on the environmental and institutional settings in which they are only effective in certain combinations. They argued that type and degree of ownership concentration affects the monitoring role of board of directors through external audit fees as firms with dispersed ownership requires higher audit fees because independent directors need more information to monitor the behaviour of management. While in highly concentrated ownership firms, independent directors usually have more information due to their ties with controlling shareholders resulting in less audit fees. Garcia-Meca *et al*. (2015) agreed with that when they demonstrated that institutional settings exert a moderating influence on the gender diversity-performance relationship; furthermore, the existence of weak governance laws inhibit the positive effect of gender diversity in boards. These findings build on the findings of Tam and Tan (2007), who found that ownership type has an impact on three governance mechanisms that were addressed in this study (Chief executive officer CEO duality, debt and ownership structure).

On the other hand, some studies like those of (Pucheta-Martinez *et al*., 2016 and Fraile and Fradejas, 2014) found evidence of a nonlinear relationship between independent female directors and performance as increasing board independence would reduce board performance and board effectiveness. Tanaka (2014) extended that by indicating that firms with female independent directors enjoy lower cost of debt after controlling for corporate governance and firm characteristics.

2.4.1 The role of the nomination committee

Ruirgrok *et al*., (2007) emphasized the role of nomination committees in determining board demographics in terms of gender, education and nationality. Being a part of the

organization's corporate governance, the nomination committee plays a crucial role in determining the work experience and qualifications needed to a board member to be selected and nominated for the board room. This role has not been comprehensively addressed in the literature in terms of how it affects women representation on boards. Albeit Grosvold (2011) pioneered study on the effects of the presence of women in nomination committees on the level of representation of women on boards of directors. It was observed that nomination committees staffed by younger cadres with female members augmented the chances that women might occupy board seats. The study goes further by recommending having nomination committees with women as members to enhance representation of women on boards. Kaczmarek *et al*., (2012) agreed with such finding that the demographic composition of nomination committee affects the demographics of board of directors in terms of diversity in gender and nationality.

2.5 Firm level determinants of board gender diversity

The variance in number of female board directors among several countries stimulated many researchers to look at what are the factors that play a role in presence of female directors among boards. Grosvold (2011) specified three levels (firm, industry and national) of nested institutional context that play a role in the presence of females as board directors. On the firm level, nomination committees played key roles by identifying ambitious women qualified to reach board level when female members existed in such committees. In a similar vein, Saeed *et al*., (2016) compared determinants of board gender diversity in two different economic institutional settings on a firm level: emerging markets and developed markets. Some similarities have manifested among both settings such as: firm size and risk. On the other hand, factors such as family ownership and state ownership played distinct roles depending on the economic setting in which they existed. Other institutional elements are also expected to play a role in board gender diversity such as culture.

On a firm and a sector levels, female directors are expected to be found more in certain industries such as consumer-oriented sectors (Hillman *et al*., 2009). Another important aspect pertains to female directors appointed to serve in low performance firms, wherein the positive consequences of board gender diversity go unnoticed. In these circumstances, their appointment imparts a status of tokenism to female directors rather being placed to address a business case commensurate with their aptitude and experience in the managerial realm. In effect, women are pushed into board seats, notwithstanding their qualifications and capabilities, with a view to create a veneer of inclusive management.

Another group of studies focused on the characteristics of organizations that would have a higher probability of assigning women leading positions like boardroom directorships. Hillman *et al*. (2007) found that larger firms are more likely to nominate women to these positions as they may be facing more pressures from stakeholders. They also added that firms with a greater percentage of female employees, especially those engaged in effective networking with female colleagues, evince a greater likelihood of having women serving on their boards. Moreover, Nekhili and Gatfaoui (2013) found that appointment of women is strongly affected by size and ownership structure of the firm as well as by their professional qualification, networking and skill endowment. Ruigrok *et al*. (2007) mentioned that women directors tend to be linked to management through family ties calling for thorough inspection of their qualifications and attributes. Martin-Ugedo and Minguez-Vera (2014) affirm that gender diversity increases under conditions of family ownership and, on the contrary, diminishes under conditions of corporate ownership. Furthermore, Abdulla *et al*. (2014) pointed out the presence of women is positively associated with board size and existence of family connections. Bianco *et al*. (2015) observed that firms with family affiliations exhibit inferior performance relative to those without but he also reported that institutional owners manifest a greater propensity to assign female directors than family owners. Based on interviews with women directors, Kakabadse *et al*. (2015) found that the chairperson plays a crucial role in increasing the presence of women on boards. There might be other determinants for

the presence of female directors in boards that need to be investigated in new contexts rather the existent ones such as other attributes of diversity on the board like nationality (Hillman, 2015).

2.6 Board gender diversity, firm performance and value creation

The relationship between gender diversity and firm performance is a widely debatable topic in the literature. Results were conflicting even when among studies in the same country. In one study, for example, Carter *et al*. (2010) failed to find a relationship between gender diversity and firm financial performance, yet, in others, Carter *et al*. (2003) and Erhartd *et al*. (2003) found a relation between diversity and performance – notwithstanding that the three studies were conducted in USA. These antipodal results may be due to the employment of different statistical instruments used to evaluate this relationship. Hermalin and Weisbach (1991), in their pioneering study, concluded that board composition is not related to firm performance. Furthermore, Haslam *et al*. (2010) found that presence of women did not affect performance; however, investors were under what so-called prejudice, in which firms with female directors were perceived to be performing less than other firms. Although, such was not necessarily true in all cases especially in certain business environments. Marinova *et al*. (2016) corroborated the insignificant relationship between presence of female directors and firm performance. However, these findings are mostly found in developed markets, in which the legal and regulatory structures are sufficient to protect shareholder rights with shareholding of publicly traded corporations being widely dispersed among investors. Under such circumstances, the presence of female directors would not have a notable effect on performance. In contrast, from a developing country perspective, a study like Nguyen *et al*. (2015) found that gender diversity has a positive effect on performance even though different proxies for diversity were used. Garcia – Meca *et al*. (2015) found that diversity promotes performance in the banking sector. Moreover, Low *et al*. (2015) concluded that female representation has a positive effect on performance. Using an alternate methodology, Triana *et al*. (2016) investigated the relationship finding a positive effect

imparted by gender diversity on performance under conditions in which performance of the firm was not poor and the firm was not facing any threats. However, the opposite obtained when firms faced threats and performance was low suggesting a double-edged relationship that impedes strategic decision-making depending on performance and power of female directors. Solakoglu (2013) reached a similar finding combining the relationship between diversity and performance with the level of performance at the first place, as he found that gender diversity has a varied effect on performance over alternate points of the conditional distribution for accounting-based measures. Such supports a claim that diversity improves performance of average and above average performing firms. Furthermore, Pucheta-Martinez *et al*. (2016) found that female institutional directors on boards enhance performance up to a limit when they start yielding negative firm performance.

Ntim (2015) claimed that gender diversity is positively valued by stock markets; however, this study failed to find evidence of a significant non-linear link between gender diversity and firm valuation. Solakoglu and Demir (2016) also found weak evidence on the positive effect of diversity on performance. Nevertheless, this weak evidence was in the firms targeting local markets with other factors that may interact with the two variables. Martin-Ugedo and Minguez-Vera (2014) conducted their study on SMEs and found a positive relationship between gender diversity and performance.

Various studies attribute these contradictory findings to a myriad of reasons. One of these reasons is the simplicity of the way in handling this relation in most of the previous studies. Ferreira (2015) takes issue with the limited ability of these studies to generalize their findings as most samples where not representative of the population and most researchers render incorrect inferences in reference to the population as a whole. Hence, there should be a causality assessment between gender diversity and performance at the first place. Simpson *et al*. (2010) undertook such an assessment in their theoretical study which tried to build a conceptual model for gender diversity and firm performance relationship. This study also tried to narrow the wide range of theoretical backgrounds addressed in the literature. It concludes that this relation may be contingent on certain

circumstances in each institution like ownership structure. In light of the complexity and endogeneity of these variables in these relations, new methods are warranted to handle these issues with new variables added to the models presented. Johnson *et al.* (2013) agreed with that, when they proposed extending the existing research to uncover more complex relationships and to overcome endogeneity. They also added that there should be studies conducted in broader geographical contexts transcending the US and China. A major difference between these markets is concentration of ownership in certain groups and the immaturity of legal systems that does not protect minority shareholders. From a female perspective in terms of how women could contribute positively to firm performance, Kakabedse *et al*., (2015) extracted many factors after interviewing female board members from different context. The role of CEO was one of the most important ones in facilitating positive impact of female directors on performance. Groening, (2019) demonstrated that board gender diversity is beneficial to the firm financially and socially, as it enhances the corporate image in the society.

2.7 Board processes

The channels which board gender diversity would affect firm outcomes are a less explored area of research. Female directors are expected to affect the decision-making process within the board and eventually firm outcomes (i.e. performance). Huse, Nielsen and Hagen, 2009; Huse and Solberg, 2006; Nielsen and Huse (2010) indicated that presence of women on boards is associated with developmental activities and reduction of conflicts among the board which enhance the quality of decision-making process. Ararat *et al.* (2015) focused on the channels that enhance the positive effect of board gender diversity on firm performance by enhancing the monitoring job of the board (i.e. control rights and cash flow rights).

2.8 Market perception and reaction towards board gender diversity

Other studies focused on the market reaction towards gender diversity like Haslam *et al*. (2010) as they indicated that firms with male boards are perceived by investors to be performing better and women only exist in weak performing firms supporting the finding of "glass cliff" research. They also believe that market reaction may not be always reflect the reality as some investors may be investing with a prejudice. Rayan and Haslam (2007) introduced the term "glass cliff" to denominate a phenomenon of appointing women on board seats of firms that are not performing well. It is considered a type of sexism. According to their study, this phenomenon may be a result of thinking that women are better socially and emotionally equipped than men to manage during critical times; men are not the best choice during these times inasmuch as men excel in dealing with tasks of success while women are not.

On the other hand, Campbell and Minguez-Vera (2008) indicated that there is no evidence that investors penalize firms appointing female directors in the Spanish context. They also added that increasing female representation provides economic gains. Moreover, Perrault (2015) provided evidence that the presence of women in boards helps in breaking up male networks – a dissolution that enhances board effectiveness. She also added that gender diversified boards are regarded in greater esteem by shareholders and are viewed positively by active communities. On the contrary, male-monopolized boards lack this kind of trust. Perault (2015) demonstrated that women, to similar effect, contribute in breaking down the "Old Boys'" networks.

2.9 Board gender diversity and institutional perspective

Institutions of a country are economic, legal and cultural structures that form the socioeconomic setting in this country. Additional insight into institution theory and its relationship with board gender diversity will be provided in chapter three.

Low *et al*. (2015) expanded the perspective of these studies by studying new contexts and adding a socio-economic perspective to gender diversity. They indicated that female representation has a positive effect on performance; however, this effect diminishes with higher female economic participation and empowerment. They also added that enforcing female quotas may have negative consequences especially in countries with "cultural resistance". Abdullah *et al*. (2016) evaluated institutional factors vis-à-vis societal reactions towards gender diversity on boards. They indicated that the effect of gender diversity on performance varies with institutional and cultural factors. However, some ownership structures were not expected to provide a wider view for the interactions between ownership structure and gender diversity and their reflection on performance. Culture is related to board gender diversity in two ways: appointment of women into board seats (Grosvolod, 2011 and Carrasco *et al*., 2015) and the reaction of investors towards appointment of women as directors (Abdulla *et al*., 2016 and Low *et al*., 2015). Culture is one of the hardest things to measure. In his seminal work, Hofstede (1985) defined culture as "the set of values, beliefs, principles and attitudes that are largely shared within a group of people." He specified many dimensions that would represent any culture namely (individualism, masculinity, power distance and uncertainty avoidance). Another definition of culture might be "a reference frame that makes interpretation and meaning of significant common events experienced by the members of a community possible; such experiences are very important and passed through generations." (House *et al.,* 2004). The interaction between Hofstede dimensions and corporate decision-making was investigated by many studies such as (Guiso *et al*., 2006; Hope, 2003 and House *et al*., 2004).

2.9.1 Culture, emancipative values and board gender diversity

Welzel (2012) introduced the emancipative values index which is a cross cultural index that represents the national culture and values of a country in four major issues (i.e. equality, autonomy, choice and voice). Brieger *et al*., (2019) indicated that representation of women in board rooms is positively associated with the combined as well as each single

emancipative value on a country level. The following figure illustrates how the emancipative values framework interacts with board gender diversity on a national level.

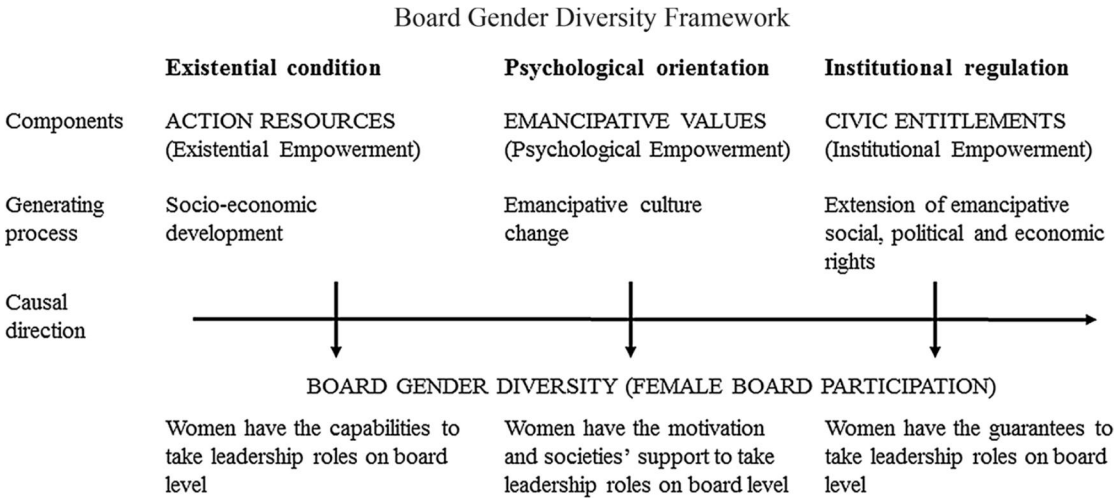

Figure 2.1 Board gender diversity framework

Source: Brieger *et al*., (2019)

Consequently, the presence of women on board of directors is a process that is generated by the socio-economic development and culminates with women manifesting their social, political and economic rights.

Institutions (e.g. Culture) affect countries economic activities, organizational structures and human behaviours (Iannotta *et al*., 2016). As well as defining the societal roles assigned to men and women. Institutions are formal (e.g. laws) and informal (e.g. culture; religion and social norms). Scott, (1987) defines institutions as: "relatively resilient systems of social beliefs and socially organized practices associated with varying functional arenas within social systems," such as work, politics, laws, or regulations". Religion may be one of the social and cultural informal institutions that form a resilient system affecting all aspects of life -- such as work, laws and personal perceptions. Weber (1983) refers to religion and education as the two moral aspects that form informal institutions of a country. Religion plays a role in shaping social norms towards issues such as gender and women in leadership positions (Pande and Ford, 2012). In countries that

have a large proportion of their population classified as "religious", women, concentrating primarily on home duties and responsibilities tend to participate less in the labour market (Grosvold, 2011). Abdullah, (2014) states that:

> *"The attitude in Malaysia towards gender is largely shaped by Islam, the religion of the Malays, and Confucianism, the religion of the majority of the Chinese. Islam and Confucianism create a thick 'glass ceiling' and erect formidable barriers for women's progression into senior roles."*

Nevertheless, such generalized opinion is debatable, superficial and needs further investigation inasmuch as women in highly populated countries such Malaysia may face considerable barriers apart from religious ones (i.e. economic and social). Societal attitudes commonly influence religion – all the more acute under circumstances in which different perceptions and interpretations of religion are found. Several Islamic quotes indicate equality between men and women with no indication of any inferiority of women. "Assuredly, women are the twin halves of men." These are the words of Prophet Muhammed as reported by (Abu Dawud (RA)).

2.9.2 Regulations and board gender diversity

From the inception of Norway's imposition of a board gender quota in 2003, discussions among scholars and policy makers took place around the world. Many countries followed Norway's lead by imposing a gender quota; however other countries took milder measures more in line with their institutional environments -- such as UK. In this section of the study, the concept of quota will be discussed and how it affects number of female incumbencies on board seats around the world. Other regulatory actions will be discussed as well. Scott, (1995) describes the regulative pillar of his conceptualized institutional pillars as "a pillar that highlights the value of rules and laws for efficiently enforcing acceptable behaviour and establishing a predictable context for institutions."

2.9.4 Gender Quotas

In the heart of this discussion that handles board gender diversity and regulations lies gender quotas. Quota is a percentage target that mandates a proportional representation of a particular group (Bogut *et al*., 2014). Even though women have made great progress in educational norms, gender gaps among corporate boards still exist. This fact drove many countries to take strategic steps towards reducing such gaps by adopting quotas. Quotas have proven to be effective tools in increasing representation of women on boards; however, they might have resulted inadvertently in engendering a kind of a shock in the corporate environment having a negative effect on the short-term profits of the firm. Corporate gender quotas have led to increased participation of women in public life and leadership with consequential influences on policy outcomes (Pande and Ford, 2012). Quotas themselves have received criticism from many parties; at the same time, however, one cannot deny that it is an effective policy tool to achieve certain goals. Quotas help in enhancing descriptive representation of women, substantive representation (which is acting in the interest of the represented by the representative), reduces taste discrimination, increases information about the positive effects of female labour and achieving positive externalities by the role model effect on other women, enhancing aspirations toward working in politics and public life and, finally, increases the level of investment undertaken by women. In the meantime, critics of gender corporate quotas believe that they result in a crowding of women in board positions, worsening the allocation of qualified women candidates in board seats and causing negative externalities by reducing the incentives of women to invest in their career to advance by the normal path rather than depending on quotas, Quotas might also worsen societal attitudes towards women as leaders (Pande and Ford, 2012).

The enforcement of gender quotas on firms causes disturbances in their plans -- reflecting negatively on firm performance. However, the negative effect might be prognosticated for a short term until the benefits of gender diversity are reflected on the performance of the board and the firm itself. In Norway, where corporate gender quotas were first

introduced, a study by Ahern and Dittmar, (2012) found that Norwegian quota law resulted in a negative impact on Norwegian firm performance. However, the putative negative effects of increasing of women membership in boards was ameliorated once the effects of other board characteristics where controlled for -- such as age, CEO experience and board members working nature (full time or not)). Some event studies were performed to capture the effect of announcement of board gender quotas on firm performance such as (Matsa and Miller, 2011) and (Ahern and Dittmar, 2012), which were mostly of negative effect, as a result of pushing a large number of inexperienced women into board rooms. In that vein, the long-term effect of corporate gender quotas on performance is the one that should be studied as mentioned earlier.

Kogut *et al*., (2014) indicated that firms are always the party that absorbs costs generated by policies targeting social benefits such as corporate gender quota policies in a classical ideological debate among social justice and ownership rights to govern away from policy interventions. On the other hand, they believe that quotas are beneficial in creating a structural equality among boards by pushing female representation towards a critical mass that can engender superior board and firm performance. Maintaining the critical mass representation mandates maintaining equality among women representation in boards even after removing the quota when achieving its goals.

Wang and Kelan, (2013) investigated the likelihood of Norwegian corporate quotas to increase female leadership positions. Their results indicate that quotas succeeded in creating a fertile environment for women to gain experience and occupy more board seats and CEO positions by enhancing their qualifications and independence. Moreover, gender gaps in terms of qualifications and number of interlocks disappear after the full compliance of gender quotas among Norwegian firms. Hillman, (2015) raised an important issue concerning quotas and their effect of the personal image of women. Image might affect performance of women by engendering underestimation relative to male counterparts; such underestimation might affect ability of women to integrate well among the board as a team.

Bohren and Staubo (2016) investigated the effect of quotas on performance. They indicated that forcing firms to impose gender quota increases board independence; however, it decreases firm value. They also indicated that gender quota shock is stronger in smaller firms and non-listed firms with less independent directors and with less female directors. Wang and Kelan (2013) believe that gender quotas have provided a fertile environment to improve their experience and be in leading positions. In agreement with Bohren and Staubo (2016); they also found that gender quotas improve independence in addition to tenure and qualifications. They added that firms with older and better qualified women in senior management roles tend to add more women to the board. The probability of women serving as CEOs increases with the presence of independent directors and better qualified board chairs.

2.9.5 Soft laws

Quotas might not be the best choice in some countries, where less binding laws have been adopted to increase the participation of women on boards. The UK, Canada and Australia are examples of these countries where the "comply or explain" approach is used to encourage firms to appoint women as board directors. Recommendations for firms are made to adhere to good governance practices such as gender balanced boards in line with all other corporate governance attributes that firms are encouraged to adopt. McCann and Wheeler, (2011) discusses the uniqueness of soft laws applied in UK through analyzing corporate governance reports since the Cadbury Report (1992) until Lord Davies report, (2011) and how they contributed in promoting board gender diversity in the UK through the social and individual justice arguments.

The table below illustrates how different types of laws related to board gender diversity adopted from different countries:

Table 2.2 Legislative measures: an international perspective

Country	**Legislative measure (e.g. Quota / Soft law)**	**Other initiatives**
United States	No quota	State governments passed non-binding measure to increase women representations on boards (e.g. California, Massachusetts, Illinois and Pennsylvania) (Movements are made by investors more than legislators)
Argentina	No quotas	Non-profit companies and private companies are having initiatives to enhance women representation on board of directors
Brazil	Bill for 30% quota was introduced in 2015 still pending	UN and local parties are making initiatives to enhance work environment for women and enhance gender equality
Colombia	30% quota for women in state-owned companies	No reference for board gender diversity in corporate governance code in 2014
India	Revised company Act was adopted in 2013 that all listed companies should have at least one woman on the board	Indian security market authority mandates companies to have one woman in their boards
Indonesia	No quota	Minister of women empowerment and child protection established initiatives to enhance gender equality in all institutions
Malaysia	30% women of senior management teams by 2016	Many initiatives took place by many organizations to promote gender equality in workplaces and enhance women participation in labour force
Australia	No quotas	Australian Institute of Company Directors (AICD) announced a target of 30% women on corporate directors to be met by 2018
Morocco	No quota	The Moroccan constitute promote gender equality in administrative and economic and political domains Moroccan corporate governance code encourages gender diversity of board to prevent group thinking and enhance discussions and decision making

France	Quota of 40% women on board of directors	The act was extended towards other bodies and entities requiring increased women representation in all workplaces
Italy	Quota was adopted in 2011 where the less represented gender should hold third of board seats	In case of non-compliance the firm will be notified by CONSOB to comply within 4 months otherwise fines shall be paid
Spain	Gender equality law was adopted in (2007) and an Act was adopted in (2014) towards companies to set targets for women representation on their boards	Spanish corporate governance codes set 30% target for firms on a comply or explain basis by (2020)
United Kingdom	No quotas Comply or explain approach	Lord Davies report (2011) and Hampton-Alexander Report (2016) for board gender diversity in FTSE100 and FTSE350
Turkey	No quotas	A third of publicly listed companies board should be independent and women should be represented on boards no less than 25% as mandated by Capital Markets Board of Turkey (CMBT)
Arab countries	UAE the only Arab country to mandate that all state-owned companies to have at least one woman in their board of directors in (2013)	Egypt Code of Corporate Governance adopted by Egyptian Institute of Directors and Ministry of Investment promotes measures of diversity Other initiatives are adopted by governmental bodies, civil societies and NGOs

Source: Women in the boardroom: A global Perspective (2016)

2.10 Board gender diversity and economics

Women participation in labour markets has increased throughout the years where the need to empower them and provide them with equal economic opportunities has become recognized as an important social objective. Singh and Vinnicombe, (2004) mentioned that women face difficulties in being promoted in their careers to reach

leadership positions in what is known of “the glass ceiling,” which put pressure on policy makers to design policies that help women to overcome such obstacles by such mechanisms as quotas and regulations supporting women rights to be promoted in leadership positions as board seats. Participation of women in the labour force market is crucial for the economic boom of any country. Ibeh *et al*., (2008) indicates that the increased number of females in the labour market drives them to the fields of women entrepreneurship, women owning business and women in leadership and management. For women to participate effectively in the labour market, they should be as qualified and experienced as much as their male counterparts to obtain the same opportunities. Nonetheless, board membership requires certain experience to be promoted at the upper echelons (Walsh, 2006).

The gender pay gap is one obstacle that faces women and a good example of inequality in workplaces. Terjesen and Singh, (2008) discusses the importance of reducing the gender gap between men and women to the advancement of women in board seats. It is a form of inequality that drives women not to curtail their ambition to reach board seats. A global discussion about gender pay gap is taking place nowadays to define and measure these gaps and find solutions for them. A simple definition for this gap is that men are paid or remunerated more than their female counterparts with the same level of education and work experience or in general (Controlled and Uncontrolled Pay Gap). According to PayScale (2019) gender pay gap reached (21%) in favour of men. When addressing this gap from a racial perspective, things get worse and the gap is actually widening. One possible explanation to these gaps might be the overrepresentation of women in lower paid occupations such as healthcare, education and social services and men being overrepresented in higher paid occupations such as information technology and engineering. Of paramount import, however, is the opportunity gap caused by the availability of higher opportunities to occupy higher level and higher paid positions reserved to men at eh expense of women. The following is an infographic illustrating the difference between men and women in their career progression. The perception of women of being underpaid is great, attenuates career ladder ambitions and deters

women from seeking promotions to reach high positions in management. In a survey conducted by PayScale, (2019), women had a stronger feeling that they are underpaid engendering in them stress and negative feelings that affected their performance negatively in any organization they work in. Such an issue should be addressed by governments by enforcing workplaces to publish their gender pay gaps and encouraging women to establish careers that were usually perceived to be largely dominated by men. Women in workplaces should be supported by giving them childcare leave to enable women to balance between career and family responsibilities.

According to Cingranelli and Richards (2010), the economic rights of women include:

- Equal pay for equal work
- free choice of profession or employment
- the right to gainful employment
- Equality in hiring and promotion practice
- Job security
- Non-discrimination by employers
- Workplaces that are free from sexual harassment
- Working at night
- Working in occupations classified as dangerous and
- Working in the military and the police Force.

Work experience is another common factor that affects the progression of women into high positions such as board directorships. Being a previous CEO, working in the government or holding high position in banking industry might provide women with the necessary work experience and relations that advance women to be selected as board members. Ibeh *et al*., (2008) indicate that such factors support women to be presented in board rooms along with their educational level such as holding an MBA or PhD degrees.

2.11 Ethical versus Business case of board gender diversity

Quotas receive criticism from women themselves as it affects their personal image; however, quotas have proven that they succeed in increasing representation of women in boards as mentioned in table (2.2). Seierstad, (2016) investigates how the first wave of implementation of quotas in Norwegian firms legitimized the role of women in boards. Board gender diversity has been viewed in two broad paradigms -- the business case and ethical case. The former is much driven by corporate governance and the positive consequences of both corporate governance and board gender diversity on board effectiveness in decision-making that will eventually be reflected in firm performance. On the other hand, the importance of creating equal opportunities to all members of society creates an ethical case for board gender diversity that emphasizes the importance of endorsing justice and ethics by governments and firms by having more women among their boards of directors. While both paradigms may seem to be contradictory, Seierstad's study emphasizes the importance of both paradigms in achieving the goal of increasing the share of women of board room seats. From an individual justice perspective, women should receive the same economic opportunities offered to men and board seats. On the other hand, from social justice perspective, women who represent approximately half of their societies deserve equal opportunities with men. McCann and Wheeler, (2011) provide evidence on the social justice paradigm, which encourages enhancement of presence of women on board seats as they deserve equal economic opportunities. However, the business case for board gender diversity is not supported by their study. In other words, saying that presence of women on board is profitable is not supported by scholars. Ever since Catalyst (2004) mentioned that board gender diversity is associated with more profits for firms, an academic and political debate raged around the world to ascertain the relationship, if any, between board gender diversity and firm profitability and theoretical backgrounds that underpin that relationship (Carter *et al*. (2003); Terjesen *et al*. (2015), Campbell and Minguiz-Vera (2008); Adams and Ferreira, (2009)]. That conclusive evidence on the link between them has not yet been determined

encourages researchers to look for new theoretical perspectives that would explain this relationship.

2.12 Pros and Cons of diversity

The business case paradigm of board gender diversity argues that diversity brings many benefits to teamwork that is reflected positively on the performance of the board and performance of the firm eventually. According to Ferreira, (2010), diversity would promote creativity and different perspectives as individuals with varied life experiences and backgrounds approach the same problems in different ways. Such alternate decision-making cognition might generate brainstorming solutions to intractable problems that otherwise would not have been solved effectively. Moreover, diversity may open firms to access and benefit from several resources and connections at the disposal of diverse directors. Further, the presence of a diverse top management team would provide incentives and signalling for other employees of the company that the firm is committed to diversity where minority employees get greater chances to be promoted to occupy such positions. Lastly, diversity legitimizes the company's presence and operations by adhering to equitable values, which are a strong tool of public relations attracting investors, who pay attention to the diversity of leadership in the boardroom. Such opens up the prospect of new horizons and economic opportunities for the company.

On the other hand, diversity might reduce firm effectiveness under conditions in which diverse teams lack proper communication that causes conflicts stymying cooperation. Forcing firms to choose boards based on certain demographics, such as gender, may backfire with firms choosing inexperienced directors depending only on the gender criteria --- imparting negative consequences on the firm. The urgent need to recruit minority directors, such as female directors, may lead them to appoint unsuitable candidates to senior roles, unable to contribute effectively to decision-making in a boardroom setting. Although many studies outlined the positive side of diversity and its

possible impact on organizations, on the other hand, several handled diversity from a negative point of view positing that diversity is a two faction tale where too much of it would hurt performance creating what so called factional faultline (Veltrop *et al*. (2015)). Hambrick *et al*. (1996) found that diversity is a double-edged sword: although heterogeneous teams were slower in their reactions towards competitors' moves, nevertheless, profitability and market share were positively affected by it. Nguyen *et al*. (2015) reached a significant conclusion in that there is a potential trade-off between the costs and benefits of diversity. Diversity is not limited to gender as other characteristics are types of diversity that affects attitudes of directors where different backgrounds and mindsets are brought to the boardroom and decision-making process (e.g. age; race; religion and nationality (Ararat *et al*., 2015 and Govotsos, 2017).

The following table contains a summary of the main ideas of key articles articulated in the thesis:

Table 2.3 Key reviewed papers

Author/Year	**Type of paper**	**Level of analysis**	**Summary of key paper**
Abdullah *et al*. (2016)	Empirical	Micro and meso levels	Female directors in the Malaysian context firms contribute positively to the board performance depending on factors such as ownership structure of these firms, when taking in consideration the operational performance of the firm measured by ROA, however this positiveness turns to be of negative effect on performance when associating it with market performance measured by (Tobin's Q) due to negative cultural attitudes towards females in leadership positions such as board of directors in the Malaysian context.
Low *et al*. (2015)	Empirical	Miso and Macro levels	Quota laws adopted by some governments are not suitable in all contexts where different institutional settings exhibit most importantly; cultural attitudes towards female occupying leadership positions such as board of directors and increased or decreased female economic participation where adopting such restricted laws may affect firms' performance negatively
Grosvold (2011)	Empirical	Macro and meso	Illustrating the institutional factors that shape presence of women on boards in different countries. Institutional factors are divided into three pillars; regulative, normative and cultural cognitive. Political

			and cultural factors have great effect on increasing women representation on boards. The role of nomination committee is crucial in mitigating difficulties women face to reach board seats.
Grosvold and Brammer (2011)	Empirical	Macro	Regulative and cultural institutional factors are the most relevant ones in shaping board gender diversity across several countries. These institutional factors interact with other corporate governance practices that are distinctive in each country depending on the regulative and cultural environment.
Iannotta *et al*. (2016)	Conceptual / Empirical	Meso and Macro	Institutional complementarities (e.g. regulations; welfare states, culture and labour institutions) have causal relationship with board gender diversity where such relationships should be taken in consideration when studying the outcomes of firms (i.e. performance) in certain countries.
Post and Byron (2015)	Empirical	Macro	Meta-analysis of 140 studies in different contexts where different institutions exist; to overcome the mixed effect results obtained by different studies on the relation between board gender diversity and firm performance. Gender parity is relevant in this relation where that effect is negative in countries with high gender parity index and positive in countries with high gender parity index.
Carrasco *et al*., (2015)	Empirical	Macro	Building on (Hofstede, 1980) cultural dimensions related to business environment; power distance and masculinity were the most cultural dimensions attributed to the presence of women on board of directors in various countries.
Saeed *et al*. (2016)	Empirical	Macro and Meso	Board gender diversity in emerging markets (i.e. Russia, Brazil; China and India) and developed economies (i.e. UK and US) is attributed to firm size positively while it is negatively attributed to firm risk. Other organizational attributes such as ownership structure more specifically; governmental ownership varies in their effect on board gender diversity depending on the context

2.13 Summary

The literature spans divergent disciplines (Terjesen *et al*. 2008). The business case of gender diversity where it is linked to firm outcomes like performance is an important stream of research present in the literature by a myriad of studies such as (Ararat *et al*. (2015), Abdullah *et al*. (2016), Carter *et al*. (2003), Erhartd *et al*. 2003). A growing body of corporate governance research indicates that "one size does not fit all," meaning that best governance practices known internationally may not fit the nature of all institutions and all economies (e.g., Ntim and Soobaroyen, (2013), Zattoni, *et al*. (2009), Aguilera and Cuervo-Cazurra (2004) and Denis and McConnell (2003)). Evolution of diversity in developed markets provides researchers a point of departure to investigate the validity of best governance practices to be applied in emerging markets (e.g. Mahadeo *et al*., 2012, Nguyen *et al*.,2015). Board gender diversity is one of these practices. There are key differences between emerging and developed markets such as ownership structure as emerging markets are characterized by having concentrated ownership structure (Lui *et al*., 2015) which calls for different governance mechanisms to be applied in these markets. The majority of studies were conducted in developed markets (e.g. Carter *et al*., 2010, Edhartd *et al*., 2003) where ownership structure was not considered as an important variable; this may explain the conflict results between developed and emerging markets regarding the effect of gender diversity on performance. Many researchers believe that this relation is a complex and endogenous one that needs deep understanding including but not limited to many contextual factors that may interact with it (Ferreira, 2015). Few studies have addressed the effect of gender diversity on performance in emerging markets taking in consideration ownership structure such as Ararat *et al*. (2015) and Abdullah *et al*. (2016). Both of them assessed the effect of gender diversity on performance from an agency theory perspective in addition to resource dependence theory. Ownership dimensions that were assessed are mainly ownership concentration and the identity of the dominant shareholders (governmental and family). Little is known about the actual effect of identity of dominant shareholder on gender diversity. Some

studies investigated the effect of family connections on gender diversity claiming that family connections may hinder the benefits of gender diversity on performance (Bianco *et al*. 2015). Institutional ownership and foreign ownership interactions with gender diversity should be examined. Some studies linked institutional ownership and gender diversity to better performance (Ben Amar *et al*., 2012) suggestive that the identity of institutional owner (banks, mutual funds etc.) merits evaluation for further insights into that relationship. Governmental ownership has been linked to weak performance as the main goal of publicly owned firms may not be profit maximization and management may suffer from lack of incentives -- thus affecting performance negatively. Governments are also believed to be responding to pressures of gender equality calls and other issues in a way or to a scale detrimental to positive performance (Lui *et al*., 2015). Foreign ownership may provide access to overseas resources to the firm but comes with possible positive or negative strings attached to implementation of diversity. Better insights into the relationship between gender diversity and ownership structures interrelations would be afforded if these factors were addressed. The majority of literature relies on the assumptions of Agency theory which is criticised for being a masculine trait and postulates short-termism. Bringing women to board rooms may have a great effect on having long-term thinking. Moreover, how external environmental contextual factors in emerging markets overlap with gender diversity and performance relationship needs to be explored in depth in terms of economic, legal, cultural and societal reactions towards women in leading positions such as board of directors. Many studies in developed markets have discussed the biased reaction of financial markets that would face firms with women in their boards as they are alien to the prerogatives of the "old boy club" (Terjesen *et al*., 2008) even where contrary to the actual superior performance of firms with women in their boards. In emerging markets, a scarcity of studies on the cultural and societal reactions towards female leadership is manifest. Eastern countries are believed to be culture resistant -- meaning that a thorough evaluation of the reaction of their financial markets and investors should be performed in order to get the big picture of gender diversity in boards of directors (Low *et al*. 2015). These insights may provide some

valuable recommendations to policy makers highlighting the importance of not forcing any laws regarding gender quotas on companies as they may be double-edged with causing a net harm on firm performance.

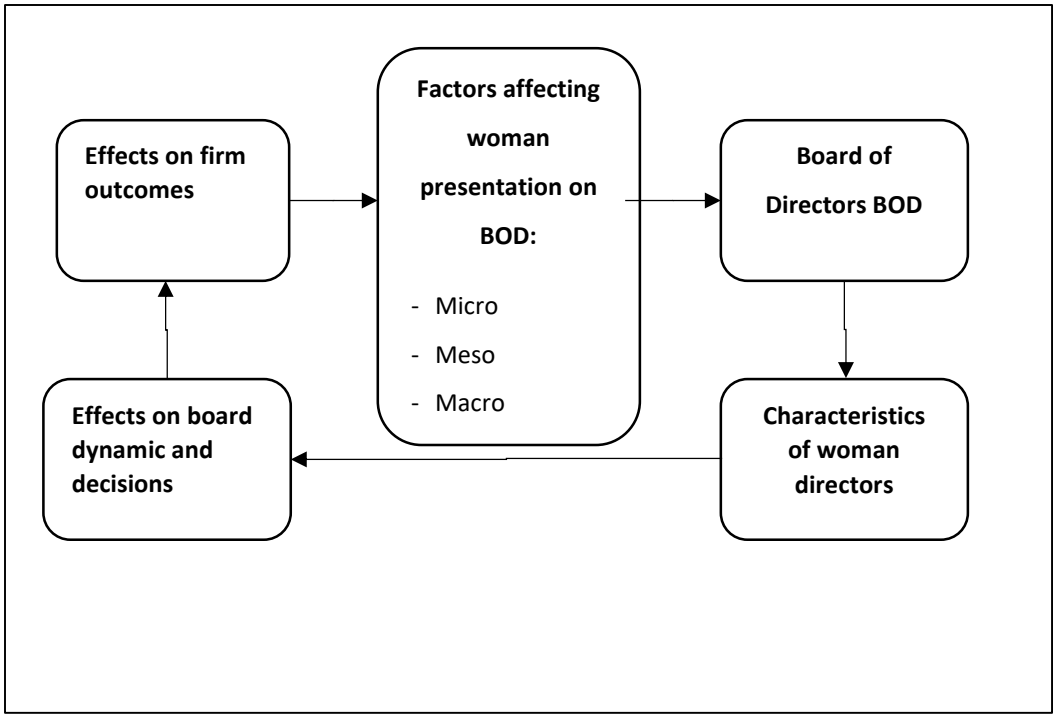

Figure 2.2 Literature review

Source: Devised by author

Figure (2.1) summarizes directions followed in this chapter and how each part is connected with the other. A growing body of literature contends that gender diversity should be considered in contextual and institutional levels of analysis. The key issue is how to implement gender diversity so as to engender net positive effects accruing to firm performance in light of a clear understanding of cultural consequences and interactions. In this thesis, contextualization of the relationship between board gender diversity and firm performance is done by integrating agency theory with institutional perspective.

Chapter Three: Theoretical Framework and Conceptual Model

3.1 Introduction

Corporate governance is an interdisciplinary topic that crosses boundaries between many fields of knowledge such as management, corporate finance, accounting, law, ethics and economics. One of the most important spheres of corporate governance concerns the board of directors, which plays an important role in regulating the relationship between management and stockholders by performing a monitory and supervisory role. The composition of board of directors has received attention from researchers such as (Hermalin and Weisbach 1998, 1991) who limned ideal characteristics of board composition that would enhance board effectiveness and corporate performance in the long run. Following that, many researchers paid attention to range of board characteristics that would affect board effectiveness like board gender diversity (Hillman *et al*., 2015; Ararat *et al*., 2015; Ferreira, 2015; Terjesen *et al*., 2015; Miller and Triana 2009 and Hillman, 2015).

Board gender diversity is studied either from an ethical perspective or from an economic perspective which is known as the "business case" of board gender diversity. Both perspectives received criticism for pigeon-holing the study of board gender diversity into one of these perspectives. Seierstad (2016) illustrated the importance of utility and justice rationales in handling board gender diversity. With respect to the effect of the presence of women in board rooms on the performance of the firm, evidence is mixed, and results are inconclusive. Most studies assessing that effect considered it from either a micro or miso level. Macro level variables reflecting informal or imbedded institutional factors affecting the presence of women in the board or any other leading positions were neglected or not taken in consideration.

In this chapter of the thesis the philosophical background of the theories related to board gender diversity are discussed in section (3.2). From section (3.3) to (3.12), all theories related to board gender diversity from the economic or ethical perspectives; however, at the end; the theoretical framework will be narrowed in line with the research gap that this study aims to address. The conceptual framework of the thesis will be synthesized taking in consideration micro and macro levels of analysis of board gender diversity and its effect on firm performance. In section (3.13), the conceptual model of the thesis will be presented, and the study variables will be specified.

3.2 Theory of the firm

Given the complexity of modern world economics and how economics has changed through years (labour markets, regulatory environments, globalization, capital markets and organizational forms) corporate governance mechanisms have come to a point where they had to be reviewed and discussed to allow assimilation of such changes. At this point, the philosophical debate concerning the firm entity is revisited with a view to determine whether the firm should be viewed as a "contractual" entity among individuals who seek their private interests or a "legal" entity where the firm has rights and responsibilities that should be fulfilled. These two forms are broadly debated among two philosophies "contractarianism" and "communitarianism" in law and economics literature. In essence, the first view strips socialization of the firm while the second deals with the firm as it is a natural person (Bradley *et al*., 1999).

3.2.1 Contractarianism

A "Contractarianism" draws on the philosophy of the firm built on the work of the Nobel laureate Ronald Coase, who argued that firms act to reduce costs stemming from trading in external markets. A nexus of contracts among parties takes the place of market transactions within this organization (the firm). The main focus in this philosophy is on contractual relationships among stakeholders. In Coase's work the role of "the

entrepreneur" in managing and directing the firm is explained. In contrast, modern literature extends Coase's work to public corporations where managers of public corporations have same responsibilities of the "the entrepreneur". Unlike investors or shareholders, however, managers do not provide capital and they are not the final claimants of the corporation; rather, consensus holds that the ultimate goal of corporations is to maximize the profit and wealth of shareholders (the owners of the firms). In this philosophical view, the corporation is not a distinctive entity that is identified. However, the corporation is seen as a group of implicit and explicit contracts (Dodd and Leftwich, 1980). According to Bradley *et al*., (1999), several elements obtain that corporate environment maintain to facilitate the efficiency of contracting: adequate corporate disclosure, freedom of investors to enter and exit external capital markets, competitiveness of product markets and well-supported property rights by the government. Insufficiencies in any of these elements result in penalization and correction internally by the market itself. Stockholders and employees are the main reference- not the corporation itself - when engaging in any activities. These facts affect public policy and the ability of governments to interfere in corporate affairs. The role of government is only vital in protecting property rights and maintaining agreements found in the contracts. A component of "contractarianism", individualism has been influenced by Adam Smith's arguments that self-interested individuals can write and enforce mutually beneficial contracts, which enhance freedom of individuals in a society and provides maximum economic efficiency at the same time (Friedman, 1970).

Limitations of "contractarian" philosophy exist, insofar, as presence of a contractual language that contemplates all possible contingencies is an ideal goal that cannot be reached. In addition, factors such as information asymmetry, fraud and transaction costs are formidable obstacles to efficient contracting. Moreover, "contrarians" only mention the two parties of the contract and pay no attention to any third party whose rights might be impinged by the contract between these two parties. Such a case violates individuals' freedom contrary to the claims made by "contractarians".

On the other hand, when corporations' cross boundaries to do business they will be subject to different legal systems, regulations, degrees of governmental intervention, varied traditions and foreign languages jeopardizing contractual efficiency. Such drags on contractual efficiency manifest not only in emerging markets, such as China but also in developed economies undergirded by varied legal systems (e.g. Common Law, Civil Law and Shariah). Lastly, critics of "contractarianism" contend that even if this philosophy is able to achieve maximum economic efficiency, "contractarianism" it is not able to do the same with respect to social welfare (Kuttner, 1997) inasmuch as power and wealth are not being equally distributed among all individuals in the society.

3.2.2 Communitarianism

Communitarianism stands as a diametric dialectic to "contractarianism". Communitarianism has emerged as an attempt to understand deep human nature by sociologists in terms of individualism versus collectivism. These two paradigms have spurred a debate concerning whether the decisions of self-interested individuals are the core of sociology, economics and politics or whether personal decisions cannot be separated from the social structure of societies (MacMillan, 1984). It can be said that contractarianism is deeply rooted in the philosophy of individualism while communitarianism is deeply rooted in humanism and holism (Wagner, 1995).

Communitarianism deals with the corporation as an entity just as humans living in the society where they have positive rights and responsibilities. The corporation is connected to the social and political life which enables it to serve the economy in an efficient manner. In this context, the corporation might be thought of as a charitable organization rather than profitable one. In other words, corporations have a social responsibility inasmuch as holding it would create economic value, on the one hand, while achieving social welfare, on the other. Communitarians believe that management of corporations ought to entail social responsibility in favour of all stakeholders -not only stockholders- contrary to what is believed by contractarians. The most prominent critique to

communitarianism holds that fulfilling the needs would serve to undercut the ability of the corporation to generate profits through rendering the organization of production less efficient (Bradley *et al*., 1999).

3.3 Agency Theory

Among economics scholars interested in studying board gender diversity, agency theory has served as the most familiar discourse underpinning most of their arguments and assumptions. In the following sections, agency theory will be discussed along with how it is related to board gender diversity and firm performance.

Agency theory might be one of the most used theories in corporate governance literature and business research in general. According to the Oxford dictionary of economics (2017), agency theory is defined as "the theory of the contractual relationship between a principal and an agent. Agency theory analyses the issues that arise when a principal delegates a task to an agent but there is asymmetric information and an incomplete contract. The basis of the analysis is that the principal and the agent have different objectives. For example, the owner of a firm (the principal) may wish to maximize profit but the manager of the firm (the agent) aims to maximize a utility function that is increasing in income but decreasing in effort. The first-best contract would make the reward a function of effort and be designed to induce the efficient effort level in every circumstance. The agency problem arises when there is an asymmetry of information such that the principal cannot observe the effort level of the manager and hence cannot condition the contract upon it. Instead, the contract has to be conditioned upon an observable and verifiable quantity such as the level of profit. This prevents the contract from ensuring that the efficient level of effort is always supplied. The design of the contract has to take into account incentive effects and the allocation of risk between the principal and the agent. It is often assumed that the principal is risk-neutral and the agent risk-averse, in which case, putting incentive effects to one side, all of the variability in pay-off should fall on the principal. Such a contract does not provide any incentive for the

agent, so leading to the balance of risk sharing and incentives. The need to provide an incentive to the agent makes the expected profit of the principal lower than that with the first-best contract that could be used with no asymmetry of information. This is the agency cost of implementing a second-best contract in the presence of asymmetric information. Agency theory has found many applications in economics. Two illustrative examples are the consequences of the separation of control between shareholders and managers, and the delegation of taxation and public good". The agency paradigm was first introduced in the literature of economics by Ross (1973) and Jensen and Meckling (1976) who explained how principal-agent conflicts raises agency costs resulting in unwanted firm outcomes. These costs may be generated from: monitoring agents and bonding costs incurred by agents to prevent them from harming principals. A new era of the business and corporate management began and new policies were followed in corporations, characterized mainly by: concentrating on reducing agency costs, aligning incentives and ameliorating agents' self-serving behaviours. Agency costs in aggregate are expected to create negative impacts on the society overall, (Bosse and Phillips, 2015). Agency theory is the core of the corporate governance concept. Shleifer and Vishney, (1986) define corporate governance as "the process that deals with ways followed by financers of a company to assure getting a proper return on their investment". However, this is a very narrow view of corporate governance, as this concept is not only related to the management of the firm and financers of this firm.

Corporate governance is a concept that sets policies and standards for how the company relates to its employees, consumers with which the firms conduct their operations, communities, institutions found in the country, and any other stakeholders. Corporate governance places the accent on the role of board of directors in imparting a buffer effect between managers and shareholders -especially in publicly held corporations where owners are widely spread, and asymmetry of information would worsen the agency problem. The board of directors plays an important role in monitoring the management of the firm; a plethora of studies link the composition of the board to the performance of the firm (Larry *et al*., 1991; Jensen, 1993; Kesner, 1988; Klein, 1998 and Lin, 1996). The

basic claim of these studies was that outsider directors or "independent directors" are somehow better monitors on the management of the firm such that having more independent directors leads to better performance. in this context, the structures of corporate governance and their effect on firm performance were studied extensively by many scholars (e.g. Shivdasani, 1993 and Gilson and Kraakman, 1991). These structures may include ownership configuration, executive compensation and board composition. The fact that these studies undertook firm specific factors that would affect firm performance "only" is clear; however studies such as (La Porta *el al*., 1997) expanded the scope of agency theory to the outside environment of the firm involving performance of a cross sectional study concerned with firm performance and country laws related to shareholders rights protection. This study has taken corporate governance structures to a new level extending firm level variables to country level variables.

3.3.1 Monitoring role of board of directors

Monitoring management of the firm is one of the key roles of the board of directors and more specifically, monitoring the CEO of the firm. The monitoring mechanism is used to reduce agency costs that would arise from agent-principal conflict. Agency theory postulates that the more independent the board is, the more efficient the monitoring mechanism is (Walsh and Seward, 1990). This would typically mean that performance of the firm will be positively associated with the proportion of outsider directors who are not related, in any way to the CEO and would not be affected by any direct or indirect relations that interfere with their judgments through the monitoring process. Nonetheless, this population rests on meagre empirical support (Dalton and Dalton, 2010 and Dalton *et al*., 1998).

Monitoring the CEO is expected to increase the latter's decision-making effectiveness. However, this is not always the case. Hoskisson *et al*. (2009) indicated that tougher monitoring mechanisms spur CEOs to demand higher compensation—

counterproductively increasing agency costs in a reverse effect. Moreover, independent directors would be peripheral to the firm resulting in a lack of information that would undermine their decision-making ability relative to that of insider directors whose stock of knowledgeable about the firm transcends that of outside directors.

3.3.2 Ownership structure

Contingent on ownership configuration, the effectiveness of the monitoring role of board of directors not only reflects the incentive of structure motivating directors to monitor but also stems from the ability of directors to accomplish the task (Desender *et al*., 2013). When ownership structure is characterized as diffused, the ability of owners to monitor management and organize their efforts to do so is more difficult than under conditions in which ownership is concentrated. The greater the concentration, the more accountable management will be for their decisions and actions (Bohinc and Bainbridge, 2001). In addition, under conditions of dispersed ownership, the higher level of information asymmetry among independent director's vis-a-vis executive directors, to the determinant of the former, the higher the intensity of monitoring required. Moreover, (Desender, *et al*., 2013) claim that the structure of ownership (publicly owned, privately held/family business, privately held/non-family business, publicly traded) plays a role in the extensiveness and depth of the monitoring by the board. The effectiveness of corporate governance practices may vary according to such ownership configuration. The Anglo-Saxon form of ownership structure is characterized as diffuse, while in European continent and emerging markets, ownership is characterized as concentrated. This discontinuity creates an alternate corporate governance mechanism that generally deviates, in significant respects from the Anglo-Saxon model of corporate governance. Nonetheless, the configuration of ownership and board independence are the core of agency conflict and costs in both environments.

3.3.3 Principal-Principal conflict

Subsequently, the phenomenon of agency-principal conflict devolved into an alternate mode of conflict known as principal-principal conflicts prevalent in markets with highly concentrated ownership structures often pervasive in emerging as well as European markets. In contrast, inasmuch as the Anglo-Saxon form of ownership often exemplifies a dispersed type of ownership, Principal-Agent conflict predominates as the core concept used in explaining corporate governance phenomena in Anglo-Saxon markets. Moreover, institutional environments in emerging markets substantively differ from those in developed markets affording investors insufficient institutional protection coupled with weak property rights. That the separation between ownership and control in developed markets significantly exceeds that in emerging markets has generated agency costs in the former dwarfing that in the latter (Wright *et al*., 2005). However, the concentrated type of ownership found in emerging markets fosters conflicts between minority and majority shareholders especially under conditions of weak institutional safeguards largely absent in developed markets. This strongly suggests that governance mechanisms in emerging markets, in order to be effective, ought to fundamentally differ from what is found in developed markets. Young *et al*. (2008) indicated that principal-principal conflicts break out in emerging markets owing to a mix of factors including but not limited to: lack of prevalence of publicly-traded firms, lower level of dividend payouts and firm valuation, lower level of financial disclosure and accountability and higher level of information asymmetry. In Figure (3.1) a comparison between agent-principal and principal-principal conflicts can be seen.

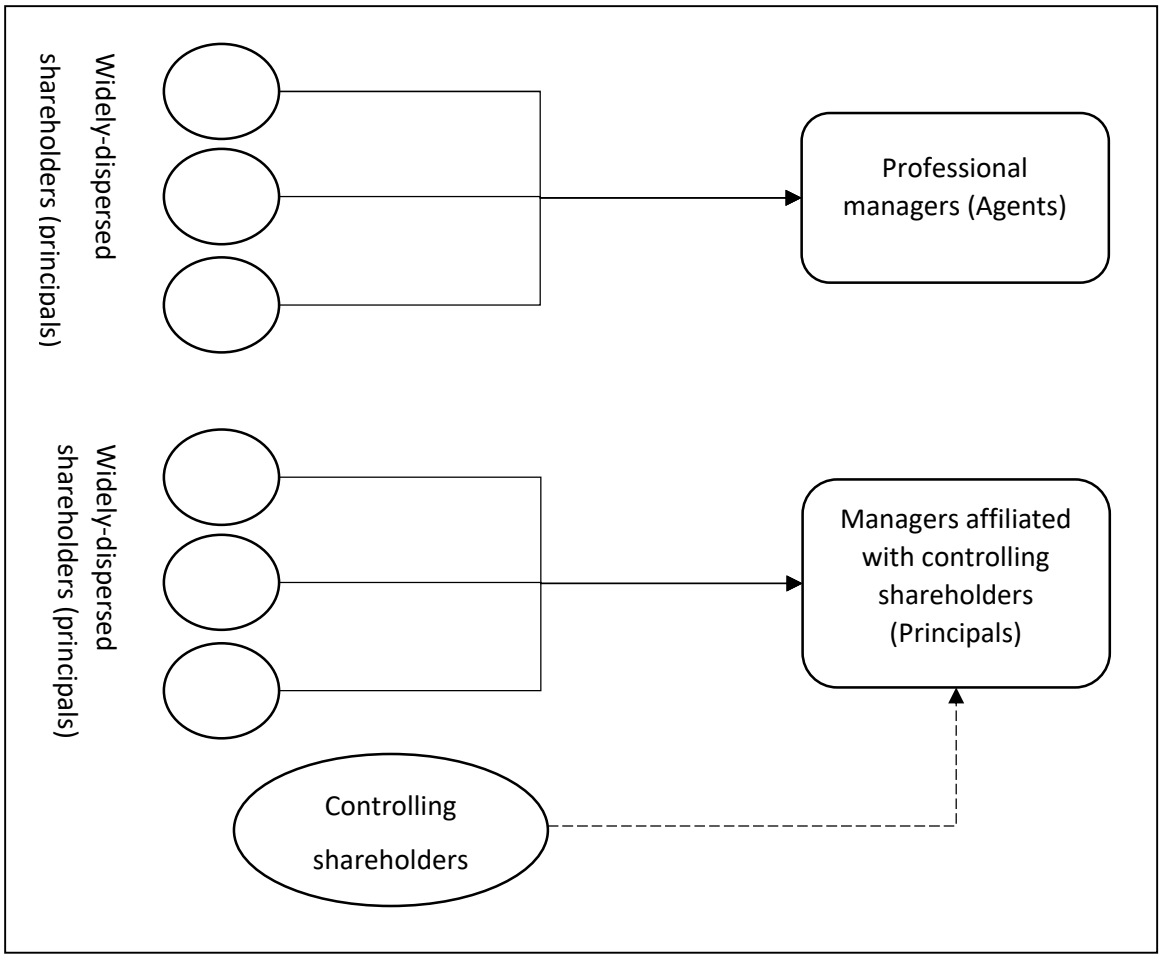

Figure 3.1 Agency-principal conflict and principal-principal conflict

Source: Young *et al*., 2008

In emerging markets, majority shareholders serve as the active parties in choosing the members of the board of directors accordingly eviscerating the board's ability to act beyond the parochial interests of majority shareholders resulting in conflicts breaking out with minority shareholders. Legal systems in emerging markets are generally incapable of protecting the rights of minority shareholders in the face of encroachment on those rights by majority shareholders. In developed markets, experience in emerging economies imply that increasing ownership concentration could reduce agency costs among principals and agents -- at the price of undercutting minority rights (Young *et al*., 2008). This conflict is usually known as "expropriation". According to La Porta *et al*. (2000), "expropriation" may take several forms that vary from legal to illegal and sometimes in a grey area between

both. “Expropriation” may take the form of advancing unqualified family members to sensitive positions in the firm (Faccio *et al.,* 2001) or following political agendas that are at odds with promotion of the firm’s performance (Backman, 1999).

Weak institutional environments unsupportive of property rights lead corporations in emerging markets to rely on internal governance mechanisms, such as ownership concentration. In contrast, the board of directors is the key governance mechanism that protects the rights of shareholders in developed markets (Fama and Jensen, 1983). Any board of directors needs to be supported by internal and external institutional mechanisms largely absent in emerging markets; otherwise, the ability of the board to monitor and control management effectively would be handicapped. The overweening role of majority shareholders, unchecked by minority shareholders, creates discontinuities and inefficiencies in overseeing management of the firm in emerging markets. The outcomes of principal-principal conflict in emerging markets can be seen in figure (3.2)

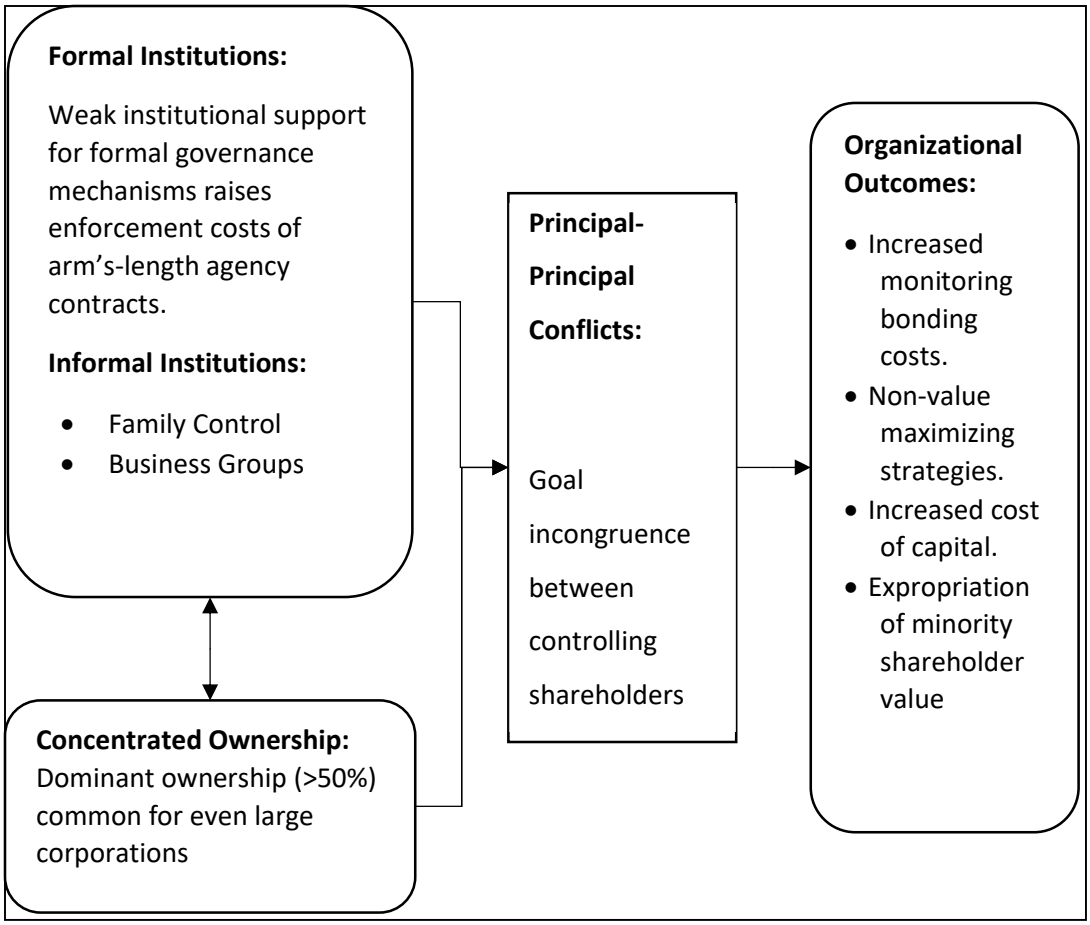

Figure 3.2 Antecedents and outcomes of principal-principal conflict in emerging markets

Source: Young *et al., 2008*

3.3.4 Agency Theory and board gender diversity

Any board of directors, an important element of corporate governance, should, if effectively functioning, mitigate agency costs by monitoring managerial activities of senior management to prevent any self-dealing by the latter that would not maximize shareholders profitability. Independent directors should enhance this most important function of the board of directors: monitoring, which links the board of directors to agency theory. In this vein, much of research done on board gender diversity relies on agency theory (Abdullah *et al*., 2016; Low *et al*., 2015; Ararat *et al*, 2015). Emphasizing the role of board of directors in protecting shareholders' rights, female directors were

found to be tough monitors; inasmuch as they are not considered members of the "Old Boys" club, they tend to be closer to the concept of "independent directors" (Adams & Ferreira, 2009). Studies like Bilimoria (2000) claims that females are better in communication in the process of decision-making. Srinidhi *et al*. (2011) claim that female directors are more risk-averse than their counterpart male directors in the business decisions with risk aversion being much needed both to protect shareholder interests and to balance the interests of shareholders and managers at the same time. Abdullah (2014) noted that much focus has been placed by researchers on the role of ownership structure in advancing women to board seats and how firm performance might be affected (both positively and negatively) by such advancement. Family ownership has also received attention as many families consider advancing their female members as directors without respect to their competency to occupy such senior managerial positions. Bianco *et al*. (2015) investigated the role of familial connections in Italy in advancing female directors into board positions and found a positive correlation between female incumbency in senior managerial positions and firm performance. Although in extensive use, however, agency theory has received some criticism as it exclusively focuses on the micro level variables of the firm as determinants of firm outcomes such as performance (Ararat *et al*., 2015). It was also criticised for being a more masculine trait and having a short-termism vision of the corporate.

3.3.5 The need to go beyond Agency Theory

Exclusive reliance on agency theory to study corporate governance in emerging markets, even those in sync with the Anglo-Saxon model of governance, could be problematic by engendering distortions in contexts in which alternate organizational structures are present and market dynamics vary. To this extent, agency thinking should be supplemented by other theoretical frameworks such as institutional theory, which provides added analytical insights on corporate governance. Kumar & Zattoni (2017) contend that institutional theory holds superior capacity as a mechanism to provide

insight into conflicts among various stakeholders that affect corporate performance in emerging economies.

3.4 Stakeholders Theory

The concept of stakeholders instead of stockholders was introduced by Freeman, (1983). Stakeholders theory was established to depart from the classical economic view of the firm explained by agency theory linked to profit maximization carried out by agents for the benefit of stockholders. Stakeholders theory is communitarian whereas agency theory is contractarian. Stakeholders theory emphasizes the moral and ethical nature of the firm rather than the economic profitable nature that is found in agency theory. The firm has responsibility not only towards stockholders but also towards society itself. This concept was supported by many civil movements that demanded firms to be responsible towards their societies such as civil rights movements, women's rights, environmentalism, consumerism and anti-war movements (Freeman, 1983). In the 70s of the last century, there was a voluminous concern towards the business rationale to be more responsible towards several parties in the society and to be socially responsible. Several definitions and classifications of stakeholder were introduced in the literature as follows:

Table 3.1 Types of Stakeholders

Classification	Definition
The Wide sense stakeholder (Secondary stakeholders by Caroll, 1989) (Voluntary stakeholders by Clarkson, 1995)	"Any identifiable individual or group who can affect the achievement of an organization's objectives or who is affected by the achievement of an organization's objectives (public interest groups, protest groups, government agencies, trade associations, competitors, unions, employees, customer segments and shareowners." Source: Freeman (1983).
The Narrow sense stakeholder (Primary stakeholders by Caroll, 1989) (Involuntary stakeholders by Clarkson, 1995)	"Any identifiable group or individual on which the organization is dependent for its continued survival. (employees, customer segments, certain suppliers, key government agencies, shareowners and certain financial institutions." Source: Freeman (1983)

It is the responsibility of the top management of the firm and executives to design strategies that take in consideration interests of all stakeholders of the firm starting from the base to the apex of priorities in the firm strategy. The nature of business has changed since the evolution of stakeholder theory and corporations have started to involve several stakeholders in the strategic decision-making processes. There has been a shifting towards corporate democratization by involving "corporate citizens" in the strategic decision-making process. The nature of corporate governance model changed towards a model that involves all stakeholders for better governance and corporate outcomes such as performance.

Shankman (1999) analysed differences among stakeholder's theory philosophy and agency theory philosophy from several dimensions found in the theoretical and human aspects as can be seen in the table below:

Table 3.2 Comparison between Agency Theory and Stakeholders Theory

Dimension		**Agency Theory**	**Stakeholder Theory**
Theoretical aspects:			
1	Explanatory power	Narrow	Broad
2	Levels of analysis	Individual	Individual/firm/societal
3	Unit of analysis	Contract	Interests/relationships
4	Direction of relationship	One-way	Two-way
5	Normative basis of relationship	Economic	Principled moral reasoning
6	Criteria for organizational effectiveness	Efficiency	Fairness
7	Nature of market	Perfect	Imperfect
8	Role of ethics	Instrumental	Non-instrumental
9	Normative?	No	Yes
10	Descriptive?	Yes	Yes
11	Role of resources	Only information	Important for survival
12	Determinant of organizational outcome	Free market competition	Constrained competition and cooperation
13	Assumption of free will	Voluntary agents	Interdependence
14	Assumption of power	Equal	Differential
Human aspects:			
1	Relationships of Individuals	Goal conflict/divergent	Contingent
2	Primary relationship	Owner–manager	All stakeholders (ranked)
3	Description of managers	Immoral/amoral	Moral

	Anti-social	
	Anti-organizational	
4 Assumption of human behavior	Bounded rationality	Bounded rationality
	Risk aversion	Risk aversion
	Opportunistic	Contingent
	Adverse selection	
5 Motive	Psychological egoism	Enlightened self-Interest
	Rational preference seekers	Economic and social
6 Scope of responsibilities	Economic	Negative and positive
7 Type of rights	Negative	Principled moral reasoning
8 Overriding principle	Maximize firm NPV	Equilibrium of interests
	Minimize agency costs	
Implication for practice	Align interests of employees and owners; take actions insofar as they maximize firm NPV; use efficient contracting mechanisms to minimize agency costs.	Balance in equilibrium the interests or claims of all relevant stakeholders.

Source: Shankman (1999)

3.4.1 Board gender diversity and Stakeholders Theory

Inasmuch as women might be employees in corporations, consumers of corporate products or any other affected party by the company's activities and processes, the relation between stakeholder theory and board gender diversity may be addressed from several perspectives. For, stakeholder theory focuses on a determination of who are the stakeholders of the company and how the management of the firm can align to the interests of these stakeholders while simultaneously maximizing the firm value. Among board responsibilities along with agency and resource dependence Hillman *et al*. (2011) delineated stakeholder management as a strategic corporate issue. With women

constituting a part of the labour force in all countries, (e.g. women participation in labour force in UK 72.2% and 66.2% in USA (Source: Global Gender Gap, 2018), having women in the top management is a must in order to be representative of the labour. According to Hillman *et al*. (2011), women represent more than 50% of consumers while women have exemplified a capacity to understand consumer needs exceeding that of their men counterparts (Liu *et al*., 2014). In addition, many agencies and parties interested in equality of rights and opportunities among both genders have form pressure groups encouraging governments to increase representation of women in leadership positions such as on boards of directors. The lack of gender diversity among board directors has negative financial and ethical consequences on corporate stakeholders (Lewellyn and Muller-Kahle, 2019). Corporate governance has moved towards a stakeholders' approach and good governance measures, responsive to the needs of multiple stakeholders, that are taken voluntarily by corporations often align with profit maximization objectives (Haxhi and Aguilera, 2017). The presence of women among board of directors sends positive signals to stockholders, investors and other stakeholders that such corporations are committed to future strategic planning in a fast moving world and globalization which is a means of creating value for the firm, sustainability and preserving a competitive advantage for the firm.

Terjesen *et al*. (2009) identified several stakeholders that might be interested in achieving equality of gender representation among boards such as: shareholders, public commissions, labour unions, governments, NGOs and political parties. The ability of management to compel with needs and interests of all stakeholders is affected by power of majority and minority shareholders (Carter *et al*., 2003). Institutional investors are interested in advancing women to boards to achieve better governance practices which will be reflected positively on performance of these boards and firms eventually (Terjesen *et al.,* 2009).

3.5 Resource Dependence Theory

Ever since Pfeffer and Salancik (1978) published their seminal work regarding the board of directors as a resource for the firm, this paper has become a cornerstone in the literature of management and strategy. Resource dependence theory builds on the fact that firms are not a closed system but an open one, that depends on the external environment in many ways. Resource dependence theory provides a suitable lens for researchers to understand board effectiveness and processes (Hillman *et al*., 2009). Directors are means of reducing external uncertainties and dependence (Pfeffer and Salancik, 1978). The fundamental issue is that firms compete overpower, where they try to increase their power over other firms and at the same time reduce the power of other firms over them (Ulrich and Barney, 1984). Organizations are not governed by their own but rather are affected by external environments creating interdependences that force firms to deal with them to ensure continuity of their operations and business; in other words, reducing uncertainty that might be costly to the firm on the long run. The board of directors is one of the tools that firms use to reduce such uncertainties while legitimizing their presence in the society through it. Boards provide crucial information in a timely manner that enhances the efficiency of decision making which eventually contributes positively to firm performance (Zahra and Pearce, 1989).

According to Pfeffer and Salancik (1978) directors are beneficial to the firm in many ways: first, providing timely information to the firm via advising and counselling; second, they form an access channel of the firm to the external environment uncertainties; third, providing access to resources and finally, providing legitimacy to the firm. Stearns and Mizruchi (1993) provided evidence on these four benefits of the board to the firm, by illustrating that financial institutions represented in the board of directors have significant effect on the finance that these firms obtain.

Studies like (Sanders and Carpenter, 1998 and Dalton *et al*., 1998) concentrate on board size and configuration and their relationship with corporate performance. The

findings indicated that board size and configuration are not a random issue, but rather, a strategic response of the firm to the external environmental uncertainties that enables the firm to use the board as a resource. With respect to the firm performance, Boyd (1990) stressed the importance of the quality of directors rather than the number of directors. The main focus in his study was on the number of director-held interlocks, which directly contribute to director performance as an effective resource of the firm. The changing institutional environment affects configuration of board of directors, for instance, the changing institutional environment in China affects configuration of boards by affecting the number of independent directors where increased number of independent or outsider directors who are resource-rich have a positive relationship with firm performance (Peng, 2004).

Hillman *et al*., (2000) differentiated between types of directors and the benefits they provide to firms in different business stages. These types included community influencers, support specialists and business experts.

3.5.1 Resource dependence theory and board gender diversity

Board configuration was found to be influential on the performance of the board and firm according to the resource dependence theory (Sanders and Carpenter, 1998 and Dalton *et al*., 1999). Boards that are diversified in terms of gender and other attributes may be a signal to investors, financers and the whole society that the firm is committed to values of diversity and equal opportunities for both genders. Appointing women to boards may be a strategic move that firms use to enhance their position in the external environment including the international arena. Female directors may have governmental connections that provide a channel of resources to the firm. Appointing women to boards would also provide legitimacy to the firm especially if these women are affiliated to civil society organizations influence governmental agendas in many countries and would provide many resources to the firm. In other words, women may provide legal and

financial benefits to the firm (Abdullah, 2014; Abdullah *et al*., 2016 and Hillman *et al*., 2015). Boards that have homogeneity among directors in terms of attributes such as age and gender reflect poor performance or narrow connections and resources that could assess the firm (Hillman et al., 2009). The same can be said about boards that have only male members. Lacking female members in the board room would result in loosing skills and connections that female board members might have with other female stakeholders. Resource dependence theory, in addition to agency theory provide a theoretical underpinning to the relation between board gender diversity and firm performance where a majority of studies in the literature use both to explain why women directors would add value to the board and eventually, the firm itself (Carter *et al*., 2003; Hillman *et al*., 2009; Abdullah *et al*., 2016 and)

3.6 Tokenism

In sociology, when a group member is differentiated from the other group members socially and culturally, they are seen to be critical to the group interaction dynamics (Kanter, 1977). The numerical "dominant" members versus the "rare" members, who are often called "tokens", create a status where these tokens are stereotyped in certain categories. Such stereotyping makes it difficult, in term of group dynamics, for these tokens to contribute effectively to the outcomes. Kanter (1977) identified four categories of group dynamics: uniform groups, skewed groups, titled groups and balanced groups. Each group is characterized by proportional representation of its members where it ranges from (100:00) representation of one type of group members in the uniformed group, (85:15) in the skewed groups, (65:35) in the titled groups and finally, a proportion that begins from (60:40) to (50:50) representation is found in the balanced group. The skewed group is applicable in the context of "tokenism", in which one type of group member asserts dominance wielding control over the decision-making process; rare members often serve merely as such "tokens." Low *et al*. (2015) define tokens as: '' persons who meet the formal requirements but do not possess the auxiliary characteristics that are expected for a particular job or position." According to

Kanter (1977), tokens are associated with three main perceptual traits: visibility, polarization and assimilation. Tokens are appointed not for individual characteristics but as symbols of an out-group that stand in contrast to the identification of the majority on the board in a dynamic of polarization that marginalizes the participation of tokens in board processes rendering their effectiveness as nugatory. In effect, "tokens" get isolated as representatives of groups they belong to in a phenomenon known as "role entrapment." Tokens succumb to pressure in the work environment that interferes with their ability to perform efficiently in their groups inasmuch as isolation undermines their ability to perceive and learn necessary tasks needed in the work setting. Such eventually hobbles their performance.

3.6.1 Board gender diversity and Tokenism

The same can be reflected on women in boards, where the archetypical board of directors has traditionally been considered "the old boys club" (Adams and Ferreira, 2009). With the presence of one woman among a group of men in the board creates, a "skewed group" manifests according to Kanter (1977). In skewed groups, female directors languish rendering them ineffective in decision-making processes and in other tasks that the board is expected to carry out. Torchia *et al*. (2011) investigated how a "solo" woman could contribute to board process versus more than one woman where she indicated that Forcing firms to assign female directors end masse to board rooms via "quotas" could backfire on women and firms at the same time – engendering both negative board and firm performance. Zimmer (1988) indicated that token women are only hired to comply with regulations (i.e., to provide evidence of non- discrimination against women) and do not fully contribute in the decision-making process.

3.7 Critical Mass Theory

Granovetter, (1978) developed the concept of "threshold" in collective behaviour dynamics where it is defined as:

> *"The number or proportion of others who must make one decision before a given actor does so; this is the point where net benefits begin to exceed net costs for that particular actor".*

In other words, with more relevance to board gender diversity, what is the point number or proportion of women among men that will enable a break out from "tokenism" to a new level that women can contribute -- freely, effectively and pressure-free -- in the decision-making process? Granovetter (1978) presented threshold models based on aggregation of collective outcomes and behavioural thresholds. These models could be used in small groups or bigger ones to better understand whose decisions are taken in these groups.

The fact that most boards have one woman has driven researchers to investigate whether one woman could actually make an observable effect on the performance of the firm. Torchia *et al.* (2011) argued that a critical mass of at least three women could make an observable effect on firm innovation. Asch (1951, 1955) applied critical mass theory to the field of corporate boards where, after conducting experiments, it was determined that a group three people are capable of convincing other individuals to adopt a particular point of view. Recent studies such as (Erkut *et al*., 2008 and Konrad *et al*., 2008) identified the number of three women to be the critical mass where women on boards are capable of achieving an observable effect on the group decision-making through interviewing a large group of female directors. After achieving this mass, the group dynamics of the board changes and other board members become receptive to the ideas and suggestions being voiced by female directors.

3.8 Institutional Theory

In 1983, Di Maggio and Powell developed a theory that considers the macro level factors that affect corporate activities and behaviours known as neo-institutionalism. Neo- institutionalism is different from classical institutionalism, which focuses on organizational stability and interaction between formal and informal institutions. In contrast, neo-institutionalism focuses on organizational learning and interaction with an external environment and societal structures. Di Maggio (1998) argued that institutional theory is a broad research paradigm that spans economics, politics and sociology. Institutions impart pressure on firms and firms tend to follow these institutions in order to legitimize themselves in the environment where they exist. Di Maggio and Powell emphasized the inability of microeconomic-based theories such as agency theory to address the complex environmental factors that affect firms' behaviours and outcomes. Such theories ignore varied environmental factors that exist across countries encapsulating political, economic and societal differences. Institutions tend to affect society and behaviour of firms. Oliver, (1991) mentioned that in societies where gender equality is a priority, firms pay greater heed to diversity issues. Meyer and Rowan (1997) observed that firms seek to legitimize themselves by following the rules of these institutions.

Neo-institutionalism focuses on a concept known as "isomorphism" defined by Hawley (1968) as "a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions."

Di Maggio and Powell (1983) identified three types of isomorphistic pressure exerted on organizations: coercive, mimetic and normative. Coercive isomorphism is caused by coercive formal and informal institutional pressures on the organization to be compatible with them, such as governmental legal mandates and culturally accepted behaviours. Mimetic isomorphism occurs when organizations tend to imitate other successful organizations in the case of absence of independent goals and a high level of

environmental uncertainty. Finally, normative isomorphism occurs in the case of the need for increased professionalization by organizations in the same field of work to have their own rules and regulations that govern the nature of their work. Institutional theory, although able to interpret environmental and organizational interactions, provided no basis for understanding internal organizational aspects that affect organizational strategies and processes that differentiate organizations from one another.

Further, Iannotta *et al*., (2016) states that:

> *"……. Institutional theory points out that institutions influence economic activities, organizational structure, and human behaviour. Institutions represent the formal (e.g., laws, constitutions) and informal constraints (e.g., taboos, traditions, socio-cultural norms) which limit individuals and organizational choices …….. "*

3.8.1 Board gender diversity and institutional theory

Isomorphism, as a concept found in institutional theory, can shed light on board gender diversity phenomena in more than aspect. For instance; coercive isomorphism is referred to the governmental pressures such as laws and legislations and, with respect to board gender diversity, quota laws are a manifestation of coercive isomorphism. Mimetic isomorphism is referred to the behaviour of organizational in imitation of the behaviour of other successful organizations such as appointing female directors. Normative isomorphism is referred to actions taken by organizations themselves to legitimize their activities by being culturally supported by the environment they work in. Recent studies undertaken by (Terjesen and Singh, 2008; Grosvold and Brammer, 2011and Carrasco *et al*., 2015) emphasized the role of institutional factors in determining the presence of female directors in the board room. However, the role of these institutional elements in firm outputs such as performance is a much less investigated area. Post and Byron (2015)

is exceptional in that they concluded that gender equity is an important variable impacting the effect of board gender diversity on firm performance. Garcia-Meca *et al*. (2015) merged two levels of variables at the micro and macro levels in an effort to examine the role of these variables play in bank performance in a cross-country study.

There are many institutional factors that impinge on the presence of women on boards. These factors may eventually influence firms' strategies and outcomes such as performance.

3.8.2 Gender Quotas

Norway was the first country to mandate a gender quota to its corporate boards in 2003, followed by many other countries such as France, Spain and Malaysia. Quotas under the lens of institutional theory may be considered as a coercive kind of pressure imposed on the firm. Some studies indicated a positive effect for quotas on increasing the number of women on boards (Allemand *et al*., 2014; Grosvold and Brammer, 2011). In contrast, (Abdullah *et al*., 2016, Mahadeo *et al*, 2012 and Low *et al*., 2015) observed that, particularly with respect to emerging markets, these quotas negatively affected firm financial performance.

3.8.3 Education

Board membership requires a certain level of education such that the presence of women in board rooms ought to reflect the educational level attained by women. Education, along with other factors such as experience, engender normative isomorphism of pressure under the lens of institutional theory. Indeed, Hillman *et al.* (2002) and Simpson *et al*. (2010) emphasized that women directors in some cases are more educated than their male counterparts. How do women's educational rates affect women's opportunities to be nominated to occupy board seat and positively contribute to board effectiveness and performance at the end is an important issue which will be addressed in this thesis.

3.8.4 Women in work force

Women consist of around 50% of the workforce in some countries. Their opportunities to occupy leadership positions and effectively enhance board activities reflect a normative pressure on the firm under the lens of institutional theory. Ibeh *et al*. (2008) indicated that a massive presence of women in the workforce would stimulate female entrepreneurship, women-owned businesses and the presence of women in managerial positions. In emerging markets where women are increasingly entering the labour markets, their effect on firm performance was found to be mixed. Low *et al*. (2015) demonstrated that woman on boards in Asian countries did not have significant effect on performance as "Tokenism" was present in most of these countries.

3.8.5 Culture

According to Hofstede (1980), culture is a collective social programme that determines a set of values, principals and attitudes shared by members of a specific social community. In relation to board gender diversity, gender equality may be an indicator of cultural issues related to the presence of women in board positions. How would women positively contribute to the performance of the board and the firm in a culturally biased environment? Li and Harrison (2008) indicated that culture exerts an influence on the structure of board of directors in multi-national corporations. Institutional theory presents an important explanation for the role of cultural issues in the presence of women in boards and their influence on performance as well as a normative kind of pressure confronted by the firm. Carrasco *et al*. (2015) investigated the role of culture in appointing women to boards using dimensions articulated in Hofstede (1980): power distance, individualism, masculinity and uncertainty avoidance. Culture is considered as a normative kind of pressure on the firm. The following table defines each dimension addressed by Hofstede.

Table 3.3 Hofstede Cultural Dimensions

Dimension	**Definition**
Individualism	Degree in which individuals behave according to their own personal values rather than the values of the group they belong to. (**Source**: Carrasco *et al*., 2015)
Masculinity	Refers to the persistent gender stereotypes related to men and generalizations as a group of characteristics associated with them. (**Source**: Sealy *et al*., 2009)
Uncertainty avoidance	The level of which people of a specific country prefer structured situations over unstructured ones. (**Source**: Carrasco *et al*., 2015)
Power Distance	The level that a society handle inequality in the distribution of power among institutions and organizations found in it. (**Source**: Hofstede, 1980)

Cultural dimensions overlap with gender issues in each society. Gender, transcending the biological differences between men and women, represents differences in mentalities, attitudes and expectations. With respect to board gender diversity, these dimensions are related to it in many ways. When women are assigned to leadership positions, such as a seat on the board of directors, discrimination against them may manifest in some societies. In other societies, discrimination may be entirely absent. Studies such as (Hickson and Pugh, 1995; Freidland and Alford, 1990 and Hofstede, 1991) concluded that cultural norms play a vital role in shaping corporate management structure. Li and Harrison (2008) indicated that culture exhibited a significant effect on the structure of board of directors.

Women are expected to have less power inside the organization they work in. Such expectations work against women being able to progress to reach esteemed positions as directorships, which are distributed in accordance with the unwritten rules of the “old boys club” (Adams and Ferreira, 2009). It might be difficult for a woman to develop social capital and strong allies in such environment to support her attainment of a board seat in a given company.

On the other hand, in societies where individualistic values are appreciated and human rights take high value and position, women are expected to have greater roles in positions such as on board of directors. Conversely, societies, stereotyping women in certain roles such as housewives and mothers that are characterized to be masculine would not allow women to have a powerful role that she represents in board of directors. In these societies, the expectation predominates that only men should occupy board seats inasmuch as these positions reflect power-structures driving decision making. Power distance and masculinity where found to be related to women representation among board seats (Carrasco *et al*., 2015).

Scott, (1995) defines cultural-cognitive pillar as one of the institutional pillars by "the cultural, innate subjective views of institutions and emphasizes the socially mediated construction of a common framework of meaning." business environment and corporate governance systems reflects the cultural atmosphere of a country. The interaction between them has been a focus of interest in many studies (Denis and McConnel, 2003; Jackson and Deeg, 2008; Terjesen and Singh, 2008).

3.9 Upper Echelons Theory

Hambrick and Mason (1984) developed upper echelons theory to elucidate the extent to which and how characteristics of the top management teams shape and influence firm strategies and outcomes such as performance. In this theory, a large emphasis is put on the type of managers and top management and the association between that and firm outcomes. Decision-making process depends on the cognitive background of management team and how they perceive different events that the firm experiences. Management cognition depends on their previous experience, knowledge and their value system. According to Hambrick and Mason (1984), management teams are affected by many attributes that shape their way of thinking when perceiving situations and make decisions included but not limited to: age, tenure at the company,

financial situation, socioeconomic backgrounds, education and work experience. These attributes are usually easily observable and measurable in contrast to psychological attributes. However, demographic attributes may be subject to distortion. Figure (3.3) demonstrates how these attributes influence firm strategies and performance

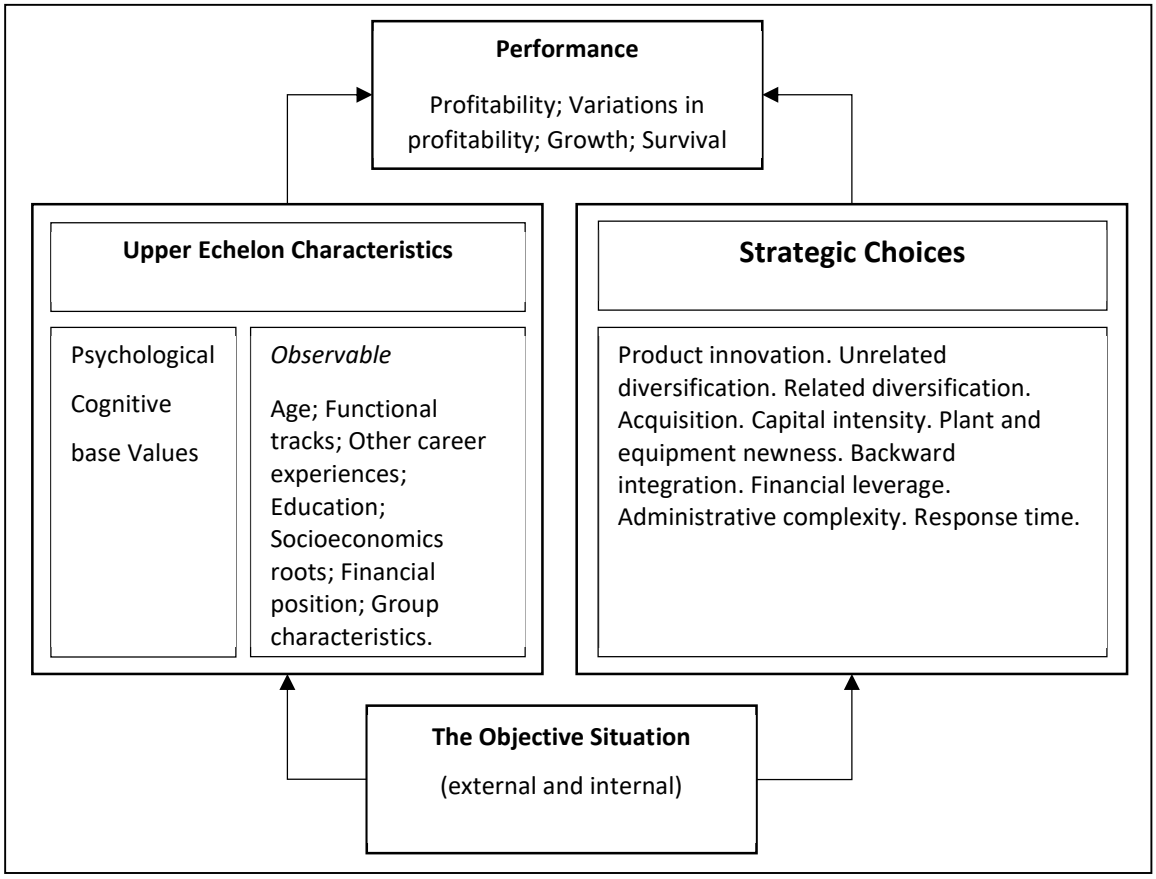

Figure 3.3 Influence of upper echelons characteristics on firm strategy and performance

Source: Hambrick and Mason, 1984

Hambrick and Finkelstein (1987) added to the upper echelons theory by articulating a "managerial discretion" concept which builds on two different views. One of these views maintains that firm outcomes are largely affected by managerial decisions, while the other follows from insights derived from institutional theory which postulates that firm outcomes and process are largely affected by external factors and less by managerial decisions. Hambrick, Finkelstein and Mooney (2005) added a new concept to the theory by introducing an "executive job demands" concept which stems from three

sources: task difficulty, owners' and boards' pressures, and the CEO's personal desire to enhance performance. However, several reverse causality and endogeneity concerns may exist when investigating upper echelons theory empirically (Post and Byron, 2015).

3.9.1 Board gender diversity and Upper Echelons Theory

The impact of board demographics such as age, education and gender on firm outcomes and board processes effectiveness is a well-grounded area in the upper echelons theory (Hambrick and Mason, 1984; Hambrick, 2007). Easily measured and observed demographics of the board are usually used as proxies for a more complex constructs of the cognition of directors. These demographics subsequently affect firm level outcomes and performance (Forbes and Milliken, 1999). Female directors are expected to bring a mix of experience and knowledge that differs from that of male directors; this differential will affect their cognitive abilities. For instance, female directors are more capable than males of understanding consumer needs (Campbell and Minguez-Vera, 2008). Moreover, females usually hold better educational qualifications (Carter *et al*., 2010). Female directors provide a better understanding of stakeholders needs in general (Carter *et al*., 2003). All these benefits may be gained when having a diverse board of directors in terms of gender.

The following table illustrates the studies that investigated how female directors and board gender diversity affect firm outcomes (adopted from Post and Byron (2015)).

Table 3.4 Female director characteristics and firm performance

Female directors' attributes	**Studies**
Educational qualifications	Carter *et al*., 2010; Hillman, Cannella, & Harris, 2002; Hillman, Cannella, & Paetzold, 2000).
Marketing and Sales skills	Groysberg & Bell, 2013).
Occupational experience	(Kopczuk, Saez, & Song, 2010) (Phipps & Burton, 1998).
Understanding stakeholders' needs	Bilimoria & Wheeler, 2000; Campbell & Minguez-Vera, 2008; Carter, Simkins, & Simpson, 2003)
Integration of knowledge and information	Loyd, Wang, Phillips, & Lount, 2013; Van Ginkel & Van Knippenberg, 2008),

Ethical and Moral reasoning	Bart and McQueen (2013)
Decision quality	(Loyd *et al*., 2013; Van Ginkel & Van Knippenberg, 2008).

Source: Post and Byron (2015)

3.10 Glass Ceiling Theory

The "glass ceiling" concept encapsulates the barriers and difficulties faced by females to reach the upper echelons or top management positions such as seats on the board of directors (Dominguez *et al*., 2019). Women face many cultural and social barriers that prevent them from obtaining the necessary power and network connections to transcend these barriers. According to Hull and Umanskey (1997), the glass ceiling denotes a set of organizational and social barriers that prevent women from occupying top management positions in specific organizations. Cohen *et al*. (2018) emphasized that biased-centered theories are the core elements within the glass ceiling theory. One example is the "social Role Theory" revolving around stereotypes about females and males and their roles; these stereotypes dictate incumbency in a job on the basis of gender. Gender norms continue to generate false assumptions about the roles of females and males. Men are expected to be the part of the family who are committed to provide economic resources in the traditional masculine thinking; increasingly, however, both men and women do provide economic resources to the family. These stereotypes and norms form an invisible barrier that needs to more understood and articulated in order to overcome it and empower women legally and socially to have an equal opportunity with men to occupy top management positions. In addition to the biased-centered theories, Cohen *et al*. (2018) demonstrated that glass ceilings might be explained by other theoretical frameworks such as: structural-centered theories concerned in the systematic organizational barriers by each single organization; and cultural-centered theories concerned in the lack of social support for generating an equal opportunity environment for males and female in the workplace. Vennicombe and Singh (2004) demonstrated many barriers faced by women in the British business environment to occupy board of directors' positions emphasizing that females face a glass ceiling to progress in their

career in this environment. The glass ceiling metaphor has occasionally been challenged by researchers such as Dominguez *et al*. (2019), who maintain that meagre numbers of women in leadership positions in some fields and disciplines actually reflects a scarcity of qualified women, with sufficient network connections, for the upper-echelon positions. Organizational reluctance, on the part of women, has also been cited as a barrier. As a result of the presence of such impediments, the ability of women to attain top management positions in prestigious corporate organizations is hamstrung.

3.11 Social identity Theory

According to the social identity theory, individuals tend to categorize themselves socially, (e.g. gender, age group, affiliation, nationality etc.). This categorization affects an individual's cognitive perception and, as a result, impacts how an individual thinks through the decision-making process (Ashforth and Mael, 1989). Women on boards identify themselves socially as females in a group of males; this identification affects the intragroup and outgroup dynamics by reducing the comfort level, with respect to speaking freely and thinking independently, imparted to women. In this context, social identity theory melds with "critical mass" theory and tokenism under conditions in which one woman on the board might not have the ability to contribute effectively in the decision-making process. These theories also shed light on why, on the one hand, one woman on the board might experience frustration, in attempts to influence board decision-making, as the culture in the boardroom might initially reflect hostility, on the part of male directors, to a woman serving as a director. On the other hand, moving towards "critical mass" would serve to empower females to interact effectively with male colleagues on the board. As the number of female leaders in the business arena grows, women enjoy more confidence in the boardroom while forging a new social identity consonant with widespread acceptance of female participation on boards. Henceforth, such would obtain even if one sole woman would participate in board activities among a group of men (Terjesen *et al*., 2015). Recent initiatives designed to empowering women

economically and legally through affirmative action, equal rights amendments to constitutions, quotas and other legislation facilitates imparting to women a new social identity in the boardroom.

3.12 Social Capital Theory

Nahapiet and Ghoshal, (1998) articulated how the social capital concept, derived from the social sciences, was used in elaborating the theory of the firm by many researchers with a view to explaining firm economic performance (Baker, 1990). Social capital theory illustrates how structural, relational, and cognitive capital that individuals build through their networks and relationships affect the organization, development, and strategy of the firm (Nahapiet and Ghoshal, 1998). According to Terjesen and Sealy (2016), female directors enjoy substantial social capital that enabling them to serve efficaciously on more than one corporate board.

3.13 Integrating Agency Theory and Institutional Theory

Despite its limitations in ignoring contextual factors, agency theory provides insight into how boards, effectively constituted and run, serve to contribute to effective firm outcomes. Accordingly, agency theory, rather than being jettisoned, ought to be integrated with institutional theory (among others) (Pye and Pettigrew, 2005)). Agency theory takes in consideration firm level factors that influence firm dynamics and outcomes and, at the same time, institutional theory considers the external environmental factors that influence the firm in its strategies and outcomes. Agency of an organization as a concept may be embedded in institutional structures (Alvesson, 1993). Institutional studies have always concentrated on the exogenous environment of an organization while neglecting the endogenous environment of organizations within these institutions. In this study, both theories are integrated in order to capture how internal and external interactions shape the performance of a firm in an issue such as board gender diversity. By doing so, we may capture how firms with their heterogeneous

internal environments interact within a given institutional environment. For, firms are not considered to be black boxes that act similarly in response to institutional pressures. Firms have varied stakeholders, exhibiting asymmetric levels of influence, with different identities and interests. Firms differ in their governance levels, which influence their response to external economic, political and social institutional pressures. Elaborating both levels provides an analytical framework for explaining conflicting results of the relationship between board gender diversity and firm performance.

Board gender diversity has multiple connections with governance, politics, economics and sociology. How all these connections may interact is the major focus of this study which addresses how all these factors influence firm performance. Variables from both theoretical frameworks are integrated to emphasize the role of exogenous and endogenous factors in the relationship between board gender diversity and firm performance Context of the firm is a highly important aspect that has a great impact on how the firm conducts its strategies and process. Pettigrew (1987) encouraged researchers to differentiate between endogenous and exogenous factors that shape inner and outer contexts. Factors within the organization are the inner context while factors from outside the firm are the external context such as: socioeconomic factors, laws and regulations and industry sector. Pye and Pettigrew (2005) summarize how contextual factors influence firm performance as follows:

1. Regulations of the firm industry sector,
2. Ownership structure and relationship between board of directors and investors,
3. Influence of stakeholders
4. Mergers and acquisitions potentiality
5. Overall risk of the firm

While Johnson *et al*., (2013) goes beyond that when he stated the following:

> *"Given the "black box" problem of associating board variables and firm performance, analyzing more proximal outcomes is a promising approach for future research, ……. Further work is*

needed to untangle the many possible interactions among director characteristics, contextual factors and behaviour in the boardroom."

Grosvold, (2011) emphasized that institutional context affecting the presence of women as members of the board, in interacting with many internal firm contextual factors, determines performance of the firm. Thus, the theoretical and conceptual framework of this thesis may be illustrated as the follows:

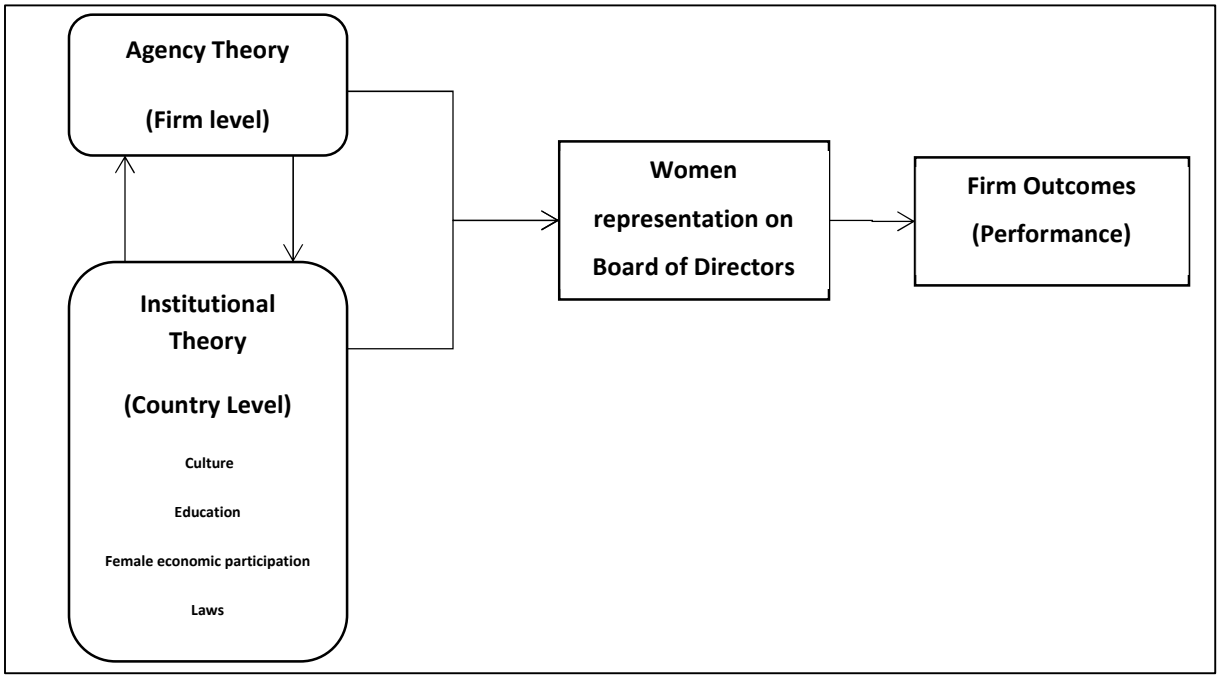

Figure 3.4 Conceptual Framework; **Source**: Devised by Author

3.14 Summary

The relationship between board gender diversity and firm performance has long been debated. Support propounded by Catalyst (2004) for the business case for board gender diversity (or, in other words, profitability of board gender diversity to firms) has been challenged by many studies (Marinova *et al*., 2015; Carter *et al.*, 2003and Smith *et al*., 2006). Accordingly, researchers have sought to devise more complex constructs to shed light on the contribution (if any) of female board participation on firm outcomes.

This study emphasizes the role of national economic, political and sociological institutions in shaping the relationship between board gender diversity and firm performance. These institutions determine the values and beliefs of a certain society where certain stereotypes regarding gender are generated which may hinder the progress of women in their professional careers (Carrasco *et al.,* 2015). In their turn, on the one hand, these institutions shape corporate governance at the national level (Aguilera and Jackson, 2003; Lubatkin *et al*., 2007). On the other hand, corporate governance is related to many firm-level determinants such as ownership structure and board characteristics.

In this thesis, institutional determinants of board gender diversity are to be investigated as a first step; subsequently, these determinants are to be included in investigating the consequences of board gender diversity on firm performance by taking in consideration the interaction between institutional and firm level factors. Institutional environment influences corporate governance practices on the country-level and board gender diversity reflects corporate governance practice. Economic, political and sociological institutions and their effect on board gender diversity are to be investigated; at a later stage, these determinants are to be integrated with firm-level factors related to board gender diversity to investigate their impact on firm performance.

Chapter Four: Research Methodology

4.1 Introduction

In this chapter, the methodology of the thesis is explained. Specifically, which tests are to be employed to evaluate empirical results using the conceptual model presented in chapter three. Discussion of the methodology revolves initially around the elaboration of several focal issues spanning: context of the study in section (4.2), research paradigms and approaches in section (4.7), Research hypothesis in section (4.10), followed by research design in section (4.11). Subsequently, the type and sources of data used in this research receives consideration in section (4.12), followed by an elaboration of the study variables that includes ways of measuring them in section (4.16). Section (4.17) presents panel data with a justification for using this type of data. Section (4.18) overviews sampling techniques used to collect data for the thesis with a justification for the employment of such techniques. Penultimately, panel data models are formulated, preceded by a discussion of endogeneity in terms of the usage of Two-Stage least squares 2SLS model's efficacy to overcome statistical snares. The last section summarizes the aforementioned with a view to highlighting the main issues receiving treatment in this chapter.

4.2 Study context and Justification

The effect of presence of women on boards (WOBs) on firm performance has been debated among scholars since Catalyst (2004) found that presence of women on boards has a positive impact on firm performance. However, subsequent researchers found only inconclusive evidence even in same country studies (Carter *et al*., 2003; Carter *et al*., 2011; Abdullah *et al*., 2016; Campbell and Minguez-Vera, 2008) as a result of a variety of

factors such as: endogeneity that characterizes such relations, complexity of relations and inappropriate level of analysis and failure to emphasize the role of certain variables that impact this relationship. Nonetheless, it is widely argued that presence of women on boards is a phenomenon that is attributed to national institutional structures (Grosvold and Brammer, 2011; Grosvold, 2011; Iannotta *et al*., 2016).

Iannotta *et al*. (2016) state that:

> *"This state of the art suggests that gender diversity on corporate boards may be the outcome of multiple complementary institutional domains, as regulatory policies, welfare states, labour, and cultural institutions are not just independent from each other but they appear to be closely interrelated."*

Cultural, legal, labour and occupational environments are the most relevant institutional factors affecting the presence of women on board of directors (Grosvold and Brammer, 2011; Adams and Kirchmaier, 2013).

According to institutional theory, organizational economic outcomes are affected by the national' institutional structures. In this case, firm performance is arguably affected by cultural, legal and occupational national institutional structures of the country, factors which, as illustrated in the study's conceptual framework, dually impinging on the presence of women on boards. Countries differ in their cultural attributes, legal systems, occupational environments and economic circumstances. National cultural systems are one of the most important factors in defining the role of women in the society (Grosvold and Brammer, 2011). Notwithstanding that its cultural dimensions was often used by many researchers to investigate cultural interactions with business environment, the pioneer work encompassed in Hofstede (1980) refrain from grouping countries together according to their cultural dimensions or providing country clusters (Grosvold and Brammer, 2011). Gupta *et al*., (2002) provide a cluster grouping for countries according to their similarities in cultural dimensions as seen in table (4.1) that could be used as a

starting point to compare between countries from different cultural clusters to answer the thesis's major question revolving around the determination of the role of institutional factors such as legal, economic and cultural aspects in the relationship between board gender diversity and firm performance. According to Gupta *el al*., (2002) country clustering provides information about societal variations and intercultural similarities between different countries and societies in a way relevant to any attempt to find an answer for why women are able to affect performance in some countries; while not having similar effect in others. Countries and societies may be clustered according to many aspects including but limited to: geographical proximity, religion, language, social values and work goals (Gupta *et al*., 2002). In this study, three country clusters with institutional differences impinging on women and board gender diversity were chosen: GCC countries (Arab culture), France (French culture) and United Kingdom (Anglo-Saxon culture).

4.3 Societal cluster classification

Gupta *et al*. (2002) provided a cultural classification for several countries based on societal clustering. This classification was used in studies about presence of women on boards (Grosvold, 2011) where culture was the most significant factor in determining women representation disparities among countries. This classification is illustrated below.

Table 4.1 Cultural clustering of countries

Anglo Cultures	Latin Europe	Nordic Europe	Germanic Europe	Eastern Europe	Latin America	Sub-Saharan Africa	Arab Cultures	Southern Asia	Confucian Asia
England	Israel	Finland	Austria	Hungary	Costa Rica	Namibia	Qatar	India	Taiwan
Australia	Italy	Sweden	Switzerland	Russia	Venezuela	Zambia	Morocco	Indonesia	Singapore
South Africa (White sample)	Portugal	Denmark	Netherlands	Kazakhstan	Ecuador	Zimbabwe	Turkey	Philippines	Hong Kong
Canada	Spain		Germany	Albania	Mexico	South Africa (Black Sample)	Egypt	Malaysia	South Korea
New Zealand	France			Poland	El Salvador	Nigeria	Kuwait	Thailand	China
Ireland	Switzerland (French speaking)			Greece	Colombia			Iran	Japan
USA				Slovenia	Guatemala				
				Georgia	Bolivia				
					Brazil				
					Argentina				

Source: Gupta *et al*., (2002)

4.3.1 Arab culture countries

Gupta's cultural cluster classification did not include all countries that may be clustered under the Arab culture, where we may include other countries that share similar cultural attributes such as language and religion.

Table 4.2 Arab Culture Countries

Country	Country
Bahrain	Morocco
Egypt	Oman
Kingdom of Saudi Arabia	Qatar
Kuwait	Sudan
Libya	United Arab Emirates

Source: Adapted from (Gupta *et al.,* 2002)

Studies concerning board gender diversity and firm performance in emerging markets are few (Low *et al*., 2015; Abdullah *et al*., 2016, Mahadeo *et al*., 2012), more specifically, studies in the Arab world especially GCC countries are scarce and fail to address this phenomenon in the appropriate framework. It would be beneficial to render comparisons among different models of legal, economic and cultural institutions found in Arab countries such as GCC (Gulf Cooperation Council) countries which exhibit many cultural, legal and economic similarities. Historically, GCC countries have been under British imperial tutelage and GCC countries accordingly follow the Anglo-Saxon model of business governance while the French legal system (Civil law) has influenced the legal system in these countries (La Porta *et al*., 1998). Analysis of corporate governance and board gender diversity and firm performance in GCC countries cannot escape these complex interactions.

4.4 Board gender diversity in France

In 2011, France passed a legislation that compelled large firms to include women on their boards. This quota law ranks among the harshest around the world along with that of Norway, Sweden and Spain. The French quota complements other laws in the French legal system that prevent discrimination in the workplace towards women (i.e. Title VII of Civil Rights Act of 1964). The law, which was advanced in 2011, mandated that 20% of corporate board seats should be occupied by women by 2014 with this percentage reaching 40% by 2017. The quota applies to publicly traded companies; private companies with total assets over than 50 million Euros or with more than 500 employees; and governmental organizations. In boards with eight or more members, no one gender can hold more than two seats difference. Further measures were taken to enhance non-gender diversity (e.g.in terms of ethnicity; nationality and age) in the French corporate law code (Women in the boardroom: A global perspective (2017)). Female representation among CAC40 indexed companies is 42% while that of SBF120 indexed companies is 40% (Deloitte France Database, 2019) – illustrative of full compliance with the French quota mandates and one of the highest percentages of women directors in the world.

As in the case of the Norwegian government, the French government realized the systematic bias that women face in attaining board seats; thus a quota law was passed to empower women to overcome the “glass ceiling” that stymies their career progression (Nekhili and Gatfaoui, 2013).

Accordingly, France ranks as highly workplace-friendly for women; thus, comparing it, as a base-line case, with other national milieus would provide meaningful insights helpful in answering the main question posited in this thesis. Several factors affect the presence of women on board seats in France beyond institutional factors. These factors are on the meso- level such as ownership structure of the firm, board and firm size and board independence (Nekhili and Gatfaoui, 2013).

4.5 Board gender diversity in UK

The United Kingdom UK provides a unique context regarding the application of legal measures towards achieving equality of gender representation among UK firms. There is no quota law that forces firms to apply affirmative action for the benefit of women; instead, a soft approach is taken to encourage firms to increase the share of occupancy of women on boards inasmuch as quotas are not widely accepted in the British culture. In 2011, Lord Davies, assigned by the UK government to review board gender diversity in the UK firms, recommended that FTSE100-traded firms reach 25% female representation on boards by 2015. By 2015, Lord Davies mentioned in his report that the 25% target was exceeded and female representation on FTSE100- and FTSE250-traded firms reached 26.1% and 19.6%, respectively. Several recommendations were made in the report with a view to increasing the representation of women on UK boards, especially through the assignment of women as executive directors, through active measures undertaken by nomination committees. In 2016, an initiative was launched by Hampton Alexander focused on firms committing voluntarily to increase representation of women on FTSE350 listed corporate boards to 33% by 2020, Alexander emphasized the crucial role of CEOs in increasing the share of women among incumbents in executive committees. The review also places a premium on the importance of transparency in reporting measures taken by firms to enhance gender representation on their boards. Reporting such measures is important for several parties (e.g. investors) as there is a growing awareness about the importance of gender diversity among top management teams (Women on Boards: A global perspective, 2017). Such contrasts with the previously held beliefs of investors who believed that women were largely appointed in poorly performing firms in what is known as “the glass cliff” phenomenon. According to Haslam *et al*. (2010), investors previously discriminated against firms with female directors wrongly perceiving these firms as poorly performing.

McCann and Wheeler (2011) supported the justice rationale in appointing females to board seats rather than on the basis of the "business case," inasmuch as a little evidence was found among FTSE100-traded companies in support of the proposition that female presence on boards generate more profits.

4.6 Board gender diversity in GCC countries

The presence of women on the boards of companies registered in GCC countries cannot be discussed in isolation from empowerment of women through their occupation of leadership positions economically and politically. The Middle East and North Africa MENA region in general has a low percentage of women participating in the labour market. The global percentage is about 50% while, in the MENA region, it barely reaches 25% (Women on the boards: A Global Perspective (2017)). Yet, the region is striving to empower females and reduce the gender gap that is found between males and females. GCC countries are taking strong measures to empower women especially on the business level but even on the political level. Appointment of women to boards has been facilitated by setting quotas, encouraging transparency and disclosing appointments of senior management teams, setting targets for achieving gender equality in public jobs and so on. Examples of that include: the initiative of UAE government to appoint at least one female director in all state-owned corporations (2013); the Saudi (2030) vision aims clearly to increase female participation in labour market to 30% instead of the current (22%). On the political side, several actions were taken to enhance female representation in that arena including assigning 30 women to the Shura Council in Saudi Arabia in addition to other actions: establishing a ministry for women affairs in Lebanon (2016), giving the right to women to be a presidential candidate in Tunisia, mandating that no less than 30%/25%/10% of the parliament respectively in Sudan/Egypt/Jordan should be occupied by women.

Civil society and non-governmental organizations (NGOs) are also taking the lead in increasing awareness about the importance of empowering women in business

leadership positions such as the 30% club that aims at accelerating the ability of women to reach senior management positions (e.g. board of directors and CEOs), The Institute of Corporate Governance (Hawkamah) in Dubai provides women with the needed training and experience to be a suitable candidate for board of directors. In addition, the Dubai Businesswomen Council provides female entrepreneurs with the necessary skill sets. Despite these measures and initiatives, the number of women appointed as directors in GCC companies is about 2% (Mckinsey and Co. (2017)) and the effectiveness of women on corporate performance evidence is mixed (Hamdan, 2020). An analysis of the role of formal and informal institutional factors (laws; labour market participation propensity of women; culture and education) on the relationship between the presence of women on board of directors and company performance would provide insight into why the evidence is – especially with respect to GCC countries – is mixed. In addition, the nature of the internal environment factors related to board gender diversity (e.g. ownership structure and board size) need also to be addressed.

4.7 Research Paradigms

It is worth mentioning that research should be built on a philosophical foundation that undergirds how the research question is formulated and how the reality and facts are approached by the researcher. Collis and Hussey (2014) define research paradigm as

"a framework that guides how research should be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledge."

Specific research methods and paradigms mandate how research should be conducted in social sciences. There are two major research paradigms; namely, positivism and interpretivism. Both paradigms are respectively built on two broad philosophies: realism developed by theorists such as Comte, Mill and Durkheim and idealism developed by philosophers such as Kant, Dilthey, Rickert and Weber (Collis and Hussey, 2014).

Other research philosophical categories -- positivism; critical realism; postmodernism; interpretivism and pragmatism -- appertain specifically to management and business research (Saunders *et al*., 2015). Each philosophy has its own assumptions and ways of approaching those assumptions to render generalizations.

The following sub-sections will focus on two antipodal philosophies: positivism and interpretivism.

4.7.1 Positivism

Historically, positivism was the philosophical umbrella of natural sciences assumptions and experimental sciences. However, it is now used widely in social sciences and business research. In positivism, the reality lies in the external world and is independent, and the role of the researcher is to discover it by observation and experiment through empirical research. It states that knowledge is only generated from positive information that has the capability to be scientifically verified (Collis and Hussey, 2014). Positivists are mainly objective in their assumptions, focusing on theories to predict and understand social phenomena. Positivists typically use quantitative data and statistical methods to investigate their assumptions and hypotheses. However, positivism has sustained criticized on many grounds including but not limited to: difficulty in separating individuals from their social contexts, difficulty encountered in understanding people without understating their perceptions and beliefs, possibility of ignoring important relevant findings when following a highly structured design, subjectivity that might bias research design and finally; difficulty of capturing complex phenomena using single measures (Collis and Hussey, 2014). It is noticeable that positivist studies are written in a formal style of writing and the passive voice is used as well.

4.7.2 Interpretivism

The social reality in interpretivism is subjective and strongly shaped by our own perceptions and beliefs. The interpretivist investigates complexity of social phenomena rather than measuring it as positivists do (Collis and Hussey, 2014). Interpretivists try to explain social phenomena rather than measure their frequency (Van Maanen, 1983). Interpretations for phenomena are reached via qualitative data and qualitative methods. Interpretivism is conceptualized as "a paradigm that emerged in response to criticisms of positivism. It rests on the assumption that reality is in our minds and is subjective and multiple. Therefore, social reality is affected by the act of investigating it. The research involves an inductive process with a view to providing interpretive understanding of social phenomena within a particular context." (Collis and Hussey, 2014). The language used in interpretivist research is less formal than positivist research and uses active voice instead of the passive. Much smaller samples than positivist studies are used in interpretivist studies, which generate deep and rich insights of human reality that exhibits less potential for generalization (Saunders *et al*., 2015).

4.7.3 Positivism and interpretivism assumptions

Each philosophy has its own assumptions regarding ontology, epistemology, axiology, rhetoric and methodology. Each concept of these is defined in the following section and these definitions ante cede a comparison between positivism and interpretivism ontological, epistemological, axiological and methodological assumptions. Ontology is about the nature of reality which shapes how we see and study objects around us (Saunders *et al*., 2015). Epistemology reflects assumptions towards knowledge and how it could be acceptable, validated, legitimated and communicated to others (Burrell and Morgan, 1979). Axiology concerns ethics and values encountered in the research process (Heron, 1996). Rhetoric denotes language and expression used in research. Finally, methodology is referred to the process of research in terms of how it gets conducted

(Collis and Hussey, 2014). Table (4.3) illustrates comparison among assumptions of positivism and interpretivism.

Table 4.3 Positivism Vs Interpretivism

Philosophical assumption	**Positivism**	**Interpretivism**
Ontology (Nature of reality or being)	Real, external, independent, one true reality (universalism) Granular (things) Ordered	Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices
Epistemology (What constitutes acceptable knowledge)	Scientific method Observable and measurable facts Law-like generalizations Numbers Causal explanations and prediction as contribution	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations New understanding and world views as contribution
Axiology (Role of values)	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Value-bound research Researchers are part of what is researched, subjective Researcher interpretations key to contribution Researcher reflexive
Methodology	Typically, deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analyzed	Typically, inductive Small samples, in-depth investigations, qualitative methods of analysis but a range of data can be interpreted

Source: Saunders *et al*. (2015)

Other terms and concepts are usually used by positivists and interpretivists to express approaches used by these researchers as illustrated in table (4.4).

Table 4.4 Approaches of Positivism and Interpretivism

Positivism	**Interpretivism**
Quantitative	Qualitative
Objective	Subjective
Scientific	Humanist
Traditionalist	Phenomenological

Source: Collis and Hussey (2014)

4.8 Research Approach

Two pathways exist to investigate a phenomenon: inductive or deductive in answering posited research questions. In the deductive approach, a theory is developed and research hypotheses plugging into that theory are elaborated after which data is collected to investigate those hypotheses. In contrast, the inductive approach starts by collecting data and developing a theory afterwards (Saunders *et al*., 2015).

4.8.1 Deductive Approach

According to Saunders *et al*. (2015) the deductive approach is closer to the scientific research and positivist philosophy. Building on scientific proven theories, hypotheses are generated by combining two concepts or variables. Data with respect to these variables are collected and then rigorously investigated. At that point, theory is tested -- and modified, if needed be, in light of these findings. At the end, generalizations are articulated based on results obtained in the testing process.

4.8.2 Inductive Approach

The inductive approach seeks to explore the nature of the phenomenon. This approach is closer to the interpretivist philosophy. After data is collected, it is analysed; from that

analysis, theory may be formulated (Saunders, *et al*., 2015). The following table illustrates key differences between the two approaches.

Table 4.5 Deductive Approach Vs Inductive Approach

Deductive Approach	**Inductive Approach**
-Scientific principles -moving from theory to data -the need to explain causal relationships between variables -the collection of quantitative data -the application of controls to ensure validity of data -the operationalization of concepts to ensure clarity of definition - a high structured approach -researcher is independent of what is being researched -the necessity to select samples of sufficient size in order to generalize conclusions	-gaining an understanding of the meanings humans attach to events -a close understanding of the research context -the collection of qualitative data -a more flexible structure to permit changes of research emphasis as the research progresses -a realization that the researcher is part of the research process -less concern with the need to generalize

Source: Saunders *et al*., (2015)

4.9 Thesis philosophical paradigm and approach

The research philosophical paradigm is generally determined by researcher's assumptions and what paradigm is dominant in the research area in which that study is conducted (Collis and Hussey, 2014). Generating assumptions and hypothesis that can be investigated by quantitative data, this thesis generally follows a positivist paradigm. The thesis continues and extends previous research on board gender diversity and firm performance that espouses a positivist paradigm as can be seen in the literature review chapter (Chapter 2). In investigating moderating effects of institutional factors -- culture, law and economics -- on the relationship between board gender diversity and firm performance taking in consideration firm level factors, the thesis follows a deductive approach. After reviewing the literature in the area of board gender diversity (broad), a narrower area was chosen which is board gender diversity and firm performance within a theoretical framework of agency theory and institutional theory perspectives. Variables

from both theories were chosen and hypotheses were formulated to be tested -- typical deductive approach.

Positivist philosophy is characterized by studying the literature and choosing a theoretical framework to generate hypotheses, which are subject to testing using objective quantitative data. Results generate empirical evidence using statistical measurement tools. The results are usually of high reliability although with low validity (Collis and Hussey, 2014).

4.10 Study hypothesis

Using a deductive approach, after reviewing theory, the researcher, informed by positivism, constructs hypotheses making certain assumptions destined to be tested by statistical tools. According to Collis and Hussey (2014), a hypothesis is a proposition that can be tested for association or causality against empirical evidence.

Firm level variables addressed in previous studies (e.g. Abdullah et al., 2016 Post and Byron, 2015) such as ownership structure, firm size and board characteristics moderated the relationship between board gender diversity and firm financial performance. Building on the theoretical framework and the conceptual framework that was illustrated in chapter 3, the first main hypothesis is built as the following:

First Main Hypothesis:

> *"Firm specific factors moderate the relationship between board gender diversity and firm performance."*

This hypothesis may be divided into sub-hypothesis in line with the firm specific factors that are focused on in this thesis as follows:

The moderating role of board composition:

1. **The role of board size:**

1st Sub-hypothesis. *"Board size moderates the relationship between board gender diversity and firm performance measured by ROA."*

2nd Sub-hypothesis. *"Board size moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

2. **The role of board independence:**

3rd Sub-hypothesis. "*Board independence moderates the relationship between board gender diversity and firm performance measured by ROA."*

4th Sub-hypothesis. *"Board independence moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

The moderating role of ownership structure:

3. **The role of institutional ownership:**

5th Sub-hypothesis. *"Institutional ownership moderates the relationship between board gender diversity and firm performance measured by ROA."*

6th Sub-hypothesis. "*Institutional ownership moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

4. **The role of ownership concentration:**

7th Sub-hypothesis. *"Ownership concentration moderates the relationship between board gender diversity and firm performance measured by ROA."*

8th Sub-hypothesis. *"Ownership concentration moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Grosvold, 2011 indicated that institutions related to women education, legal and economic empowerment have the most significant effect on presence of women on board of directors. In line with this evidence. Institutional variables (e.g. women education, women labour market participation and women education) do have a moderating role in the relationship between board gender diversity and firm performance. The thesis's second main hypothesis may be formulated as the following:

Second Main Hypothesis.

"Country specific factors moderate the relationship between board gender diversity and firm performance."

This main hypothesis is divided into four sub-hypotheses, in line with the country specific factors illustrated by the theoretical framework and conceptual model in chapter three, as following:

5. **The role of female tertiary education:**

9th Sub-hypothesis. *"female tertiary education ratio moderates the relationship between board gender diversity and firm performance measured by ROA."*

10th Sub-hypothesis. *"Female tertiary education ratio moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

6. **The role of female labour force participation:**

11th Sub-hypothesis. *"Female labour force participation ratio moderates the relationship between board gender diversity and firm performance measured by ROA."*

12th Sub-hypothesis. *"Female labour force participation ratio moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

7. **The role of legal support:**

13th Sub-hypothesis. *"legal support of board gender diversity moderates the relationship between board gender diversity and firm performance measured by ROA."*

14th Sub-hypothesis. *"legal support of board gender diversity moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

8. The role of culture:

15th Sub-hypothesis. *"Culture moderates the relationship between board gender diversity and firm performance measured by ROA."*

16th Sub-hypothesis. *"Culture moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

4.11 Research Design

In the previous sections, different philosophical research paradigms were discussed. In this study, positivism is the philosophical framework that is followed. According to Collis and Hussey, (2014), the research paradigm obtains from the research design that is followed by researcher -- methodology – involving specific methods. They define methodology as an approach to the process of research encompassing a body of methods." However, methods refer to the techniques used to collect and to analyse data. Positivism is associated with various types of methodologies such as: panel (longitudinal) studies, cross-sectional studies, surveys and experimental studies. This study relies on the quantitative analysis approach and hypothesis testing to reveal causal relationships among variables in line with the positivism paradigm. Panel regression analysis is conducted to test hypotheses which were generated after a comprehensive literature review. This study combines country-level and firm-level data using two years instead of one year or single country data in contradistinction to the majority of studies in the same field. The study also uses a unique sample of countries from different cultures (Arab, Anglo-Saxon and French) to test its hypotheses. Previous studies have investigated the role of institutional or national level variables in determining number of female directors; however, this study breaks ranks investigating the role of institutional factors and firm-level factors together in the relationship between presence of women on boards and firm performance.

4.12 Type and Sources of data

4.12.1 Secondary Data

In this study, financial data found in financial statements of firms and country level data obtained from United Nations and World Bank Reports is used. Originally, this data was not collected for our research purposes; thus, it is characterized as secondary data, which was gathered for other reasons than the current study and by parties other than the researcher (Saunders *et al.,* 2015). Secondary data addresses the research agenda of this thesis. The data used in this research falls in the category of multi-source longitudinal secondary data category, which is obtained from industry statistics and governmental publications. Advantages of secondary data may include having fewer resource requirements, availability of comparative and contextual data and the ability of obtaining unpredicted discoveries. While disadvantages may include unsuitability of the data for the research purpose and need, costly and difficult access to secondary data and questioned quality of the obtained data (Saunders *et al*., 2015). The quality of obtained data is the most serious concern regarding secondary data, this issue may be overcome after evaluating this quality through the following procedure:

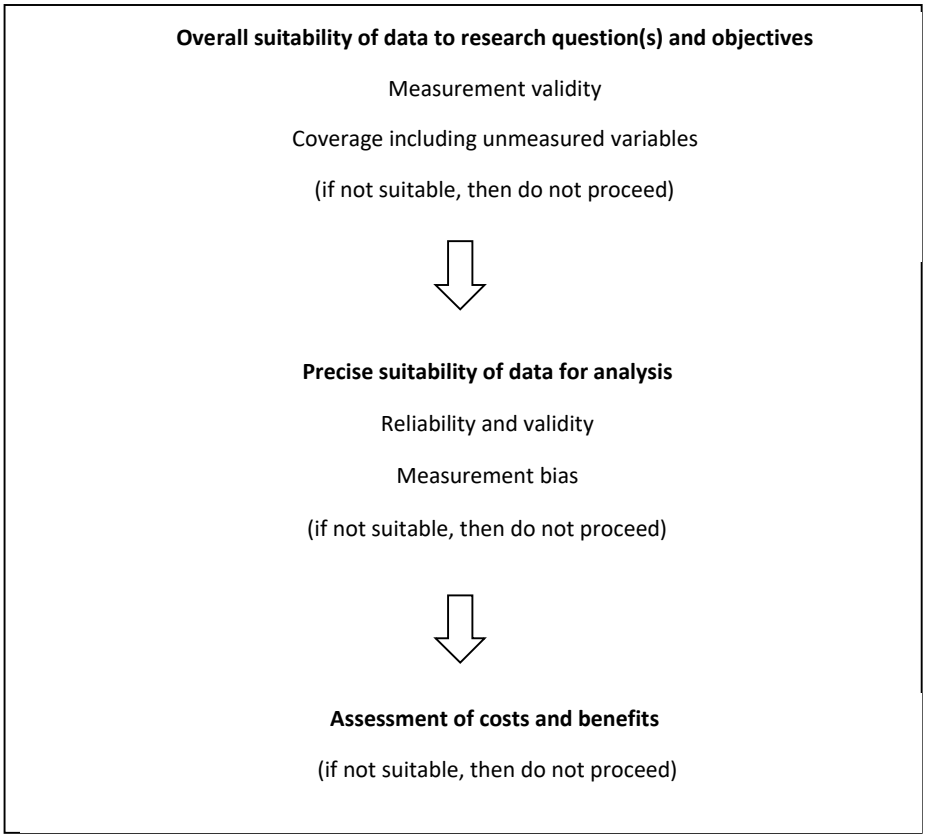

Figure 4.1 Evaluating quality of secondary data

Source: Saunders *et al*., 2015

4.13 Firm-specific data

Firm-specific (performance) and board gender diversity data pertaining to GCC countries (KSA, UAE, Kuwait, Oman, Qatar and Bahrain), was drawn from firms' annual reports downloadable from financial markets' data bases appertaining to the TADAWUL stock market, Abu Dhabi Securities Exchange, Dubai Financial market, Boursa Kuwait, Muscat Securities Market, Qatar Exchange and Bahrain Bourse.

Saudi Arabia

Tadawul is the Saudi Stock Exchange, which was established in 2007, and is monitored by the Saudi Capital Market Authority; the Saudi stock exchange is the largest among GCC countries, as well as the whole of the Middle East in terms of market capitalization. It

contains 191 listed companies across 15 sectors: banks and financial services, petrochemical industries, cement, retail, energy and utilities, agriculture and food industries, telecommunication and information technology, insurance, multi-investment, industrial investment, building and construction, real estate and property development, transport, media and publishing and hotel and tourism). TASI is the Tadawul All Share Index (Tadawul official web page, 2019).

United Arab Emirates

Three financial markets are found in UAE, which are (Abu Dhabi Securities Exchange (ADX), Dubai Financial Market (DFM) and (NASDAQ Dubai for international stocks)) ADX and DFM (both established in 2000) have (67) and (178) companies listed in them respectively. Both are monitored by the Emirati Securities and Commodities Authority. While NASDAQ Dubai is governed by independent party and follows the international financial standards. Sectors found in ADX and DFM are (Banks, Investment and financial service, Insurance, Real estate and Construction, Transportation, Industrials, Consumer staples, Telecommunications and Services) (https://government.ae/en/information-and-services/finance-and-investment/financial-markets).

Kuwait

Kuwait stock exchange (Boursa Kuwait: BK) is the oldest financial market among GCC countries (established in 1977). It is regulated by (Kuwaiti Ministry of Commerce and Industry, Ministry of Finance and the Central Bank of Kuwait). There are (175) listed companies and sectors are (Technology, Financial services, Real estate, Insurance, Banks, Utilities, Telecommunications, Consumer Service, Health Care, Consumer Goods, Industrials, Basic Materials, Oil and Gas) (Boursa Kuwait official web page, 2019).

Oman

The Omani stock market is called Muscat Securities Market, was established in (1988). It contains (111) companies. Sectors are few, namely (Financial, Services, Industrial), while

(MSM30) is the market index that contains the 30 largest companies (https://www.cma.gov.om/).

Qatar

Qatar Stock Exchange (QSE) was established in (1995). 45 companies are listed in QSE, sectors are (Banks and financial service, Consumer Goods and Services, Industrials, Insurance, Real Estates, Telecoms, Transportations) (https://www.qe.com.qa/).

Bahrain

Bahrain Bourse BB is the smallest among GCC countries stock exchanges in terms of market capitalization, sectors are (Commercial Banks, Investment, Insurance, Services, Hotels and Tourism, Industrial) (https://www.bahrainbourse.com/).

France and United Kingdom

Data about board gender diversity and firm performance for UK and France was obtained from Bloomberg database via the Bloomberg terminal. This terminal provides professional platform for practitioners and academics to obtain real time financial data. It also provides data about corporate personnel, such as board of directors' members (e.g. gender). Most global financial markets and corporations have subscriptions in Bloomberg database such as (Paris stock exchange and London stock exchange). Data is of high quality and in different formats (Source: Bloomberg official website: 2019).

4.14 Country-specific data

The study focuses on both firm and national level factors affecting the relationship between board gender diversity and firm performance. National level variables consist of: Female Gross Tertiary enrolment ratio over male value and female labour market participation. Both firm and national level data for GCC countries, UK and France were obtained from the United Nations Educational, Scientific and Cultural Organisation UNESCO Institute for Statistics and The Global Gender Gap Report, (2017,2018), which

was issued by the World Economic Forum for both years. The female labour force participation ratio was obtained from the International Labour Organization data base (ILOSTAT). These variables are sub-indices of the Global Gender Parity index (GGPI), which depends on the latest data provided by UNESCO, United Nations and the International Labour Organization. Studies such as (Low *et al*., 2015; Allemand *et al*., 2014 and Post and Byron, 2015) used similar data sets about gender obtained from The Global Gender Gap Parity Report as proxies for informal institutional differences between different countries. A detailed description of the Global Gender Parity Index (GGPI), sub-indices and components will be discussed in section (4.15).

4.14.1 UNESCO Institute for Statistics (UIS)

The UNESCO Institute for statistics was established in (1999) to provide data which can be used in monitoring progression of countries towards sustainable development goals for education, science and culture.

The institute releases data regarding formal education two times a year. This data come from official administrative sources on the national level. Data covers a myriad of issues including but not limited to:

- Educational programmes
- Access for educational programmes
- Participation
- Progression
- Completion
- Literacy
- Educational attainment
- Human and financial resources

Data covers various levels and categories (i.e. private and public education) from early childhood education to university and tertiary education. Data is collected via three surveys (i.e. survey of formal education, UIS, Organisation for Economic Co-operation and Development OECD and Eurostat) survey of formal education and a literacy and attainment survey.

To check reliability and validity data, the UIS undertakes vigorous processes starting from ensuring that data covers the whole national educational system in line with the international standards. Data is checked using multiple sources and compared to other national data sources. (UNESCO-UIS, 2017)

4.14.2 International Labour Organization Statistics (ILOSTAT)

The international Labour Organization (ILO) is an agency that is founded by the United Nations. (ILOSTAT) is hosted by the International Labour Organization statistics department. It aims:

- To develop international standards of measuring labour issues to enhance comparability among countries
- To provide reliable statistics about labour issues
- To assist member countries to enhance their statistics

It is responsible for 14 indicators of Labour statistics for the Sustainable Development Goals (SDGs) including:

- Working poverty rate
- Social protection coverage
- Female share in management
- Labour productivity growth
- Informality rate in non-agriculture

- Unemployment rate
- Youth NEET rate
- Child labour rate
- Manufacturing employment
- Labour income rate

SDGs are goals set by the United Nations General Assembly to be met by 2030. 17 goals were launched in 2015 to be targeted by the international community to end poverty, protect the planet and enhance peace and prosperity. These goals cover a variety of social, economic, education, gender equality, health, environmental, social justice and energy aspects. (https://ilostat.ilo.org/topics/sdg/).

4.15 Global Gender Parity Index

In 2006, the World Economic Forum introduced the Global Gender Gap Index (GGGP). The index illustrates disparities among both genders and tracks them over the long term. The Index highlights gender gaps based on four dimensions: economic empowerment, political empowerment, education and health. A ranking of countries is presented in order to create awareness and to facilitate planning by countries to close extant gaps between genders among ranked countries. Quantitative analysis for the measures is provided to enhance effectiveness of the Index (Global Gender Gap Report, 2017). The Index contains four sub-indices: Economic Participation and Opportunity, Educational Attainment, Health and Survival, Political Empowerment. This index was considered by researchers such as Post and Byron (2015) and Low et al. (2015) as an indicator of cultural perceptions towards women in workplaces. However, it is more a relative measure of gender equality than of female empowerment.

4.15.1 Economic Participation and Opportunity (EPO)

The EPO is a sub-index of The Global Gender Parity Index (GGPI), consisting of five variables:

- Female labour force participation over male value drawn from the International Labour Organization data.
- Wage equality between men and women for the same work based on survey data (a scale from 0-1)
- Female estimated earned income over male value derived from World Economic Forum calculations
- Proportion of female legislators, females in senior official positions and managers over male value drawn from the International Labour Organization data
- Proportion of female professional and technical workers over male value based on the International Labour Organization data

4.15.2 Educational Attainment

The second sub-index of (GGPI) consists of four variables:

- Proportion of female literacy rate over male
- Proportion of female net primary enrolment rate over male value
- Proportion of female net secondary enrolment rate over male value
- Proportion of female gross tertiary enrolment ratio over male value

All data is obtained from the UNESCO Institute for Statistics, Education indicators database.

4.15.3 Health and Survival

This sub-index consists of two variables:

- Sex ratio at birth based on the United Nations Population Division data
- Proportion of female healthy life expectancy over male value based on World Health Organization data

4.15.4 Political Empowerment

The last sub-index of the (GGPI) and consists of three variables:

- Proportion of females with seats in parliament over male value
- Proportion of females at ministerial level over male value
- Ratio number of years with a female head of state (last 50 years) over male value

Data is obtained from Inter-Parliamentary Union, Women in Politics

4.15.5 EPO index score by region

In the following tables, country scores in EPO index by the regions we focused on, are presented. Specifically, Middle East and North Africa as one block. In addition to West Europe as a block too.

Table 4.6 EPO index scores of Middle East and North Africa countries

Country	**Overall rank**	**Overall score**
Israel	46	0.722
Tunisia	119	0.648
United Arab Emirates	121	0.642
Kuwait	126	0.63
Qatar	127	0.629
Algeria	128	0.629
Turkey	130	0.628
Bahrain	132	0.627
Egypt	135	0.614
Mauritania	136	0.607

Morocco	137	0.607
Jordan	138	0.605
Oman	139	0.605
Lebanon	140	0.595
Saudi Arabia	141	0.59
Iran, Islamic Rep.	142	0.589
Syria	146	0.568
Iraq	147	0.551
Yemen	149	0.4994

Source: Global Gender Gap Report (2018)

Table 4.7 EPO index scores of Western Europe countries

Country	**Overall rank**	**Overall score**
Iceland	1	0.858
Norway	2	0.835
Sweden	3	0.822
Finland	4	0.821
Ireland	9	0.796
France	12	0.779
Denmark	13	0.778
Germany	14	0.776
United Kingdom	15	0.774
Switzerland	20	0.755
Netherlands	27	0.747
Spain	29	0.746
Belgium	32	0.738
Portugal	37	0.732
Austria	53	0.718
Luxembourg	61	0.712
Italy	70	0.706
Greece	78	0.696
Malta	91	0.686
Cyprus	92	0.684

Source: Global Gender Gap Report (2018)

4.16 Measurement of variables

4.16.1 Dependent Variables

Firm performance

Performance of a firm can be complicated to measure given the multitude of possible metrics to measure it. In line with agency theory, the traditional objective of the firm is increasing shareholder wealth (i.e. profitability). Jensen and Meckling (1976) underscored increasing shareholder wealth maximization; accordingly, performance has been measured by stock returns or Tobin's Q. Although these measures remain the most dominant measures in the literature of corporate finance, Belghitar *et al*. (2019) demonstrated that these measures ignore shareholder preferences and acceptability of risk and thus suggested inclusion of shareholder risk acceptability to these measures to better capture insights into firm performance in corporate finance.

Performance of the firm may take on other dimensions when viewed through the lens of alternate theoretical perspectives (e.g. stakeholders theory). Combining two opposing theoretical views of the firm, Shankman (1999) reframed the relation between agency theory and stakeholders theory.in arguing that, firms which act morally and take in consideration the interests of its stakeholders perform better in the long run. In this study, agency theory assumptions are integrated with institutional theory assumptions and firm performance is a dependent variable. In sequence, in the following sections, the merits and drawbacks of using Return on Assets (ROA) and Tobin's Q are discussed.

Return on Assets (ROA):

ROA is commonly used as a measurement of firm performance. It represents the firm's operational performance. Return on Assets (ROA) is the proportion between net income and the book value of total assets of the firm. Along with other measures -- Return on Investment (ROI) and Return on Equity (ROE) -- return on assets (ROA) are financial measures of the firm performance (or accounting-based measures) that can be obtained from the financial statements of the firm. All three measures have been widely used in

the literature of corporate finance; however, little agreement on which of the three serves as the best and the most suitable metric is discernible. Most studies found in the literature of corporate finance -- and, more specifically, studies about board gender diversity and firm performance – have used Return on Assets (ROA) (as well as Tobin's Q) to capture firm performance (Carter *et al*, 2003; Campbell and Minguiz-Vera, 2008; Abdullah, 2014; Abdullah *et al*., 2016). Return on Assets (ROA) reflects how the actual operational performance is affected by the presence of women.

Tobin's Q

Tobin's Q is a market-based measure used widely in the literature of corporate finance. Tobin's Q is calculated by finding the ratio of the market value of a firm to the replacement cost of its assets (Marinova *et al.,* 2016). When Tobin's Q exceeds the value of 1, this indicates that a firm has intangible assets that will affect its future growth prospects (Marinova *et al.,* 2016). Tobin's Q can be calculated in other ways (e.g. Brav *et al*., 2008) where Tobin's Q equals (market value of equity added to book value of debt) divided by (book value of debt added to book value of equity). The market performance measures represent investors' perceptions towards the firm including, by implication, societal perceptions towards presence of women on boards and gender equality depending on the context (Abdullah*,* 2014; Abdullah *et al*., 2016 and Haslam *et al.*, 2010).

Female Tertiary Education (Normative pressure)

Female tertiary education ratio was obtained from the statistics database of the UNESCO Institute and from Global Gender Gap Reports (2017, 2018) for all countries. Data on general educational attainment was excluded predicated on the assumption that, as for women, to qualify for a board seat mandates an educational attainment higher than secondary school level. Thus, Female Tertiary Education ratio was a more relevant measure utile for gauging the board gender diversity phenomena than Female Secondary (or Primary) Education ratio (Allemand *et al*., 2014).

Legal Support (Coercive pressure)

Following (Allemand *et al*., 2014; and Grosvold and Brammer, 2011), a dummy score from 0 to 2 is employed to proxy coercive pressure exerted by governments on companies to undertake board gender diversity scored as follows: presence of gender board quota (2), presence of soft law (1) or absence of any action toward enhancing equal gender representation on the board of directors (0).

Female labour Force participation (Normative pressure)

Following (Allemand *et al*., 2014, Low *et al*., 2015) normative pressures for board gender diversity are captured by female labour force participation ratio obtained from the International Labour Organization statistics and the Global Gender Gap Report issued by the World Economic Forum for two years (2017,2018).

4.16.2 Independent Variable

Board gender diversity

Contrasting the experience of GCC countries with that of France and UK, this study seeks to understand the role played by institutional factors related to women (e.g. culture; female labour force, education) on the one hand and ,on the other hand, firm level factors related to governance (e.g. ownership structure and board characteristics) in the relationship between board gender diversity and firm performance. The independent variable (Board gender diversity) which is measured in alternate ways in a myriad of studies as depicted in table (4.8). This study employs three different gauges of board gender diversity, in order to capture differences (if any) between the three measures in the one hand, and on the other, to capture the different effects on different performance measures (ROA and Tobin's Q). Board gender diversity is measured by (the number of

women on the board, the percentage of women on the board and , the percentage of women on the board and presence of women in terms of an index (0, if no women on the board; 1, if 1 or 2 women on the board; 2, if more than 3 women on the board). These metrics were adopted based on measurements used in previous studies on the theoretical framework on board gender diversity and performance. Basically, one women, reflective of tokenism, may not be able to impact board performance; whereas, the presence of three women or more may establish a critical mass for women to contribute effectively in the decision making process of the board (Low *et al.,* 2015; Ararat *et al.,* 2015 and Campbell and Minguiz-Vera, 2008).

The following table details previous studies that have focused on board gender diversity and firm performance, with a view to illustrate which performance and board gender diversity metrics were used by each one of them, rendering their findings.

Table 4.8 Performance measures used in reviewed studies

No.	Study	WOBs measure	Performance measure	Finding
1	Adams and Ferreira (2009)	Fraction of women	ROA, Tobin's Q	Negative effect of women on performance
2	Bohren and Storm (2010)	Proportion of women	Tobin's Q, ROA and ROS	Negative effect of women on all performance measures
3	Campbell and Minguiz-Vera (2008)	Percentage of women, Blau and Shannon indices	Tobin's Q	Positive effect of women on performance
4	Haslam *et al*. (2010)	Percentage of women	Tobin's Q, ROA and ROE	No effect for women on (ROA and ROE) while negative effect on Tobin's Q
5	Abdullah *et al*. (2016)	At least one woman (0/1)	ROA and Tobin's Q	Positive effect for women on ROA and

				negative effect on Tobin's Q
6	Mahadeo *et al*. (2012)	Proportion of women	ROA	Positive effect for women on ROA
7	Nguyen and Faff (2006)	Number of women	Tobin's Q and ROA	Positive effect for women on Tobin's Q
8	Ararat *et al*. (2015)	Blau index	ROE	Positive effect for women on ROE

Source: Devised by author

4.16.3 Control Variables

Consensus of research holds that several control variables affect firm performance (Abdullah *et al*., 2016; Marinova *et al.,* 2016; Campbell and Minguiz-Vera, 2008). The study used (firm size, financial leverage, board size and country) as control variables. Measurement of control variables, dependent and independent variables can be found in in the table below:

Table 4.9 Definition and measurement of study variables

Variables	Definition and measurement
Firm performance:	
Return on Assets	Operating income before extraordinary items divided by total assets
Tobin's Q	The (Market value of equity + Total liabilities +Preferred Equity + Minority interest) ÷ Book value of assets
Board Gender Diversity:	
Number of Woman on Board	Total woman members on the board
Percentage of Woman on Board	Total woman members on the board divided by total board members
Ranking of Woman on Board	Firms having 1-2 woman on board are given 1, firms having 3 or more woman on the board are given 2 otherwise 0 for the firms not having any woman on the board.
Board Composition:	
Board independence	Percent of independent directors on the board
Board size	Size of the board of directors
Ownership structure:	
Institutional ownership	Fraction of shares owned by the Institutional investors
Ownership concentration	Fraction of shares owned by the five largest shareholders together

Female Education and Economic Participation:	
Female Enrolment in tertiary education	Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.
Female Labour Force Participation	Labour force participation rate is the proportion of the population ages 15 and older that is economically active.
Control variables:	
Firm Size	Logarithm of the company's total assets
Financial leverage	Total debt divided by total assets
Sector	Dummy variable that equals one for industrial firms
Country	Dummy variable that equals one for firms from X country otherwise 0

Source: Devised by author

4.17 Panel data

The data used in this study is panel data, which, as a combined data type consists of time series data and cross-sectional data. According to Baltagi (2005), the term panel data refers to "the pooling of observations on a cross-section household, countries, firms, etc. over several time periods". In this study, we combine firm specific data in several countries (i.e. Saudi Arabia, Kuwait, Bahrain, Oman, Qatar, UAE, UK and France) over a period of two years (2017-2018). The majority of studies in the literature to assess the relationship between board gender diversity and firm performance, either employ firm specific data (e.g. Abdullah *et al*., 2016, Campbell and Minguiz-Vera, 2008; Carter *et al*., 2003) or cross-sectional data on a single country level (e.g. Post and Byron 2015 and Marinova *et al*., 2016). The novelty of this study, that it takes combined firm-specific data and country-specific data over a span of two years to capture the role of institutional factors in the relationship between board gender diversity and firm performance as well as the role of firm-specific factors in this relationship, to provide comparative insights between several countries; in so doing productively adding to the literature, in offering explanation why previous empirical evidence short in terms of rendering unambiguous conclusions.

4.17.1 Advantages of panel data

According to Baltagi (2005) advantages of using panel data are manifold:

- Controlling for individual heterogeneity, as panel data assumes that individuals, firms and countries are heterogeneous. On the other hand, cross sectional data and time series may generate biased results in the case of heterogeneity is not controlled.
- Panel data provides us with informative, rich data with more variability, less collinearity between variables, as well as a higher degree of freedom and efficiency.
- Panel data is more able to study the dynamics of adjustment over time, while cross sectional data hides such dynamics.
- Panel data can detect and measure the effects while cross sectional data is not able to do so.
- Panel data models allow us to construct and test complex behavioural models more than cross-sectional and time series data does.
- Micro panel data collected about individuals and firms are measured more accurately than same variable measured on the macro level.
- Macro panel data have a longer time series, unlike the problem of nonstandard distribution found in time series data.

4.17.2 Disadvantages of panel data

On the other hand, Baltagi (2005) mentioned the following disadvantages:

- Designing and managing data collection issues
- Distortions from measurement errors
- Selectivity problems (i.e. self-selectivity; non-response and attrition)

- Short time series dimension (micro panels)
- Cross-section dependence (macro panel)

4.18 Sampling

In business and management research, sampling is often needed as, for testing some hypotheses, it may not be practical to collect all the data from all individuals or firms constituting the population (Saunders *et al.,* 2015). In this context, one should discriminate between two concepts: population of the study, the "full set of elements or cases from which the sample is taken" (Saunders *et al*., 2015) and the sample of the study -- part of the population which it seeks to represents and results obtained from it are accordingly generalizable with reference to the whole population of the study. Sampling provides a suitable solution for the impracticability of collecting data from all individuals, time constraints and budget constraints. Barnett (2002) indicated that sampling provides more accurate results than taking the whole population by collecting more detailed and higher quality data. It is important to specify the study population in order to select a representative sample at the end. In this thesis, the population is all firms and target population is firms listed in stock markets. The main objective of this study is to determine the role of firm and country specific factors in the relationship between board gender diversity and firm performance.

Sampling may be divided into two broad categories:

- Probability sampling where everyone from the population has a known probability of being selected
- Non-probability sampling where subjective judgment is a key element in the sampling process

4.18.1 Purposive sampling

According to Saunders *et al.* (2015), this type of sampling depends on the researchers own judgment to select cases that best answer research questions. It is sometimes called the "judgmental sample". The researcher uses logical connections that enable him/her to use the sample. This type of sampling lacks statistical generalization as it depends on researcher's judgments more than the statistical evidence.

In this study, data drawn from the GCC stock exchanges, FTSE 100 and SBF120 serves as the sample.

Firms listed in GCC stock exchanges are representative of Arab corporate culture. The number of firms ranged from 175 in Bursa Kuwait to 43 firms in Bahrain Bourse. Except as otherwise noted, all firms listed in each GCC stock exchange are included in the sample in this thesis given the small number of listed firms in these markets and small number of firms with female directors on boards, Such small number of firms make it difficult to observe causal relationships. Three criteria drove exclusion of firms from the sample:

- Firms with missing data for the period (2017-2018)
- Firms that merged during the period (2017-2018)
- Firms delisted during the period (2017-2018)

Firms listed in FTSE100 were chosen as representative of Anglo-Saxon corporate culture. The London Stock Exchange employs five indices:

- FTSE 100
- FTSE 250
- FTSE 350
- FTSE SmallCap
- FTSE All-Share

Inasmuch as the number of listed firms in London Stock Market is large (2483), consistent with studies undertaken by McCann and Wheeler (2011) and Haslam *et al*. (2010), the

sample in this thesis is drawn from firms listed in the FTSE 100. This index consists of the largest 100 firms in terms of market capitalization. Membership in FTSE 100 is determined quarterly. Firms included in the study sample remained unchanged as members of FTSE 100 during the study period (2017-2018). The embedded assumption is that large firms follow the best governance practices and relationship between board gender diversity and performance can be detected easily.

In France, firms listed in SBF 120 are, representative of French corporate culture. The Paris Stock Exchange (Euronext Paris) has 1,078 listed firms. Market indices include:

- CAC 40
- CAC Next 20
- CAC Mid 60
- CAC small
- SBF 120

The sample is drawn from the entirety of firms composing the SBF 120 as it contains the most actively traded firms (inclusive of the CAC 40, CAC Next 20 and CAC 60) that represent the largest French publicly traded companies. The overall observations ended up being 436 from GCC countries, 100 from UK and 120 from France for a total of 656 in each single year and 1312 total observations over the two-year period (2017-2018). Sample of the study is illustrated in the following table:

Table: 4.10 Study Sample

Culture	Country	Financial Market	Total Listed	Study sample	Years
The Arab culture	Bahrain	Bahrain Bourse	43	39	2017-2018
	KSA	TADAWUL	171	131	2017-2018
	Kuwait	Boursa Kuwait	175	77	2017-2018
	Oman	Muscat Securities Market	116	52	2017-2018
	Qatar	Qatar Stock Exchange	46	19	2017-2018
	UAE	Abu Dhabi Securities Exchange	66	61	2017-2018

		Dubai Financial Market	66	57	2017-2018
	Total		683	436	
Anglo-Saxon culture	United Kingdom	London Stock Exchange			
		FTSE 100-list Companies	100	100	2017-2018
French culture	France	Paris Stock Exchange			
		SBF120 List of Companies	120	120	2017-2018

4.19 Panel data models

When panel data is used, the researcher has four options when modelling the relationship among variables, according to Gujarati and Porter (2005):

- Pooled Ordinary Least Squares OLS model, in which all observations are pooled without considering the cross-sectional and time series nature of data, using a grand regression model.
- The fixed effects least squares dummy variable (FELSDV) model, in which all observations are pooled in one model and the cross-sectional units have their own (intercept) dummy variable.
- The fixed effects within group model, in which all observations are pooled but for each unit, each variable is expressed as a deviation from its mean and value; then an OLS regression is estimated on each value of the corrected or "de-meaned" means.
- The random effects model, in which we assume that the intercept values are a random drawing from a much bigger population.

Pooled OLS model, Fixed Effect Models (FEM) and Random Effect Models (REM) are discussed below with a view to ascertaining how the proper model should be chosen among the three model choices.

4.19.1 The Pooled Panel Model

This model can be expressed mathematically as follows:

$$Y_{it} = \beta_0 + \beta X_{it} + \varepsilon_{it} \qquad \ldots\ldots\ldots\ldots \quad (4.1)$$

Where the error item (it) is assumed to be independent and normally distributed. However, this is not true in most cases as error in panel data is generally correlated overtime generating autocorrelation problem in the model. Thus, the regular pooled panel model results may be false as a result of underestimating standard errors.

4.19.2 The Fixed Effect Model (FEM)

This model can be expressed mathematically as follows:

$$Y_{it} = \beta_i + \beta_1 X_{1it} + \varepsilon_{it} \qquad \ldots\ldots\ldots\ldots \quad (4.2)$$

This model is prescribed when the regular (OLS) model is unable to capture the unobserved variables that may interfere in the relationship between the independent and explanatory variables -- specifically, when observing a relationship of two variables among different entities (e.g. firms and countries). The intercept for each entity may vary, but the slope coefficients are constant for these entities (Gujarati and Porter, 2005).

4.19.3 Random Effect Model (REM)

This model can be expressed mathematically as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + u_i + \varepsilon_{it} \qquad \ldots\ldots \quad (4.3)$$

This model assumes that variation exists within and between entities and that they have influence on the dependent variable. REM assumptions mirror FEM assumption with the added stipulation that individual effect is uncorrelated with the explanatory variables (Gujarati and Porter, 2005).

4.19.4 Choosing between (REM) and (FEM)

Usually both models are used and the presence of statistically significant coefficients (as indicated by the Hausman Test) which render REM and FEM estimates. Selection of REM is advised where estimates are similar; selection of FEM, when they differ. The default choice consists of using REM estimates unless the Hausman Test rejects it. Results of Hausman test can be found in the next chapter (Chapter five).

4.20 Endogeneity

According to (Baltagi, 2005) endogeneity is "the correlation of the right-hand regressors and the disturbances". This is a serious problem in econometrics that generates false or biased results. Studies such as (Low *et al*., 2015, Garcia-Meca *et al*., 2015 and Groening, 2019) reported that the relationship between board gender diversity and performance is an endogenous relationship. This problem may be a result of various causes such as: sample selectivity, omitted variables, measurement errors (Baltagi, 2005). To detect endogeneity problem, Hausman and Ahn and Low (1996) tests are used. To deal with endogeneity problem, econometricians use techniques such as lagging the regressors or they use the two stage least squares regression technique (2SLS) discussed further below.

4.20.1 Two Stage Regression (2SLS) Model

Baltagi (2005) recommends using 2SLS Models when there is endogeneity among regressors as the simple OLS or REM will be seriously misleading. Liu *et al*., (2015) warned that a simultaneity problem usually appears in applied financial studies similar to this study. To perform 2SLS, it is necessary to specify an instrumental variable that is correlated to dependent variable but not to the independent variable (IV). Gujarati and Porter, (2005) state that "The basic idea behind 2SLS is to replace the (stochastic)

endogenous explanatory variable by a linear combination of the predetermined variables in the model and use this combination as the explanatory variable in lieu of the original endogenous variable. The 2SLS method thus resembles the instrumental variable method of estimation in that the linear combination of the predetermined variables serves as an instrument, or proxy, for the endogenous regressor." Following (Low *et al*., 2015), we will use (percentage of female labour force) obtained from Bloomberg database for all countries, as the instrumental variable (IV) in the (2SLS) model.

4.21 Moderation models of firm and country level variables

The major argument of this study is that the relationship between board gender diversity and firm performance is moderated by firm and country level variables. The moderator variable affects the direction and significance of the relationship. First, the relationship between the dependent and independent variables along with the other explanatory variables is tested using the following model:

$$Perf_{itg} = \beta_0 + \beta_1 \%WOB_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 InstOwner_{itg} + \beta_5 Concen_{itg} + \beta_6 FirmSize_{itg} + \beta_7 Secotr_{itg} + \beta_8 FinLev_{itg} + \beta_9 Country_{ig} + \beta_{10} Tertiary_{tg} + \beta_{11} WLF_{tg} + \beta_{12} Culture_{tg} + \beta_{13} Law_g + \varepsilon_{itg} \ldots\ldots (4.4)$$

Where:

β_0 :the coefficient in the model

$\beta_{1\text{-}13}$:the slope of independent and explanatory variables

$Perf_{itg}$:performance of the firm (dependent variable) measured by ROA and Tobin's Q for the firm (i) in year (t) in country (g).

$\%WOB_{itg}$:percentage of women directors (independent variable) for the firm (i) in year (t) and in country (g)

$BoardSize_{itg}$:firm board size for the firm (i) in year (t) and in country (g).

$BoardInde_{itg}$:percentage of independent directors in firm (i), year (t) and country (g)

$InstOwner_{itg}$:percentage of institutional ownership in firm (i), year (t) and country (g)

$Concen_{itg}$:ownership concentration in firm (i), year (t) and country (g)

$FirmSize_{itg}$:firm (i) size, in year (t) and country (g).

$Sector_{itg}$:firm (i) sector, in year (t) and country (g)

$FinLev_{itg}$:firm (i) financial leverage in year (t) and country (g).

$Country_{itg}$:Country of firm (i)

$Tertiary_{tg}$:ratio of female tertiary education in year (t) and country (g) .

WLF_{tg} :female labour market participation in year (t) and country (g)

$Culture_{g}$:culture of country (g)

Law_{g} :law supporting board gender diversity (1) no law, (2) soft law (3) quota law .

ε_{itg}: .random error.

Following that, each firm and country variable is multiplied by the independent variable to create interaction variable as follow:

$$Perf_{itg} = \beta_0 + \beta_1(BoardSize * \%WOB)_{itg} + \beta_2 BoardInde_{itg} + \beta_3 InstOwner_{itg} + \beta_4 Concen_{itg} + \beta_5 FirmSize_{itg} + \beta_6 Secotr_{itg} + \beta_7 FinLev_{itg} + \beta_8 Country_{itg} + \beta_9 Tertiary_{itg} + \beta_{10} LabourForce_{itg} + \beta_{11} Culture_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.5)$$

$$Perf_{itg} = \beta_0 + \beta_1(BoardInde * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 InstOwner_{itg} + \beta_4 Concen_{itg} + \beta_5 FirmSize_{itg} + \beta_6 Secotr_{itg} + \beta_7 FinLev_{itg} + \beta_8 Country_{itg} + \beta_9 Tertiary_{itg} + \beta_{10} LabourForce_{itg} + \beta_{11} Culture_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.6)$$

$$Perf_{itg} = \beta_0 + \beta_1(InstOwner * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 Concen_{itg} + \beta_5 FirmSize_{itg} + \beta_6 Secotr_{itg} + \beta_7 FinLev_{itg} + \beta_8 Country_{itg} + \beta_9 Tertiary_{itg} + \beta_{10} LabourForce_{itg} + \beta_{11} Culture_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.7)$$

$$Perf_{itg} = \beta_0 + \beta_1(Concen * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 InstOwner_{itg} + \beta_5 FirmSize_{itg} + \beta_6 Secotr_{itg} + \beta_7 FinLev_{itg} + \beta_8 Country_{itg} + \beta_9 Tertiary_{itg} + \beta_{10} LabourForce_{itg} + \beta_{11} Culture_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.8)$$

$$Perf_{itg} = \beta_0 + \beta_1(Tertiary * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 InstOwner_{itg} + \beta_5 Concen_{itg} + \beta_6 FirmSize_{itg} + \beta_7 Secotr_{itg} + \beta_8 FinLev_{itg} + \beta_9 Country_{itg} + \beta_{10} LabourForce_{itg} + \beta_{11} Culture_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.9)$$

$$Perf_{itg} = \beta_0 + \beta_1(WLF * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 InstOwner_{itg} + \beta_5 Concen_{itg} + \beta_6 FirmSize_{itg} + \beta_7 Secotr_{itg} + \beta_8 FinLev_{itg} + \beta_9 Country_{itg} + \beta_{10} Tertiary_{itg} + \beta_{11} Culture_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.10)$$

$$Perf_{itg} = \beta_0 + \beta_1(Culture * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 InstOwner_{itg} + \beta_5 Concen_{itg} + \beta_6 FirmSize_{itg} + \beta_7 Secotr_{itg} + \beta_8 FinLev_{itg} + \beta_9 Country_{itg} + \beta_{10} Tertiary_{itg} + \beta_{11} WLF_{itg} + \beta_{12} Law_{itg} + \varepsilon_{itg} \ldots\ldots (4.11)$$

$$Perf_{itg} = \beta_0 + \beta_1(Law * \%WOB)_{itg} + \beta_2 BoardSize_{itg} + \beta_3 BoardInde_{itg} + \beta_4 InstOwner_{itg} + \beta_5 Concen_{itg} + \beta_6 FirmSize_{itg} + \beta_7 Secotr_{itg} + \beta_8 FinLev_{itg} + \beta_9 Country_{itg} + \beta_{10} Tertiary_{itg} + \beta_{11} WLF_{itg} + \beta_{12} Culture_{itg} + \varepsilon_{itg} \ldots\ldots (4.12)$$

4.22 Summary

In this chapter, starting from a discussion of the context of the study in relation to addressing the major questions posed by the thesis in closing the research gap identified in the literature review, methodology of the thesis was discussed and elaborated in depth alternative research philosophies were described with emphasis placed on the positivism paradigm as it is the research philosophy driving this thesis utilizing the deductive approach. The theoretical background was discussed in line with two theories (i.e. Agency theory and Institutional theory) used to construct the conceptual model of the thesis to be tested using the methodology presented in this chapter. Addressing the research problem mandated espousal of a quantitative approach using secondary data (panel data) from a myriad of sources (financial statements, Bloomberg data base, ILO statistics, World Bank data base and UNESCO database). The dependent, independent and control variables in the study were determined based on the thesis conceptual model discussed in chapter three. Panel data models were chosen to test the hypotheses formulated in this thesis using several statistical tools. First, validity of panel data models received attention, followed by a delimitation of potential statistical problems that may be faced in this procedure such as endogeneity among model variables. Finally, moderation models were introduced to study in terms of the moderating role of firm- and country-level factors in the relationship between board gender diversity and firm performance.

Chapter Five: Results

5.1 Introduction

This thesis aims at investigating the moderating role of firm and country level variables in the relationship between board gender diversity and firm performance. In order to investigate this role, the thesis integrated two of the most widely used theories to understand the role of women directors in the firm (i.e. Agency theory) and the underlying causes of disparities among countries in women representation on board of directors (i.e. Institutional theory). As discussed in chapter four, panel data from three different culture representative countries (GCC countries, UK and France) covering two years (2017-2018) was used. In addition to, firm specific data to deeply understand why the empirical evidence about board gender diversity effect on firm performance is mixed and inconclusive.

In this chapter, results of descriptive statistics are presented in section (5.2). Results of Hausman test to choose between fixed effect model (FEM) or random effect model (REM) are presented in section (5.3). Results of the Fixed Effect Panel Models (FEM) and Two Stage Least Squares models (2SLS) are presented in section (5.5). These results were obtained using SPSS software version (23) to obtain descriptive statistics while E-views software version (9) was used to obtain results of Hausman test, (FEM) and (2SLS) regression.

5.2 Descriptive analysis

In this part of the study, study variables were divided into six types: First, women on board variables measured by three indicators which are: number of women on board, percentage of women on board, categorial variable divided into three categories (0 for no women on board, 1 for one women or two women on board, 3 for three or more

women on board). Second, board composition variables (board size, board independence). Third, firm performance variables (Return on Assets ROA and Tobin's Q). Fourth, ownership structure variables (ownership concentration and institutional ownership). Fifth, firm characteristics control variables (firm size, sector, financial leverage and country) and finally, country specific variables (female tertiary education ratio, female labour force participation).

5.2.1 Descriptive statistics of presence of women on boards (WOBs)

In table (5.1) and (5.2), three indicators for the presence of (WOBs) in the firms that were included in the study sample are presented. It is noticed that the maximum number of women on boards (WOBs) reached 4 in Bahrain during the two years (2017-2018). While (23) firms or (59%) of Bahraini listed firms did not have any women representation on their boards. Firms with one woman or two on board of directors were only (14) which is (36%) of the sample. Two firms had 3 women and more on their board of directors (5%) of the sample.

In United Arab Emirates (UAE) percentage of (WOBs) was (13.6%) in (2017) and was slightly more in (2018) to reach (14%). The maximum number of women on a board of directors was (3) women, while women were (50%) of the board directors in the best cases in (2018). More details are in table (5.2), (28%) and (29%) of (UAE) firms in (2017) and (2018) consecutively, did not have any women representation on their boards. While firms with one or two women on their boards were (58%) in (2017) and (56%) in (2018). Firms with three women or more on their boards were (14%) in (2017) and (15%) in (2018). In Oman, percentage of (WOBs) did not exceed (12.2%). (4) is the maximum number of women in a board of directors. In table (5.2) it is noticed that (50%) of Omani firms have 1 to 2 women in their boards. Firms with no women representation on their boards exceeded (40%). Firms with three women or more on their boards were (12%) in (2017) and dropped to (8%) in (2018).

Table 5.1 Descriptive statistics of Women on Boards WOBs

Country	Year	WOBs							
		No. WOBs				Percentage of WOBs			
		Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Bahrain	2017	0.000	4.000	0.590	0.910	0.000	0.500	0.067	0.107
	2018	0.000	4.000	0.590	0.910	0.000	0.500	0.067	0.107
UAE	2017	0.000	3.000	1.161	0.987	0.000	0.429	0.136	0.122
	2018	0.000	3.000	1.178	1.018	0.000	0.500	0.140	0.130
Oman	2017	0.000	4.000	0.981	1.057	0.000	0.800	0.122	0.156
	2018	0.000	4.000	0.904	0.995	0.000	0.600	0.110	0.137
Kuwait	2017	0.000	3.000	0.506	0.719	0.000	0.500	0.064	0.096
	2018	0.000	3.000	0.481	0.805	0.000	0.500	0.059	0.103
Saudi Arabia	2017	0.000	1.000	0.023	0.150	0.000	0.143	0.003	0.018
	2018	0.000	2.000	0.076	0.294	0.000	0.182	0.008	0.032
Qatar	2017	0.000	2.000	0.421	0.607	0.000	0.333	0.059	0.093
	2018	0.000	2.000	0.526	0.697	0.000	0.250	0.066	0.086
United Kingdom	2017	1.000	7.000	3.178	1.135	0.100	0.545	0.297	0.090
	2018	1.000	7.000	2.881	1.042	0.100	0.500	0.274	0.081
France	2017	2.000	10.000	5.464	1.512	0.214	0.636	0.428	0.076
	2018	2.000	9.000	5.477	1.495	0.214	0.636	0.427	0.068

Table 5.2 Categories of WOBs

Country	Year	(0) WOBs		(1-2) WOBs		(3 or more) WOBs	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Bahrain	2017	23	59	14	36	2	5
	2018	23	59	14	36	2	5
UAE	2017	33	28	69	58	16	14
	2018	34	29	66	56	18	15
Oman	2017	21	40	25	48	6	12
	2018	22	42	26	50	4	8
Kuwait	2017	46	60	29	38	2	3
	2018	51	66	22	29	4	5
Saudi Arabia	2017	128	98	3	2	0	0
	2018	122	93	9	7	0	0
Qatar	2017	12	63	7	37	0	0
	2018	11	58	8	42	0	0
United Kingdom	2017	0	0	28	28	73	72
	2018	0	0	38	38	63	62
France	2017	0	0	2	2	110	92
	2018	0	0	2	2	109	91

In Kuwait, (WOBs) representation was (6.5%) as seen in table (5.1). Most Kuwaiti firms (60-66%) do not have any woman on their boards. While (29-38%) have one or two women on their boards. Kuwaiti firms with 3 women or more on their boards were only (4) firms.

In Kingdom of Saudi Arabia (KSA), (WOBs) maximumly reached (8%), while (98%) of firms did not have any women on their boards. This percentage decreased to (93%) in (2018). In (2017), firms with three women or more on their boards were (3) firms. This number was improved to (9) firms in (2018)

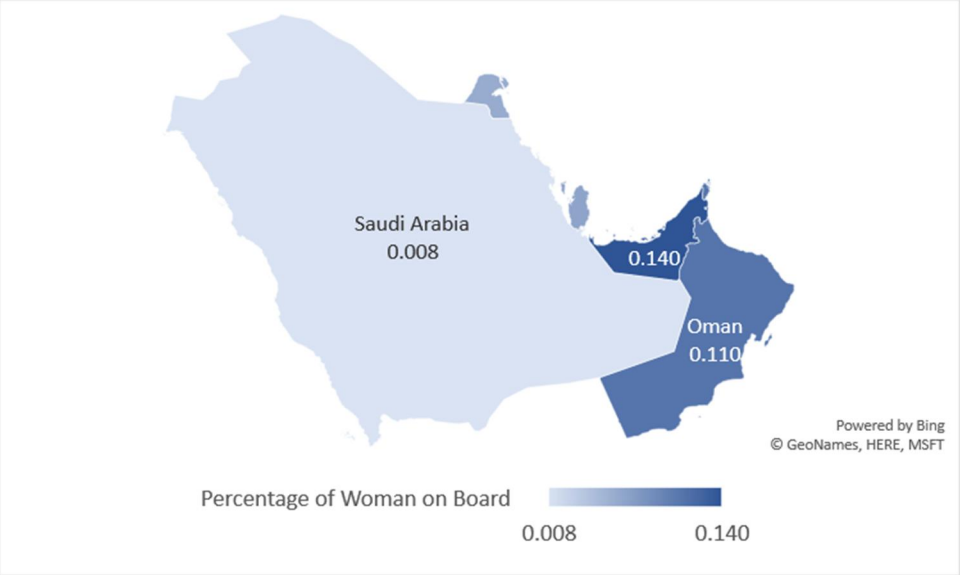

Figure 5.1 WOBs in GCC countries

In Qatar, (WOBs) percentage was (5.9-6.6%). Firms with no women representation on their boards were (63%) in (2017) and decreased to (58%) in (2018). Percentage of firms with 1-2 women on their boards was (37%) in (2017) and increased to (42%) of Qatari firms in (2018). (see also figure 5.1).

GCC countries as a block

Although GCC countries have many similarities in their legal and social environments. There were many disparities among them in the presence of women on boards of

directors. (UAE) was the pioneer among (GCC) countries, in terms of women representation on board of directors. As (UAE) has a unique set of laws and legislations to empower women economically. In Figure (5.1) disparities in women representation in board of directors among (GCC) countries is illustrated.

United Kingdom and France

Results shown in table (5.1) and (5.2), point out disparity among the UK and French firms in terms of women representation on board of directors. (WOBs) in (FTSE 100) ranged from (27.4%-29.7%) in (2017-2018). The mean was (3) women in each board of directors. The highest women representation reached (7) women and the lowest was one woman. In France, (SBF 120) had (42%) women on boards. The mean was five women, the maximum number was (10) and the minimum was two women.

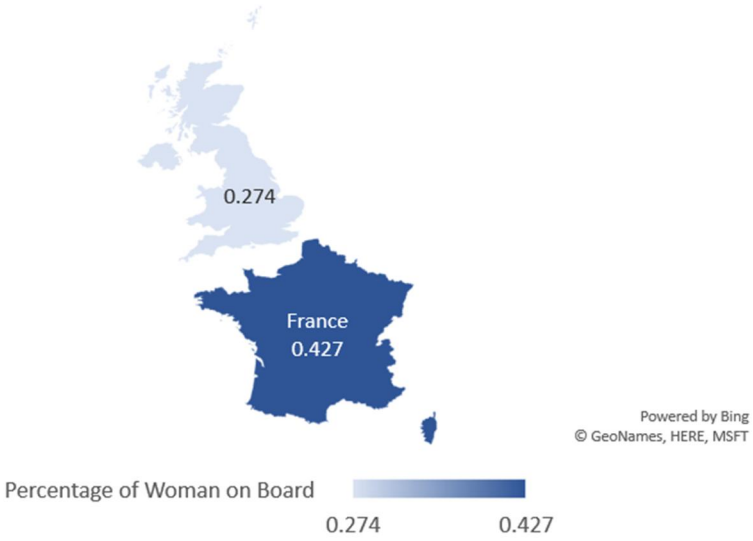

Figure 5.2 WOBs in UK and France

In table (5.2), categories of (WOBs) representation show that three women or more is the dominant category in (FTSE 100), reaching (72%) in (2017) and (62%) in (2018). While in France, the percentage of (WOBs) in (SBF 120) was (92%) and (91%) in (2017) and (2018) consecutively.

Table (5.2) shows that neither (FTSE 100) nor (SBF 120) firms have boards with no women representation. While, (One woman or two) category existed in (28-38%) firms in (FTSE 100) in (2017) and (2018) consecutively. In France, this category existed in (2%) of (SBF 120) firms during (2017) and (2018).

5.2.2 Descriptive statistics of board composition variables

In table (5.3), board composition variables of the study sample are compared against each other's. Board size ranges from (4) to (21) members depending on each country's laws and legislation which determine the lowest and highest number of directors in listed firms. Maximum number of board directors was in UK (FTSE 100) and France (SBF 120) reaching (21) directors. The mean for board size ranged from (8-13).

Table 5.3 Descriptive statistics of board composition variables

Country	Year	Board composition							
		Board independence				Board size			
		Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Bahrain	2017	0.100	0.750	0.353	0.153	4.000	13.000	8.590	2.099
	2018	0.100	0.750	0.336	0.177	4.000	13.000	8.590	2.099
UAE	2017	0.000	0.333	0.130	0.100	5.000	12.000	8.839	1.797
	2018	0.000	0.333	0.130	0.098	5.000	13.000	8.890	1.825
Oman	2017	0.000	0.800	0.200	0.185	4.000	13.000	8.615	2.207
	2018	0.000	0.800	0.211	0.202	5.000	15.000	8.981	2.380
Kuwait	2017	0.083	0.500	0.260	0.103	5.000	12.000	8.273	1.570
	2018	0.077	0.444	0.259	0.099	5.000	13.000	8.312	1.575
Saudi Arabia	2017	0.000	0.625	0.222	0.219	4.000	11.000	8.321	1.432
	2018	0.000	0.700	0.303	0.234	4.000	11.000	8.450	1.421
Qatar	2017	0.085	0.634	0.292	0.146	3.000	12.000	7.737	2.642
	2018	0.085	0.634	0.280	0.153	3.000	12.000	7.737	2.642
United Kingdom	2017	0.333	0.917	0.694	0.117	6.000	21.000	10.703	2.193
	2018	0.350	0.900	0.685	0.114	6.000	20.000	10.505	2.189
France	2017	0.125	1.000	0.529	0.165	6.000	21.000	12.804	3.004
	2018	0.118	1.000	0.535	0.168	6.000	21.000	12.883	3.176

Board independence

Level of Board independence varied from one country to another. We notice that the mean of independent directors in firms listed in Bahrain Bourse was 35%. The highest mean was in KSA and the lowest was in UAE. In UK (FTSE 100), percentage of independent directors exceeded 69% of the board members, which is the highest among the study sample. In France (SBF 120), board independence exceeded 53%. Disparities in board independence is illustrated in figure (5.3).

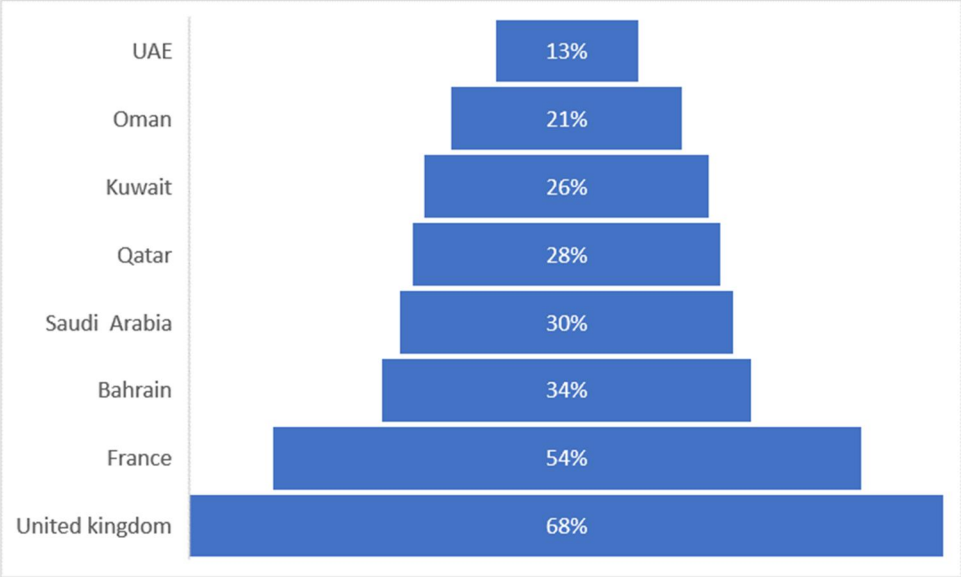

Figure 5.3 Board independence in the sample countries

5.2.3 Descriptive statistics of firm performance indicators

Firm performance was measured using two indicators, one is Return On Assets (ROA) which measures efficiency of assets in generating profits, and the other is a market performance based, that reflects firm image among investors' which is Tobin's Q (T'Q).

Table 5.4 Descriptive statistics firm performance variables

Country	Year	Firm performance							
		ROA				Tobin's Q			
		Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Bahrain	2017	-0.343	0.243	0.037	0.096	0.201	2.333	1.006	0.403
	2018	-0.223	0.162	0.026	0.065	0.219	2.336	0.955	0.422
UAE	2017	-0.227	0.231	0.024	0.059	0.370	1.929	1.012	0.309
	2018	-0.179	0.273	0.018	0.060	0.414	2.113	1.022	0.296
Oman	2017	0.004	0.243	0.079	0.064	0.295	2.009	1.110	0.380
	2018	-0.219	0.204	0.036	0.097	0.299	1.703	1.009	0.320
Kuwait	2017	-0.102	0.252	0.043	0.052	0.365	1.779	0.991	0.324
	2018	-0.195	0.298	0.031	0.068	0.408	2.029	1.021	0.321
Saudi Arabia	2017	-0.085	0.385	0.064	0.083	0.427	2.227	1.181	0.369
	2018	-0.084	0.382	0.060	0.083	0.364	2.438	1.169	0.343
Qatar	2017	-0.427	0.108	-0.027	0.120	0.288	2.746	1.292	0.555
	2018	-0.278	0.066	-0.015	0.075	0.314	3.346	1.261	0.676
United Kingdom	2017	-0.080	2.368	0.092	0.246	0.765	61.944	2.506	6.173
	2018	-0.218	2.179	0.095	0.227	0.777	59.204	2.600	5.908
France	2017	-0.950	0.467	0.034	0.112	0.770	7.662	1.520	1.028
	2018	-0.635	0.511	0.041	0.092	0.880	7.508	1.781	1.182

In GCC countries, KSA achieved the highest Returns On Assets (ROA), reaching (6%) and maintained during (2017) and (2018). Other GCC countries as Bahrain achieved lower Return on Assets (ROA) that ranged from (3.7%) in (2017) and (2.6%) in (2018). In UK (FTSE 100) firms, achieved the highest (ROA) among firms in the study sample during (2017) and (2018). The mean of (ROA) exceeded 9%. In France (SBF 120), (ROA) was (3.4%) in (2017) and increased to (4.1%) in (2018).

Tobin's Q indicates better performance when it is closer to (1). It is noticed in table (5.4), that all firms in the study sample achieved high (T'Q) value in most cases. UK (FTSE 100) firms achieved the highest values of (T'Q). Standard Deviation (SD) of (T'Q) values of (FTSE 100) firms is high indicating high disparity among (FTSE 100) firms' performance. Which was noticed when data was collected. Other countries' (SD) for (T'Q) values was low, which indicate lower dispersion of the sample.

5.2.4 Descriptive statistics of ownership structure variables

Two indicators of ownership structure were used, the first one is institutional ownership as it is a dominant type of ownership in western countries (Desender *et al*., 2013). As noticed in table (5.5) institutional ownership is high in UK, France, Qatar, Oman, Bahrain and KSA, while it is low in UAE and Kuwait. Some firms in GCC stock markets do not have any institutional ownership while firms in UK (FTSE 100) and France (SBF 120) maintained minimum level of institutional ownership.

Regarding ownership concentration, we notice from table (5.5) that firms in Bahrain, KSA, UK and France had high ownership concentration in their firms. While firms in Kuwait and UAE had lower levels of ownership concentration.

Table 5.5 Descriptive statistics of ownership structure variables

Country	Year	Ownership structure							
		Institutional ownership				Ownership concentration			
		Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Bahrain	2017	0.000	0.945	0.516	0.274	0.050	0.960	0.512	0.265
	2018	0.000	0.945	0.516	0.274	0.048	0.912	0.487	0.252
UAE	2017	0.000	0.990	0.152	0.179	0.000	0.850	0.253	0.220
	2018	0.000	0.990	0.157	0.184	0.000	0.850	0.259	0.223
Oman	2017	0.000	0.967	0.435	0.271	0.045	0.941	0.427	0.250
	2018	0.000	0.967	0.435	0.271	0.043	0.941	0.411	0.240
Kuwait	2017	0.000	1.189	0.211	0.244	0.000	0.962	0.354	0.276
	2018	0.000	1.189	0.219	0.251	0.000	0.762	0.362	0.286
Saudi Arabia	2017	0.000	0.837	0.365	0.239	0.000	0.900	0.657	0.248
	2018	0.054	0.892	0.409	0.232	0.195	0.984	0.658	0.234
Qatar	2017	0.006	0.808	0.443	0.245	0.289	0.994	0.643	0.229
	2018	0.006	0.808	0.443	0.245	0.275	0.944	0.611	0.218
United Kingdom	2017	0.267	1.265	0.885	0.225	0.176	0.984	0.616	0.206
	2018	0.238	1.356	0.887	0.237	0.136	0.910	0.615	0.214
France	2017	0.111	0.999	0.562	0.211	0.000	0.792	0.425	0.210
	2018	0.099	0.994	0.553	0.202	0.000	0.804	0.430	0.209

Table 5.6 Descriptive statistics of firm characteristics variables

Country	Year	Firm characteristics							
		Firm size (USD'000'000 $)				Financial leverage			
		Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Bahrain	2017	13,386	28,179,700	2,936,582	6,558,193	0.038	0.902	0.429	0.303
	2018	12,758	28,405,059	2,961,391	6,630,828	0.044	0.914	0.422	0.291
UAE	2017	1,500,098	17,008,527	5,403,952	3,404,349	0.042	1.355	0.498	0.360
	2018	1,127,046	17,020,761	5,504,147	3,374,124	0.048	1.357	0.500	0.349
Oman	2017	163,334	413,339,653	39,866,327	82,957,237	0.001	0.934	0.423	0.306
	2018	175,790	359,589,340	40,449,191	78,134,575	0.001	0.927	0.457	0.315
Kuwait	2017	245,670,697	2,785,483,321	882,114,980	567,559,056	0.038	0.986	0.449	0.315
	2018	184,576,031	2,787,486,827	909,864,609	584,937,784	0.043	0.999	0.442	0.302
Saudi Arabia	2017	26,036	115,967,634	8,658,893	20,197,194	0.013	0.960	0.430	0.259
	2018	26,036	115,967,634	8,695,443	20,281,811	0.116	0.965	0.496	0.224
Qatar	2017	153,615	58,217,442	9,325,559	15,075,686	0.096	0.859	0.558	0.257
	2018	144,335	51,816,734	9,404,180	14,631,607	0.113	0.870	0.545	0.240
United Kingdom	2017	104	3,281,300	167,091	446,684	0.003	0.723	0.239	0.157
	2018	125	3,234,738	171,979	453,246	0.001	0.867	0.240	0.163
France	2017	218	2,589,641	103,341	354,266	0.007	0.739	0.278	0.163
	2018	237	2,597,175	103,645	357,046	0.002	0.713	0.263	0.160

5.2.5 Descriptive statistics of firm characteristics variables

In table (5.6), two firm characteristics variables are shown which are: firm size (measured by total assets in local currency and converted to US Dollars $) and Financial Leverage. These two variables were selected based on previous studies (Campbell and Minguez-Vera, 2008, Abdullah *et al*., 2016 and Mahadeo *et al*., 2012) for their significant impact on firm performance. We notice that Financial Leverage of GGC firms is higher than what is found in UK (FTSE 100) and France (SBF 120) firms. This indicates that firms in GCC stock markets depend on debts that generate higher risk of investment.

5.2.6 Descriptive statistics of WOBs on a sector level

This section aims at providing detailed inferential statistics regarding presence of women directors in different sectors. Studies like (Hillman *et al*., 2009) indicated that women representation is higher in certain sectors (e.g. consumer sectors).

WOBs in Bahrain Bourse sectors

Figure (5.4) shows distribution of women on boards in Bahrain Bourse sectors in (2018)

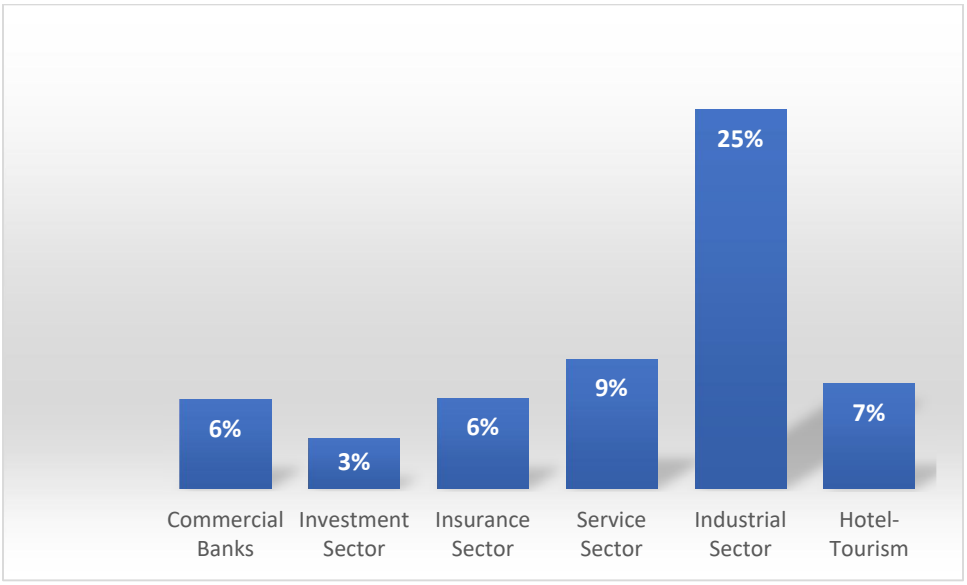

Figure 5.4 WOBs in Bahrain by sector

Women on the boards of firms listed in the Commercial Banks sector were only (6%), as well as Insurance sector. Surprisingly, Industrial sector in Bahrain had the highest percentage of women directors on their boards followed by the Service sector. The lowest representation of women in sectors was in the Investment sector.

WOBs in UAE sectors

Contrary to Bahrain, Investment sector in UAE is characterized by having a high percentage of women directors, reaching 24% of the board size as shown in figure (5.5), followed by Transportation sector and Telecommunication sector. This may be referred to the legislation that encourage appointing female directors in UAE firms.

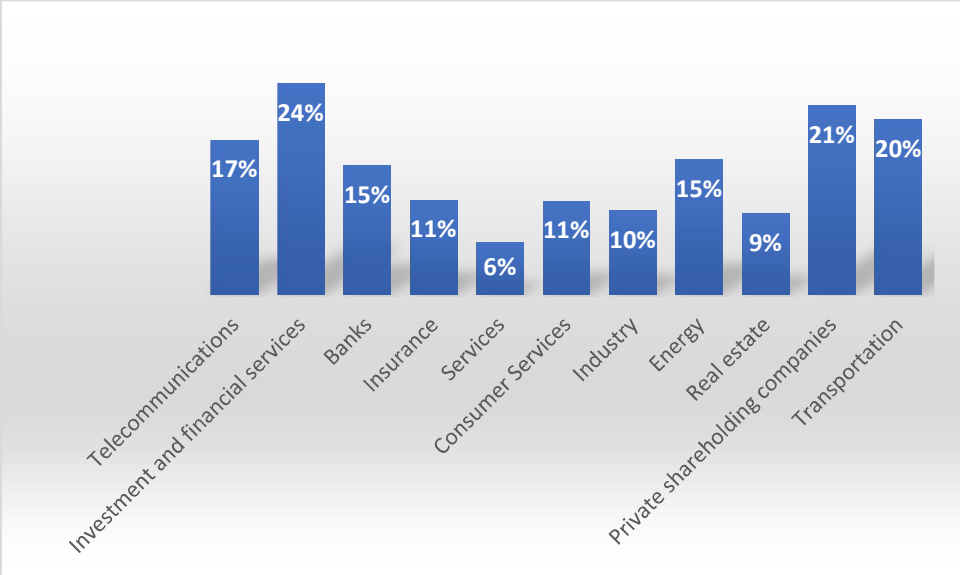

Figure 5.5 WOBs in UAE by sector

WOBs in Muscat Securities Market sectors (Oman)

Figure (5.6) shows that Services sector has the highest percentage of women directors compared to other sectors, reaching 13%. Followed by Financial sector (11%) and the lowest was Industrial sector (8%).

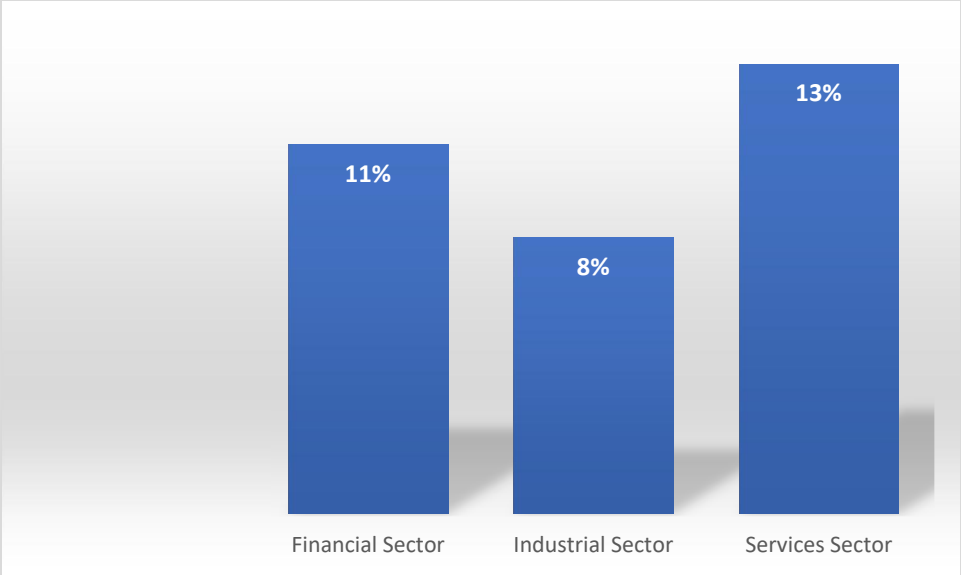

Figure 5.6 WOBs in Oman by sector

WOBs in Boursa Kuwait sectors

As shown in figure (5.7). Kuwaiti firms are characterized by low percentage of women directors.

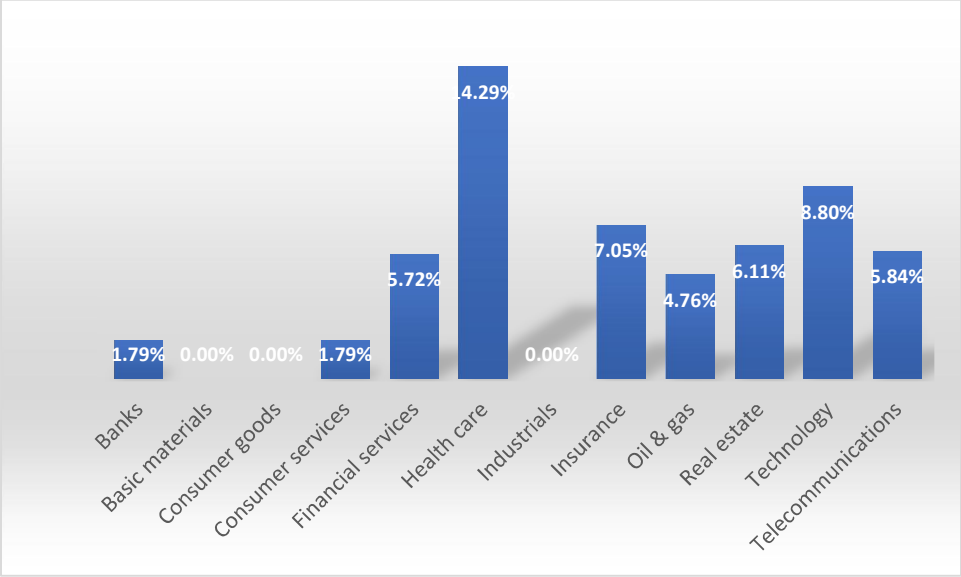

Figure 5.7 WOBs in Kuwait by sector

However, certain sectors were characterized by having women directors on their boards. Health care sector had the highest percentage of women directors. Followed by Services sector, Insurance, Real Estate and Financial Service. Banks sector had low percentage of women directors (1.79%). While no women representation on the boards of Industrial, Consumer goods and Basic materials sectors.

WOBs in TADAWUL Stock Exchange sectors (KSA)

No women representation in (6) sectors of (19) sectors in TADAWUL. Very Low representation of women in best cases reached (3%) in (REITs) sector as shown in figure (5.8).

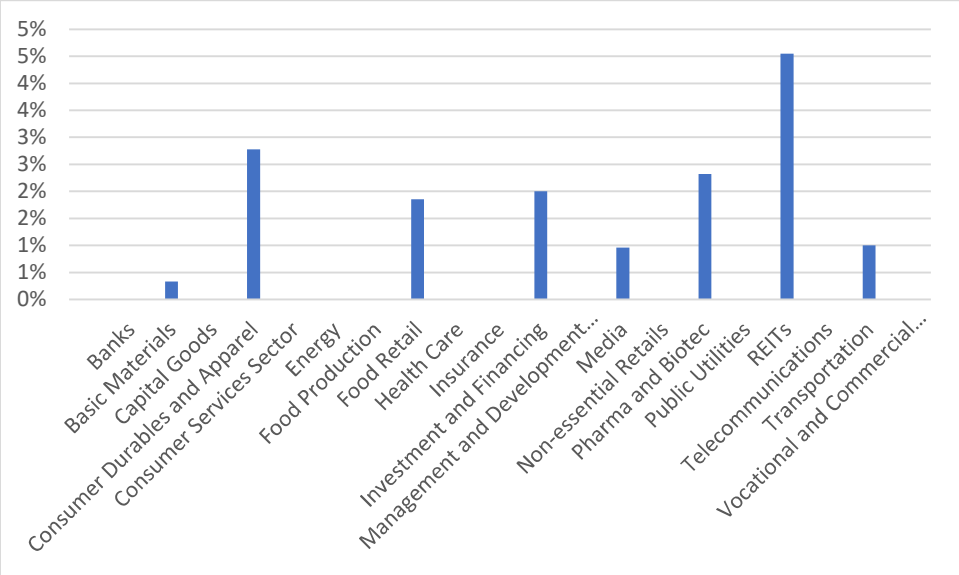

Figure 5.8 WOBs in KSA by sector

WOBs in Qatar Stock Exchange

In Qatar, women representation existed in Banks and Industrial sectors, followed by Real estate. Insurance and Telecommunication sectors did not have any women representation on their boards as shown in figure (5.9).

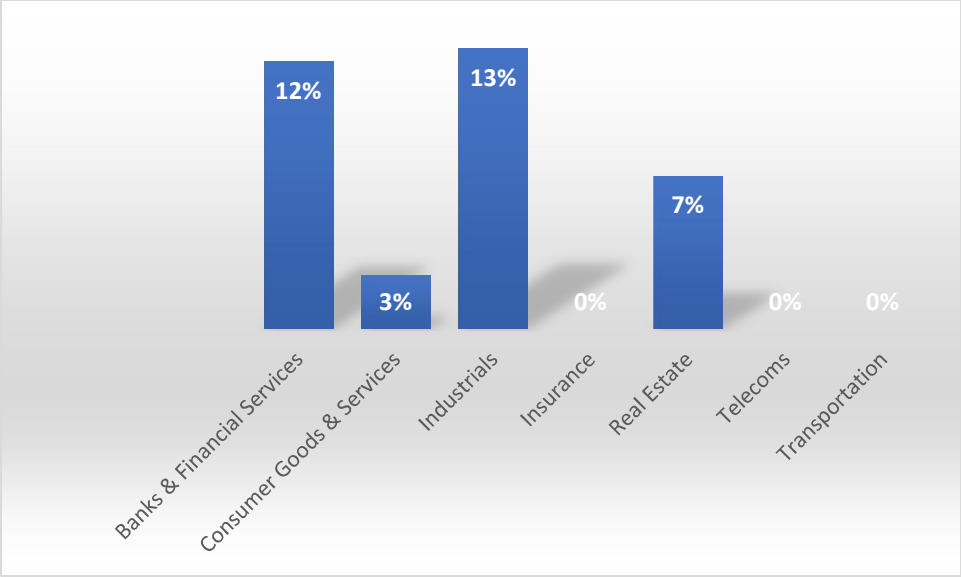

Figure 5.9 WOBs in Qatar by sector

WOBs in UK (FTSE 100) sectors

All sectors of (FTSE 100) firms had representation of women directors exceeding (22%) as shown in figure (5.10)

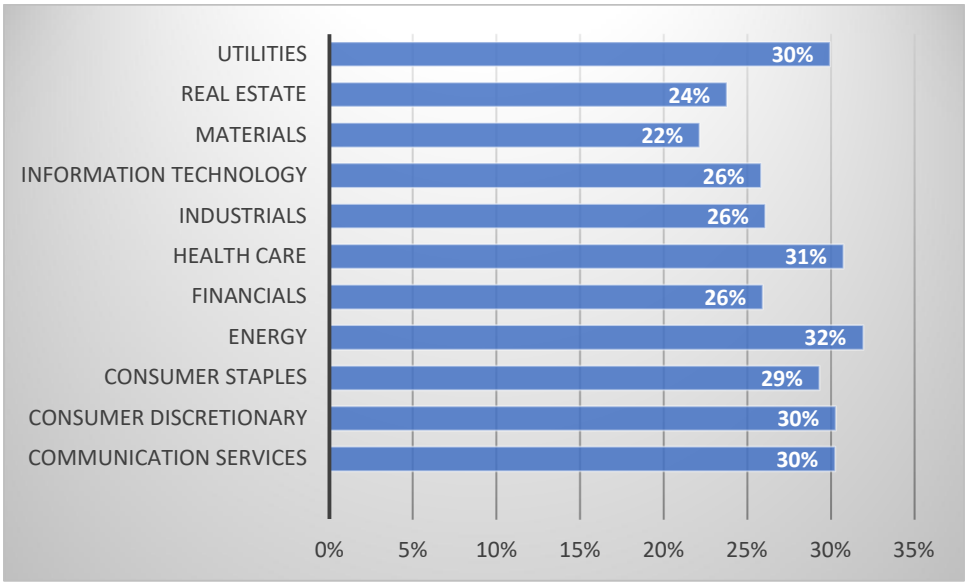

Figure 5.10 WOBs in (FTSE100) UK by sector

Energy sector had the highest percentage of women directors among other sectors (32%), followed by Health care sector. The lowest representation of women was in Materials and Real estate sectors.

WOBs in (SBF 120) France sectors

French firms have a high percentage of women directors due to the mandatory quota law that enforces firms to have 40% of women directors on their boards. This is clearly shown in figure (5.11).

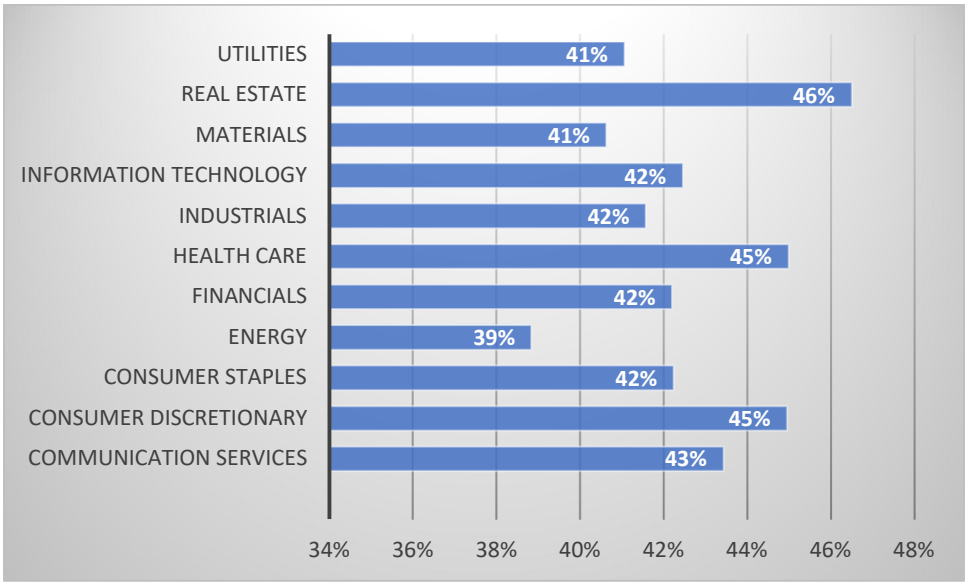

Figure 5.11 WOBs in (SBF120) France by sector

We notice that all sectors do not have lower than 40% percentage of women directors, except for Energy sector that had (39%) women directors. Real estate sector had the highest percentage of women directors, reaching (46%).

5.2.7 WOBs and firm characteristics

In this section, the presence of WOBs is compared against different firm specific characteristics that were specified by the study's conceptual model in chapter three. These factors are (firm performance, board composition, ownership structure). Factors

were statistically divided into high/high or low/low depending on the value of the median. Then comparison among them was implemented according to (Independent Sample Test). The correlation among these factors is and percentage of women in board of directors is figured out. Results are shown in table (5.7)

Table 5.7 WOBs depending on firm specific characteristics

Variables	Percentage of WOB if:		Independent Samples Test		Pearson Correlation with WOB%	
	High / Large	Low / Small	t-test	p-value	P	p-value
Firm Performance:						
ROA	19.1%	16.0%	-3.132	0.002	0.088	0.002
Tobin's Q	20.3%	13.5%	-7.020	0.000	0.151	0.000
Board Composition:						
Board Size	20.3%	10.5%	-10.071	0.000	0.463	0.000
Board independence	24.6%	10.1%	-16.180	0.000	0.496	0.000
Ownership structure:						
Institutional ownership	12.1%	24.1%	-12.667	0.000	0.350	0.000
Ownership concentration	18.7%	16.6%	-2.074	0.038	-0.010	0.723

In table (5.7), we notice that firms with high Returns on Assets (ROA) had a percentage of (19.1%) female directors, while firms with lower (ROA) had a percentage of (16%) female directors. This difference was statistically significant at (1%). The correlation between (ROA) and the presence of women on board of directors was (8.8%) which is positive and statistically significant at less than (1%). This result is not consistent with the “glass cliff” theory. The same can be said about the market performance measured by Tobin’s Q (T’Q), as firms with better (T’Q) had more appointed female directors. Nevertheless, the correlation between both variables was positive and higher than correlation between (ROA) and (WOBs) equals to (15.1%) and statistically significant at less than (1%).

On the other hand, considering board composition and (WOBs). We notice from table (5.7) that firms with larger board size and higher board independence appointed more women to their boards of directors. The difference was statistically significant at less than (1%), and the correlation was positive (46.3%) and statistically significant for board size, positive (49.6%) for board independence and (WOBs).

From results of the correlation between ownership structure and (WOBs), it is noticed that firms with high institutional ownership had a percentage of (WOBs) of (24.1%), while firms with lower institutional ownership had a percentage of (WOBs) of (12.1%). This difference was statistically significant at less than (1%), and correlation was positive between percentage of (WOBs) and institutional ownership was (35%). Nevertheless, percentage of (WOBs) and ownership concentration correlation was weak and not significant statistically. As noted from table (5.7), firms that are highly concentrated in terms of ownership had more women on their boards. However, this difference was statistically significant at (5%).

5.2.8 Descriptive statistics of WOBs from a culture perspective

In this section, three different culture clusters (i.e. Arab, Anglo-Saxon and French cultures) are compared against each other in terms of categories of women representation on board of directors. Results are shown in table (5.8).

Table 5.8 WOBs in Arab, Anglo-Saxon and French cultures

The Culture	Percentage of WOBs	There are no WOBs	From 1-2 WOBs	3 or more WOBs
The Arab culture	7.2%	60.3%	33.5%	6.2%
English Culture	28.7%	0.0%	31.7%	68.3%
French Culture	42.8%	0.0%	1.7%	91.3%
F-test	12.186	Kruskal-Wallis Test:		
p-value	0.000	Chi-Square – p-value		0.000

Disparity among the three cultures in terms of presence of women on board of directors is noticed. The Arab culture representatives (GCC countries) had (7.2%) of women directors. The Anglo-Saxon culture representative (UK) had (28.7%) of women directors. This difference was statistically significant according to (F) test. There is a considerable difference among cultures, as (60.3%) firms from the Arab culture did not have any women representation among their boards. (33.5%) of firms had one woman or two on their boards in best cases. While only (6.2%) of firms had three women and more on their

boards indicating a long road to the critical mass of women representation compared to other cultures.

In the Anglo-Saxon culture (UK) sample, no firm without at least one female director existed. (68.3%) of firms had three women and more and finally, (31.7%) of the firms had one or two women directors. The French culture had the highest women representation on its boards. Very low percentage of firms had one or two women directors. Firms with no women directors did not existed in the sample and most French firms had three women and more on their boards.

The difference among cultures was statistically significant according to (Chi2) parametric test which is shown in table (5.8).

5.2.9 Descriptive statistics of country level variables

The study used three indicators for women education and economic participation. Namely, Female tertiary Education Ratio (extracted from UNESCO Institute of statistics-UIS), Female labour Force Participation (extracted from International Labour Organization statistics data base- ILOStat). The last indicator was Women Economic Participation and Opportunity Index (EPOI) which was not included in the study models; however, we choose to compare between sample countries in terms of (EPO) to enrich the study's descriptive statistics section. EPO index values were extracted from World Economic Forum Report for (2017) and (2018).

From table (5.9), we notice that UK achieved the highest (EPO) index and Female labour Force Participation, followed by France. GCC countries achieved lower scores for both indices. Although, Female tertiary Education index was improved during (2017) and (2018). The best scores were achieved by UK and France. GCC countries succeeded in overcoming gender gap in tertiary education, however this was not reflected on women participation in labour market especially in KSA.

Table 5.9 Female Tertiary Education ratio, Labour Market Participation and (EPO) index

Country	Year	Female Education and Economic Participation		
		Economic Participation and Opportunity (EPO)	Enrolment in tertiary education	Labour Force Participation
Bahrain	2017	0.537	0.594	0.405
	2018	0.515	0.631	0.456
UAE	2017	0.459	0.571	0.424
	2018	0.439	0.584	0.416
Oman	2017	0.430	0.592	0.310
	2018	0.430	0.597	0.317
Kuwait	2017	0.518	0.331	0.493
	2018	0.541	0.427	0.487
Saudi Arabia	2017	0.320	0.618	0.211
	2018	0.337	0.667	0.234
Qatar	2017	0.523	0.439	0.539
	2018	0.511	0.510	0.592
United Kingdom	2017	0.705	0.641	0.719
	2018	0.705	0.685	0.722
France	2017	0.683	0.710	0.672
	2018	0.685	0.715	0.676

5.3 Choosing between FEM and REM (Hausman test)

Results obtained from the Hausman test led to choosing fixed effect model (FEM) among the random effect model (REM). Results of Hausman test for ROA and T'Q model are found in table (5.10).

Table 5.10 Hausman test results

Model	Chi-Sq. Statistic	*p*-value
ROA Model	29.015***	0.000
Tobin's Q Model	12.312***	0.001

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

5.4 Data and models validity

In the classical procedure of econometric modelling, it is important to check validity of data and models used prior to hypothesis testing. Panel data models should be tested

against the assumptions of (Normality, Multicollinearity, autocorrelation and Heteroscedasticity). Followed by model specification and diagnostic testing (Gujarati and Porter, 2005). Each one of the previous assumptions will be discussed in the next sub sections.

5.4.1 Normality

Usually normality of data is tested to ensure normal distribution of data for reasons such as reducing effect of omitted variables not included in the model. According to (Gujarati and Porter, 2005), large samples derived from cross-sectional, time series and panel data (usually more than 100 observations), normality shall not be a crucial issue. Since we have (1312 observations), normal distribution shall not be a crucial issue to us at this point.

5.4.2 Multicollinearity

The strength of the general linear model (GLM) depends on the independency of each variable of the independent variables used in the model. If this condition was not met, then the linear model is not a valid model. This concept is known as collinearity or multicollinearity. The basic assumption of no collinearity or no multicollinearity refers to the absence of exact linear relationship between the independent or explanatory variables in the linear model (Gujarati and Porter, 2005). To test the independency of the independent variables, Variance Inflation Factor (VIF) was determined. This test is used as a measure of the effect of correlation between the independent variables, Gujarati and Porter (2005). If the value of (VIF) is more than (10), this indicates that there is a problem with the multicollinearity of the measured independent variables. From table (5.11), it is noticed that (VIF) value is less than (10) for all the independent variables, except for two variables which are number of women on board (No. of WOBs) and percentage of women on board (Percentage of WOBs).

Table 5.11 Correlation matrix and VIF test results

		1	2	3	4	5	6	7	8	9	10	11	12	VIF
1	Return on Assets	1.0												
2	Tobin's Q	0.0	1.0											
3	Number of Woman on Board	0.2	0.1	1.0										25.9
4	Percentage of Woman on Board	0.2	0.2	0.9	1.0									16.7
5	Board independence	0.1	0.2	0.5	0.5	1.0								2.5
6	Board size	-0.1	0.0	0.7	0.5	0.3	1.0							4.6
7	Institutional ownership	0.5	0.0	-0.3	-0.3	-0.1	-0.1	1.0						1.8
8	Ownership concentration	0.2	0.1	0.0	0.0	0.2	0.0	0.2	1.0					1.3
9	Female tertiary education	0.1	0.1	0.6	0.5	0.4	0.4	0.1	0.2	1.0				2.3
10	Female Labour Force	-0.3	0.2	0.7	0.7	0.7	0.4	-0.5	0.0	0.3	1.0			3.7
11	Firm Size	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	-0.1	-0.1	-0.7	0.0	1.0		1.2
12	Financial leverage	0.0	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	1.0	1.2

The correlation between both variables was (90%). To overcome this problem, we need to omit one of these variables to eliminate the presence of multicollinearity among the two variables. We choose to omit number of women on board (No. of WOBs) not the percentage of women on board, as the percentage of women is more indicative than the absolute number of women directors. After omitting this variable, we may say that the study's models do not suffer from multicollinearity problem. Results of (VIF) are shown in table (5.11).

5.4.3 Autocorrelation

Gujarati and Porter, (2005) defines autocorrelation as "correlation between members of series of observations ordered in time such as, time series data or space, such as cross-sectional data." Linear Regression Model (LRM) is assumed not to have autocorrelation in the disturbances. Autocorrelation problem appears in the model when two following observations are related which will affect the validity of the model as the independent variables will be affecting the dependent variables in a high degree because of that correlation. To test the presence of that correlation (Durbin Watson D-W statistic) test was used. Based on results of (D-W test) in table (5.12) H0 is accepted which indicate no presence of autocorrelation assumption in the model.

5.4.4 Homoscedasticity test

When using linear regression models, variance of random error should be constant and the average of it should equal zero, then the model is considered to have homoscedasticity. If the variance is not constant, it is said that the model has heteroscedasticity, then some statistical methods are used to overcome this problem, (White test) often is used. From table (5.12) p-value for white test is less than (0.05) for both study models which means that the two study models have homoscedasticity and the random error is constant, so the models are valid to be used.

Table 5.12 Autocorrelation and Homoskedasticity Tests

Model	D-W Test	White Test	White p-value
Return on Assets Models	1.593	3.057	0.000
Tobin's Q Models	1.866	2.987	0.000

5.5 Moderation model testing

To test the moderation effect in a relationship, regression should be made on two stages. *Stage One*: Applying regression model to test the relationship between percentage of WOBs and firm performance without moderation variables:

At this stage, (FEM) was estimated without considering moderation variables, results of ROA models are shown in table (5.13), while results of (T'Q) models are shown in table (5.14). Firm level factors that are derived from agency theory (i.e. board size, board independence, institutional ownership, ownership concentration, firm size, firm sector, and financial leverage). In addition to institutional level factors (country, legal support, culture, female labour force and female tertiary education) derived from institutional theory as seen the study's conceptual model in figure (3.4).

Table 5.13 FEM results – ROA model

Variable	ROA Model		
	B	t-Statistic	p-value
Percentage of Woman on Board	1.336	2.171	0.028
Board size	-0.022	-0.531	0.595
Board independence	0.214	3.665	0.004
Institutional ownership	0.066	6.737	0.000
Ownership concentration	0.195	0.502	0.616
Firm Size	0.000	0.771	0.441
Firm sector	-0.040	-1.483	0.139
Financial leverage	0.091	2.191	0.029
Country	0.609	5.644	0.000
Female tertiary education	4.313	2.194	0.029
Female Labour Force	7.451	5.597	0.000
Culture	1.159	2.262	0.024
Legal support	0.385	1.155	0.248
Constant	0.839	5.872	0.000

R-squared	0.213
Adjusted R-squared	0.204
F-statistic	37.438
p-value (F)	0.000

Table 5.14 FEM results – T'Q model

Variable	T'Q Model		
	B	t-Statistic	p-value
Percentage of Woman on Board	1.518	2.494	0.013
Board size	-0.078	-2.844	0.005
Board independence	0.040	0.102	0.919
Institutional ownership	0.003	0.428	0.669
Ownership concentration	0.567	2.203	0.028
Firm Size	0.000	0.513	0.608
Firm sector	-0.036	-1.990	0.047
Financial leverage	0.013	0.467	0.641
Country	0.139	1.950	0.051
Female tertiary education	2.355	1.679	0.094
Female Labour Force	1.906	2.137	0.033
Culture	-0.667	-1.943	0.052
Legal support	0.074	0.334	0.739
Constant	-0.404	-0.500	0.617
R-squared			0.275
Adjusted R-squared			0.153
F-statistic			5.514
p-value (F)			0.000

5.5.1. ROA models

It is noticed in table (5.13), that the constant in ROA model is statistically significant which indicates that the model is suitable. Percentage of WOBs has statistically significant effect on ROA at less than 5%. Positive statistical effect for board independence and institutional ownership as internal factors. Board size and ownership concentration did not have any significant effect. Moving to the external factors, female tertiary education, female labour force and culture have significant effect, while legal support did not have any significant

effect. Nevertheless, these results are preliminary and will be investigated further in the following steps, when testing the moderation effect for these factors.

5.5.2. Tobin's Q models

In table (5.14), it is noticed that percentage of WOBs has statistical significant effect on T'Q at less than 5%. Negative statistically significant effect for board size, while ownership concentration has positive significant effect on T'Q contrary to the effect on ROA. Female tertiary education and culture have positive significant effect at 10%, while female labour market participation was statistically significant effect at less than 5%.

For both models, (F) test which is used to determine significance of models used for the sampled data (Gujarati and Porter, 2005) was statistically significant which indicates significance of study models. R2 value (the proportion of the variance in the dependent variable that is predictable from the independent variable) for ROA model was 21.3%, while for T'Q model, R2 value was 27.5%.

Gujarati and Porter, 2005 states that:

> *"An important property of R2 is that it is a nondecreasing function of the number of explanatory variables or regressors present in the model, unless the added variable is perfectly collinear with the other regressors; as the number of regressors increases, R2 almost invariably increases and never decreases. Stated differently, an additional X variable will not decrease R2".*

To compare between ROA and T'Q models, we look at Adj. R2 values for both models as R2 value tends to give us an optimistic picture than the regular R2 values for the suitability of the used models (Gujarati and Porter, 2005).

When comparing Adj. R2 values for both models, we can say that T'Q model is more suitable to represent the relationship between percentage of WOBs and firm performance as it is higher for the earlier more than ROA model.

Stage two: Applying (FEM) and (2SLS) models to test the moderation effect for internal

and external variables in the relationship between percentage of WOBs and firm performance.

At this stage, we estimated study models to test the moderation effect for the internal and external factors in the relationship between board gender diversity and firm performance. (FEM) was used first and 2SLS was used later to eliminate possibility of endogeneity among model variables.

FEM moderated regression results of firm and country level factors using ROA models are shown in tables (5.15) and (5.16). While T'Q model results are shown in tables (5.17) and (5.18).

Tables (5.19) and (5.20) show results of moderated 2SLS of ROA models' results, while T'Q results are in tables (5.21) and (5.22).

Table 5.15 FEM regression results for the ROA models – Firm level moderation variables

Variables	**Model 2 t-Statistic**	**Model 3 t-Statistic**	**Model 4 t-Statistic**	**Model 5 t-Statistic**
Constant	2.000**	2.657***	2.658***	4.870***
Firm Level Variables:				
Board Composition variables:				
Board size		-0.828	-0.413	-0.413
%WOB*Board size	1.202			
Board independence	3.765**		3.044***	0.486
%WOB*Board independence		4.527***		
Ownership Structure variables:				
Institutional ownership	6.747***	5.958***		7.503***
%WOB*Institutional ownership			4.516***	
Ownership concentration	0.468	0.461	0.855	
%WOB*Ownership concentration				6.646***
Country level variables:				
Female tertiary education	2.215**	2.649***	4.084***	2.252**
Female Labour Force	5.504***	6.075***	9.502***	5.396***
Culture	2.226**	2.654***	4.347***	2.502**
Legal support	1.035	0.865	0.876	0.900
Control variables:				
Firm Size	0.900	0.998	1.485	0.797
Firm sector	-1.453	-1.192	-0.380	1.748*
Financial leverage	2.162**	2.551**	1.720*	2.241**

Country	5.670***	6.223***	10.134***	5.789***
R-squared	0.323	0.325	0.384	0.409
Adjusted R-squared	0.309	0.317	0.376	0.402
F-statistic	37.377***	41.134***	33.221***	41.265***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.16 FEM regression results for the ROA models – Country level moderation variables

Variable	**Model 6 t-Statistic**	**Model 7 t-Statistic**	**Model 8 t-Statistic**	**Model 9 t-Statistic**
Constant	4.493***	3.073***	4.069***	0.413
Country level variables:				
Female tertiary education		4.043***	1.663*	2.230**
%WOB*Female tertiary education	6.492***			
Female Labour Force	6.439***		5.853***	5.676***
%WOB*Female Labour Force		1.810*		
Culture	1.312	2.424**		1.482
%WOB*Culture			2.505**	
Legal support	1.366	0.377	0.465	
%WOB*Legal support				0.624
Firm level variables:				
Board size	-0.368	-0.865	-0.794	-0.496
Board independence	0.964	2.344**	0.089	0.070
Institutional ownership	7.461***	10.173***	7.109***	6.883***
Ownership concentration	0.920	0.221	0.592	0.267
Control variables:				
Firm Size	-0.885	1.199	0.523	0.612
Firm sector	-1.553	-0.877	-1.444	-1.303
Financial leverage	2.192**	2.050**	2.140**	2.168**
Country	5.267***	4.390***	5.975***	5.525***
R-squared	0.310	0.294	0.311	0.311
Adjusted R-squared	0.301	0.285	0.303	0.303
F-statistic	36.923***	34.281***	37.134***	40.280***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.17 FEM regression results for the T'Q models – Firm level moderation variables

Variable	Model 10 t-Statistic	Model 11 t-Statistic	Model 12 t-Statistic	Model 13 t-Statistic
Constant	8.635***	1.836**	1.962**	2.253**
Firm Level Variables:				
Board Composition variables:				
Board size		-2.538**	-3.017***	-3.096**
%WOB*Board size	0.031			
Board independence	3.111**		0.275	0.058
%WOB*Board independence		3.109***		
Ownership Structure variables:				
Institutional ownership	0.173	0.250		0.365
%WOB*Institutional ownership			5.992***	
Ownership concentration	2.338**	2.242**	2.232**	
%WOB*Ownership concentration				5.248***
Country level variables:				
Female tertiary education	5.028***	1.245	1.786*	1.782*
Female Labour Force	2.071**	1.738*	2.606**	1.773*
Culture	1.875*	-1.958*	1.550	-1.893*
Legal support	0.789	0.773	0.724	0.059
Control variables:				
Firm Size	0.349	0.352	0.437	0.448
Firm sector	-2.148**	-1.957*	-2.204	-1.489
Financial leverage	0.456	0.564	0.497	0.400
Country	1.907	1.701*	2.197**	2.086**
R-squared	0.540	0.690	0.621	0.818
Adjusted R-squared	0.424	0.580	0.508	0.710
F-statistic	4.681***	6.314***	5.522***	7.553***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.18 FEM results for the T'Q models – Country level moderation variables

Variable	Model 14 t-Statistic	Model 15 t-Statistic	Model 16 t-Statistic	Model 17 t-Statistic
Constant	2.418**	2.246**	2.535**	4.079***
Country level variables:				
Female tertiary education		1.051	0.920	1.972*
%WOB*Female tertiary education	2.709**			
Female Labour Force	1.782*		2.276**	2.703**
%WOB*Female Labour Force		4.133***		
Culture	1.662*	2.365**		2.633**
%WOB*Culture			1.320	
Legal support	0.463	0.594	0.955	
%WOB*Legal support				2.460**
Firm Level Variables:				
Board Composition variables:				
Board size	-2.707**	-2.694**	-3.375***	-2.813**
Board independence	0.557	0.779	0.107	0.276
Ownership Structure variables:				
Institutional ownership	0.858	0.333	0.865	0.319
Ownership concentration	2.548**	2.178**	2.416**	2.181**
Control variables:				
Firm Size	-0.772	0.407	-0.252	0.532
Firm sector	-1.965**	-2.093**	-1.872*	-1.981*
Financial leverage	0.447	0.442	0.458	0.437
Country	1.681*	2.271**	0.411	2.214**
R-squared	0.660	0.724	0.618	0.669
Adjusted R-squared	0.546	0.611	0.503	0.555
F-statistic	5.798***	6.402***	5.402***	5.884***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.19 2SLS regression results for the ROA models – Firm level moderation variables

Variable	Model 2 t-Statistic	Model 3 t-Statistic	Model 4 t-Statistic	Model 5 t-Statistic
Constant	2.324**	2.816**	2.514**	8.283***
Firm Level Variables:				
Board Composition variables:				
Board size		-0.815	-6.533***	-0.413
%WOB*Board size	-1.193			
Board independence	0.257		5.882***	0.486
%WOB*Board independence		4.116***		
Ownership Structure variables:				
Institutional ownership	6.785***	6.008***		7.503***
%WOB*Institutional ownership			6.018***	
Ownership concentration	0.513	1.945**	8.941***	
%WOB*Ownership concentration				7.335***
Country level variables:				
Female tertiary education	2.156**	2.557**	3.727***	2.252**
Female Labour Force	5.670***	6.315***	9.074***	5.396***
Culture	2.165**	2.570**	4.938***	2.502**
Legal support	1.064	0.886	1.242	0.900
Control variables:				
Firm Size	0.781	0.836	-1.657*	0.797
Firm sector	-1.460	-1.191	-7.996***	-1.748*
Financial leverage	2.181**	2.551**	5.062***	2.241**
Country	5.649***	6.195***	3.588***	5.789***
R-squared	0.312	0.325	0.283	0.309
Adjusted R-squared	0.304	0.317	0.275	0.302
F-statistic	40.489***	44.532***	8.957***	41.265***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.20 2SLS regression results for the ROA models – Country level moderation variables

Variable	Model 6 t-Statistic	Model 7 t-Statistic	Model 8 t-Statistic	Model 9 t-Statistic
Constant	4.486***	2.744**	3.012**	11.302***
Country level variables:				
Female tertiary education		3.762***	1.655*	2.230**
%WOB*Female tertiary education	4.146***			
Female Labour Force	6.433***			5.676***
%WOB*Female Labour Force		1.781*	5.966***	
Culture	1.315	2.236**		1.482
%WOB*Culture			2.488**	
Legal support	1.362	0.380	0.510	
%WOB*Legal support				0.624
Firm Level Variables:				
Board Composition variables:				
Board size	-0.363	-0.859	-0.783	-0.496
Board independence	0.965	2.309**	0.125	8.140***
Ownership Structure variables:				
Institutional ownership	7.489***	10.481***	7.120***	6.883***
Ownership concentration	0.918	0.324	0.615	0.267
Control variables:				
Firm Size	-0.887	0.866	0.463	0.612
Firm sector	-1.552	-0.865	-1.450	-1.303
Financial leverage	2.185**	2.090**	2.152**	2.168**
Country	5.262***	4.254***	5.997***	5.525***
R-squared	0.310	0.293	0.311	0.311
Adjusted R-squared	0.302	0.285	0.303	0.303
F-statistic	40.024***	36.916***	40.254***	40.280***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.21 2SLS regression results for the T'Q models – Firm level moderation variables

Variable	Model 10 t-Statistic	Model 11 t-Statistic	Model 12 t-Statistic	Model 13 t-Statistic
Constant	0.795	2.635**	5.271***	3.387***
Firm Level Variables:				
Board Composition variables:				
Board size		-2.523**	-2.998**	-3.085**
%WOB*Board size	0.048			
Board independence	0.816		0.401	0.180
%WOB*Board independence		3.230***		
Ownership Structure variables:				
Institutional ownership	0.226	0.297		0.408
%WOB*Institutional ownership			2.688**	
Ownership concentration	2.431**	2.327**	2.328**	
%WOB*Ownership concentration				5.306***
Country level variables:				
Female tertiary education	1.104	0.978	1.429	1.458
Female Labour Force	1.911*	1.604*	2.406**	1.604
Culture	1.722	1.845*	-1.374	-1.747*
Legal support	0.844	0.798	0.785	0.102
Control variables:				
Firm Size	0.064	0.131	0.136	0.169
Firm sector	-2.164**	-1.957*	-2.217**	-1.503
Financial leverage	0.422	0.565	0.466	0.362
Country	1.848*	1.661	2.148**	2.051**
R-squared	0.053	0.684	0.608	0.807
Adjusted R-squared	0.042	0.583	0.504	0.707
F-statistic	4.960***	6.776***	5.856***	8.068***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

Table 5.22 2SLS regression results for the T'Q models – Country level moderation variables

Variable	Model 14 t-Statistic	Model 15 t-Statistic	Model 16 t-Statistic	Model 17 t-Statistic
Constant	2.445**	2.947***	7.188***	4.306***
Country level variables:				
Female tertiary education		0.833	0.654	1.607
%WOB*Female tertiary education	2.697***			
Female Labour Force	1.750*		2.138**	2.534**
%WOB*Female Labour Force		4.147***		
Culture	1.658*	2.278**		2.426**
%WOB*Culture			0.761	
Legal support	0.473	0.593	0.829	
%WOB*Legal support				2.433**
Firm Level Variables:				
Board Composition variables:				
Board size	-2.720**	-2.691***	-2.471**	-2.799***
Board independence	0.556	0.797	0.205	0.390
Ownership Structure variables:				
Institutional ownership	0.825	0.226	0.881	0.380
Ownership concentration	2.552**	2.236**	2.469**	2.273**
Control variables:				
Firm Size	-0.769	0.225	-0.448	0.202
Firm sector	-1.971**	-2.089**	-1.889*	-1.994**
Financial leverage	0.429	0.422	0.431	0.400
Country	1.701*	2.201**	0.437	2.114**
R-squared	0.656	0.718	0.061	0.654
Adjusted R-squared	0.551	0.614	0.050	0.549
F-statistic	6.248***	6.888***	5.340***	6.233***
p-value (F)	0.000	0.000	0.000	0.000

Note: *,**,*** is significant at 10, 5 and 1 percent levels, respectively.

5.6 Summary

This chapter reported the results and findings of the statistical tests used in the thesis to achieve its objectives mentioned in chapter one. Starting from descriptive statistics. Followed by, results of model diagnostics (normality, homoscedasticity, autocorrelation, multicollinearity). Results for choosing between FEM and REM were also included. Finally, results of testing hypotheses (FEM, endogeneity tests and 2SLS) model were reported. A summary of tests used in this thesis can be found below in table (5.23). In the next chapter of this thesis, Chapter Six, further discussion for the results reported in this chapter in line with the theory and previous studies.

Table 5.23 Econometric and statistical tools

Econometric and Statistical Tools	**The Purpose**
Mean, Frequency, Percentage, Std. Deviation, Minimum, Maximum, Graphics and Charts.	Descriptive statistics of the study variables
Independent sample t-test, Paired sample t-test, ANOVA tests, Kruskal-Wallis test, Chi-Square test,	Comparing study variables and country
Hausman test	Choosing between FEM and REM models
Skewness, Kurtosis and Jarque-Bera test.	Normality test
Collinearity Statistics: VIF test and Correlation matrix.	Multicollinearity test
Durbin Watson test	Autocorrelation test
White test	Homoscedasticity test
Two Stage Regression (2SLS) Model and Fixed Effects Model (FEM).	Testing of hypotheses

Chapter Six: Discussion and Interpretation of Results

6.1 Introduction

In the previous chapter, results of statistical tests were reported for the quantitative investigation of the moderation role of firm and country level factors in the relationship between board gender diversity and firm operational and market performance in three different cultures (Arab, Anglo-Saxon and French).

This chapter aims to discuss results of hypothesis testing in line with the theoretical framework and previous studies discussed in Chapter Two and Three. Linking these findings with the existing literature via previous studies and theory allows for drawing relevant conclusions and policy recommendations in the next chapter, Chapter Seven. It will also help in evaluating to which extent the used models succeeded in achieving the thesis aims and objectives.

6.2 Hypothesis testing

The thesis aims at investigating the moderating role of firm and country level variables in the relationship between board gender diversity and firm performance. We choose to evaluate this moderation role on two different performance measures which are operational (objective) and market-based (subjective) performance measures as many studies indicated that board gender diversity has opposing effects on both measures (Haslam *et al*., 2010, Abdullah *et al*., 2016, Low *et al*., 2015). To apply a moderation model, this was done on two stages:

***Stage One**:* Applying regression model to test the relationship between percentage of WOBs and firm performance without moderation variables.

At this stage, (FEM) was estimated without considering moderation variables, results of ROA models were shown in table (5.13), while results of (T'Q) models were shown in table (5.14).

***Stage two**:* Applying (FEM) and (2SLS) models to test the moderation effect for the firm and country levels variables in the relationship between percentage of WOBs and firm performance.

At this stage, we estimated study models to test the moderation effect for both levels in the relationship between board gender diversity and firm performance. (FEM) was used first and 2SLS was used later to double check the elimination of possibility of endogeneity among model variables.

FEM moderated regression results for the firm and country levels factors of ROA models are shown in tables (5.15) and (5.16). While T'Q model results are shown in tables (5.17) and (5.18).

2SLS moderation ROA models' results are shown in tables (5.19) and (5.20), while T'Q results are shown in tables (5.21) and (5.22).

6.3 The moderating role of firm level factors

The study aims to investigate the moderating role of firm level variables in the relationship between board gender diversity and firm performance. These variables are board composition (board size, board independence) and ownership structure (ownership concentration and institutional ownership).

> *"Firm specific factors moderate the relationship between board gender diversity and firm performance."*

6.3.1 Moderating effect of board composition

Moderating role of board size

Two hypotheses concerning the moderating role of board size in the relationship between percentage of WOBs and firm performance measured by ROA and T'Q.

> *"Board size moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results for the moderation effect of board size on ROA using FEM are in table (5.15), while results of the 2SLS are in table (5.19), labelled as Model 2. From table (5.15) it is noticed that the model was accepted and suitable as the constant value was statistically significant as well as (F) value for the model. The interaction variable (%WOB*Board size) was not statistically significant (T-test 1.202; P>0.05). Therefore, we reject this hypothesis as board size does not have a moderating role in the relationship between percentage of WOBs and firm performance measured by ROA.

Results of testing this hypothesis using 2SLS model is found in table (5.19), after checking validity of this model, it is noticed that the interaction variable (%WOB*Board size) was not statistically significant (T-test 1.193; P>0.05). Therefore, the results of 2SLS model confirmed FEM results, as board size does not have a moderating role in the relationship between percentage of WOBs and firm performance measured by ROA.

> *"Board size moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results for the moderating role of board size in the relationship between percentage of WOBs and firm performance measured by T'Q using FEM can be found in table (5.17). While 2SLS model results can be found in table (5.21) (Model 10). From table (5.17), it is noticed that Model 10 was valid and suitable as the Constant value was statistically significant as well as the (F) value for the model. The interaction variable (%WOB*Board size) was not statistically significant (T-test 0.031; P>0.05). Therefore, this hypothesis is

rejected. When using 2SLS model, the interaction variable (%WOB*Board size) was not statistically significant as well (T-test 0.048; P>0.05). The results of FEM and 2SLS models confirmed each other, as board size does not have a moderating role in the relationship between percentage of WOBs and firm performance measured by T'Q.

Board size is determined by corporate governance codes that differs among countries. With the increased pressure globally towards achieving gender balance among boards of directors, firms tend to add female directors to their boards resulting in increased board sizes in an effort to fulfil these requirements without paying enough attention to female director qualifications that would enable them to create difference among board effectiveness and performance at the end. Board size and gender diversity were found to be positively associated by studies such as Abdulla *et al*., 2016, in the same vein Knippen *et al*., 2019 demonstrated that firms tend to increase their board sizes by adding female directors instead of replacing the existing male directors. On the contrary, (Martin-Ugedo and Minguez-Vera, 2014) reported that board size is not related to board gender diversity in the Spanish context which is consistent with our findings. This happens when female directors replace male directors or board composition is determined upon economic reasons, where the association between board diversity and size will not be found. These findings are in line with the arguments of (Boyd,1990) that quality of directors is the crucial element to board and firm performance not the number of directors or board size.

The moderating role of board independence

Two hypotheses concerning the moderating role of board independence in the relationship between percentage of WOBs and firm performance measured by ROA and T'Q.

> *"Board independence moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results of FEM using ROA model are found in table (5.15), while 2SLS model results are in table (5.19) (Model 3). From table (5.15) it is noticed that the interaction variable

(%WOBs*Board independence) was statistically significant (T-test 4.527; P<0.01). Therefore, we accept this hypothesis.

2SLS model results found in table (5.19) show that the interaction variable (%WOBs*Board independence) was statistically significant (T-test 4.116; P<0.01). Again, results of FEM and 2SLS model confirm each other.

> *"Board independence moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results of the moderation role of board independence in the relationship between percentage of WOBs and firm performance measured in T'Q using FEM can be found in table (5.17), while 2SLS model results are found in table (5.21) (Model 11).

From table (5.17) it is noticed that the interaction variable (%WOBs*Board independence) was statistically significant (T-test 3.109; P<0.05). Therefore, this hypothesis is accepted. When using 2SLS model, the interaction variable (%WOBs*Board independence) was statistically significant (T-test 3.230; P<0.01). The results of 2SLS model confirm FEM results. Board independence is the core of agency theory where independent directors are expected to reduce agency costs due to tougher monitoring enhancing performance in emerging and developed markets at the same time (Desender *et al.*, 2013). While Morck, 2000 argued that shareholders value board independence especially in environments where investors' rights are not protected by law. According to Adams and Ferreira, 2009, female directors are closer to the concept of independent directors. However, what effect for board independence and board gender diversity on performance in different contexts like emerging and developed markets has not been handled in the literature. Our results contradict results of (Abdullah *et al.*, 2016), as they failed to find a moderating role for board independence in the relationship between board gender diversity and firm performance in Malaysian context where independent directors are chosen to fulfil legal requirements only, as these directors are far from the actual concept of independent directors because they are mostly close to the management.

6.3.2 The moderating role of ownership structure

The moderating role of institutional ownership

Two hypotheses concerning the moderating role of institutional ownership in the relationship between percentage of WOBs and firm performance measured by ROA and T'Q.

> *"Institutional ownership moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results of testing the moderating role of institutional ownership using FEM are found in table (5.15), while results of 2SLS model are found in table (5.19) (Model 4).

From table (5.15), it is noticed that the interaction variable (%WOBs*Institutional ownership) was statistically significant (T-test 4.516; P<0.01). Therefore, this hypothesis is accepted. When using 2SLS model, the interaction variable (%WOBs*Institutional ownership) was statistically (T-test 6.018; P<0.01). Results of 2SLS model confirm FEM results.

> *"Institutional ownership moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results of testing for the moderating role of institutional ownership in the relationship between percentage of WOBs and firm performance measured by T'Q using FEM can be found in table (5.17), while results of 2SLS model can be found in table (5.21) (Model 12). From table 14, we notice that the interaction variable (%WOBs*Institutional ownership) was statistically significant (T-test 5.992; P<0.01). Therefore, this hypothesis is accepted. This is confirmed by the results of 2SLS model as can be seen in table 18. Institutional ownership became dominant in many global financial markets especially developed markets in North America and Western Europe, while this form of ownership is still growing in emerging markets (Gillan and Starks, 2003). According to (Terjesen *et al*., 2015) institutional ownership is an important element in determining women representation

on boards across countries. As institutions investing in financial markets such as mutual funds respond more to pressures towards enhancing women representation on boards (Nekhili and Gatfaoui, 2013), which questions what the outcomes on firm performance with high institutional ownership could be. Our findings contradicted the findings of (Govotsos, 2017) and (Nekhili and Gatfaoui, 2013) as institutional ownership was not significantly correlated to board gender diversity and firm performance in both studies. While our results were in line with studies like (Ben Amar *et al*., 2012 and Terjesen *et al*., 2015). Institutional owners usually push towards having more female directors on boards which interfere with board processes affecting firm outcomes as illustrated in figure (2.1) in chapter two.

The moderating role of ownership concentration

Two hypotheses concerning the moderating role of ownership concentration in the relationship between percentage of WOBs and firm performance measured in ROA and T'Q.

> *"Ownership concentration moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results for testing the moderating role of ownership concentration using FEM can be found in table (5.15), while results of 2SLS model can be found in table (5.19) (Model 5).

From table (5.15), it is noticed that the interaction variable (%WOBS*Ownership concentration) was statistically significant (T-test 6.646; P<0.01). Therefore, this hypothesis is accepted.

When using 2SLS model, it is noticed from table (5.19) that the interaction variable (%WOBs*Ownership concentration) was statistically significant at less than 1% (T-test 7.335; P<0.01). So, results of FEM confirm results of 2SLS.

> *"Ownership concentration moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results of testing the moderating role of ownership concentration using FEM can be found in table (5.17), while results of 2SLS model can be found in table (5.21) (Model 13). From table (5.17), it is noticed that the interaction variable (%WOBs*Ownership concentration) was statistically significant at less than 1% (T-test 5.248; P<0.01). Therefore, this hypothesis is accepted. These results were confirmed when using 2SLS model as seen in table 18 (Model 13). Ownership structure and concentration differs among emerging and developed markets (La Porta *et al*., 2000). The concentration of shareholdings in one group creates a minority and majority conflicts among shareholders in determining board composition (Young *et al*., 2008). The concentration of ownership gives power to the majority shareholders to nominate board directors including women directors, thus ownership concentration is expected to affect the relationship between board gender diversity and firm performance. Our results confirmed results of (Abdullah *et al*., 2016) as ownership concentration was significant when testing its moderating role in the relationship between board gender diversity and firm operational performance measured by (ROA). However, our results contradicted their findings in terms of firm market performance measured by (T'Q). These differences are due to the different nature of study contexts which will be discussed more when addressing the moderating role of country level variables (e.g. culture) in the following section. These results confirm that concentrated ownership in one type of owners put more power in their hands which becomes effective in choosing more women as directors and firm performance as well.

6.4 The moderating role of country level factors

> *"Country specific factors moderate the relationship between board gender diversity and firm performance."*

6.4.1 The moderating role of Female Tertiary Education

Two hypotheses concerning the moderating role of female tertiary education in the relationship between percentage of WOBs and firm performance measured by ROA and T'Q were formulated and tested as follows:

> *"female tertiary education ratio moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results of testing the moderating role of female tertiary education using FEM are shown in table (5.16), while results of 2SLS model are shown in table (5.20) (Model 6). From table (5.16), it is noticed that Model 6 was valid and suitable, as the constant value was statistically significant as well as the (F) value. It can be noticed from the same table, that the interaction variable (%WOBs*Female tertiary education) was statistically significant at less than 1% (T-test 6.492; P<0.01). Therefore, this hypothesis is accepted. When using 2SLS, we notice that the interaction variable ((%WOBs*Female tertiary education) was statistically significant at less than 1% (T-test 4.416; P<0.01). So, results of FEM confirm results of 2SLS model.

> *"female tertiary education ratio moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results of FEM are shown in table (5.18), while results of 2SLS are shown in table (5.22) (Model 14). It can be noticed from table (5.18), that (Model 14) is valid and suitable, as the Constant value is statistically significant as well as the (F) value. From table (5.18), it can be noticed that the interaction variable (%WOB* Female tertiary education) was statistically significant at less than 1% (T-test 2.709; P<0.01). Therefore, this hypothesis is accepted. When using 2SLS model, we notice from table 19 that the interaction variable (%WOB* Female tertiary education) was statistically significant at less than 1% (T-test 2.697; P<0.01). So, results of the 2SLS model confirm FEM results. Country institutions are affected by its economic culture, legal institutions and societal attributes (Daniel *et al*., 2012). These elements are also reflected on corporate governance practices and organizational environments (Daniel *et al*., 2012). Increased levels of female tertiary education increase the pressure on labour markets to enhance women representation in

all jobs. According to (Allemand *et al*., 2014), education creates a normative isomorphism on corporates to hire women in positions such as board of directors. Highly educated women are qualified to occupy board seats; however, they may face difficulties in countries that have reduced female labour market participation. Our results are in line with findings of (Allemand *et al*., 2014, Grosvold, 2011 and Grosvold and Brammer, 2011) in associating board gender diversity and women education attainment. This means that women attaining high levels of education are able to positively affect operational performance and be positively valued by investors in the study sample.

6.4.2 The moderating role of Female Labour Market Participation

Two hypotheses concerning the moderating role of female labour market participation in the relationship between percentage of WOBs and firm performance measured by ROA and T'Q were formulated and tested as follows:

> *"Female labour force participation ratio moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results of testing the moderating role of Female labour market participation using FEM are shown in table (5.16), while results of the 2SLS are shown in table (5.20) (Model 7). It is noticed from table (5.16), that (Model 7) is valid and suitable, as the Constant and F values were both statistically significant. From table (5.16), it is noticed that the interaction variable (%WOBs*Female labour force) was not statistically significant at less than 5% (T-test 1.810; P>0.05). Therefore, this hypothesis is rejected. As Female labour market participation ratio does not moderate the relationship between board gender diversity and firm performance measured by ROA. When we used the 2SLS model, the results of FEM were confirmed, as the interaction variable (%WOB* Female Labour Force) was not statistically significant at less than 5% (T-test 1781; P>0.05). As a result, female labour market participation does not have a moderating role between board gender diversity and the operating firm performance.

"Female labour force participation ratio moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."

Results of testing the moderating effect of female labour market participation in the relationship between board gender diversity and firm performance using FEM can be found in table (5.18), while results of 2SLS model can be found in table (5.22) (Model 15). From table (5.18), it is noticed that the interaction variable (%WOB* Female Labour Force) was statistically significant at less than 1% (T-test 4.133; P<0.01). Therefore, this hypothesis is accepted. As female labour market participation has a moderating effect in the relationship between board gender diversity and firm market performance measured by (T'Q).

When using 2SLS model, the interaction variable (%WOB* Female Labour Force) was statistically significant as seen in table (5.22) (T-test 4.147; P<0.01). Again, the results of FEM and 2SLS model confirm each other. Similar to female tertiary education, female labour market participation is expected to affect the relationship between board gender diversity and firm performance using the same rationale. The different results obtained when using T'Q and ROA can be explained that increased female labour market is not associated with the operational performance (ROA) while investors' valuation for corporate performance which is measured by T'Q is affected by this variable as indicated by (Low *et al*., 2015). When corporates are forced to assign women directors in countries with high female labour market participation, this may affect investors valuation as indicated by (Low *et al*., 2015 and Abdullah *et al*., 2016). The combined effect of these variables needs further investigation. Increased female labour market participation creates a culture that interact positively with the presence of women as leaders in positions such as board of directors.

6.4.3 The moderating role of Culture

Two hypotheses concerning the moderating role of culture in the relationship between board gender diversity and firm performance measured by ROA and T'Q are formulated and tested as follows:

> *"Culture moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results of testing the moderating role of culture in the relation between percentage of WOBs and firm performance using FEM are shown in table (5.16), while results of 2SLS model are shown in table (5.20) (Model 8). It is noticed from table (5.16) that (Model 8) is valid and suitable, as the Constant and F values are statistically significant.

From table (5.16), it is noticed that the interaction variable (%WOBs*Culture) was statistically significant at less than 5% (T-test 2.505; P<0.05). Therefore, this hypothesis is accepted. As culture has a moderating role in the relationship between board gender diversity and firm performance measured by ROA. When using 2SLS model, the interaction variable (%WOBs*Culture), as seen in table (5.20), was statistically significant at less than 5% (T-test 2.488; P<0.05) confirming the results of FEM mentioned in the previous section.

> *"Culture moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results of testing the moderating role of culture in the relationship between percentage of WOBs and firm performance measured by T'Q using FEM are shown in table (5.18), while 2SLS model results are shown in table (5.22) (Model 16).

From table (5.18), it is noticed that the interaction variable (%WOB* Culture) was not statistically significant at less than 5% (T-test 1.320; P>0.05). Therefore, this hypothesis is rejected. As culture does not moderate the relationship between board gender diversity and firm market performance measured by T'Q. When using 2SLS model, it can be noticed from table (5.22) that the interaction variable (%WOB* Culture) was not statistically significant at less than 5% (T-test 0.761; P>0.05) confirming the results of FEM as

mentioned in the previous section. Culture was found to be the most important factor in determining presence of women on board of directors (Grosvold, 2011, Grosvold and Brammer, 2011). Moreover, (Low *et al*., 2015) indicated that culture affects firm's market performance in emerging markets clustered as Confucian culture with high levels of female labour market participation. In the same vein, (Abdullah *et al*., 2016) found that variation between effect of women on operational performance and market performance is due to cultural and societal attitudes towards presence of women on board of directors. Our results confirmed findings of studies like (Campbell and Minguez-Vera, 2008) where they found that presence of women on boards does not affect market performance of the firm in the Spanish context. While culture moderates the relationship between board gender diversity and firm operational performance, as cultural attitudes are reflected on the firm's internal environment affecting females' directors ability to impact the firm operational environment. Presence of female directors enhances firm market performance and the social image of the firm, in line with the findings of (Groening, 2019).

6.4.4 The moderating role of Legal Support

Two hypotheses concerning the moderating role of legal support in the relationship between board gender diversity and firm performance measured by ROA and T'Q were formulated and tested as follows:

> *"legal support of board gender diversity moderates the relationship between board gender diversity and firm performance measured by ROA."*

Results of testing for the moderating role of legal support in the relationship between percentage of WOBs and ROA using FEM can be seen in table (5.16), while 2SLS model results are in table (5.20) (Model 9).

From table (5.16), it is noticed that the interaction variable (%WOB* Legal support) was not statistically significant at less than 5% (T-test 0.624; P>0.05). Therefore, this hypothesis is rejected. As legal support does not moderate the relationship between board gender diversity and firm operational performance measured by ROA. When using 2SLS model, we notice from table (5.20) that, the interaction variable (%WOB* Legal support) was not statistically significant at less than 5% (T-test 0.624; P>0.05) which confirms FEM results mentioned in the previous section.

> *"Legal Support of board gender diversity moderates the relationship between board gender diversity and firm performance measured by Tobin's Q."*

Results of testing for the moderating role of legal support in the relationship between board percentage of WOBs and firm performance measured by T'Q using FEM are shown in table (5.18), while results of 2SLS model are shown in table (5.22) (Model 17).

From table (5.18), we notice that the interaction variable (%WOB* Legal support) was statistically significant at less than 5% (T-test 2.460; P<0.05). Therefore, this hypothesis is accepted as legal support moderates the relationship between board gender diversity and firm market performance measured by T'Q. When using 2SLS model, it is noticed from table (5.22) that the interaction variable (%WOB* Legal support) was statistically significant at less than 5% (T-test 2.433; P<0.05) confirming the results of FEM mentioned in the previous section. According to (Allemand *et al.,* 2014), quotas were the most significant factor in increasing women representation on boards of the European Union (EU) countries. Studies like (Bohren and Staubo, 2016) concluded that enforcing quotas on firms would negatively affect firm performance on the short run, while if these women were qualified enough, soon this negative effect will demolish. Our results contradict (Ahren and Dittmar, 2012, Kogut *el al*., 2014, Bohren and Staubo, 2016 and Low *et al*., 2015) findings on negatively relating quotas with the market performance of the firm measured by (T'Q) which indicate that investors value legal support for board gender diversity as a measure towards achieving the best governance practices accepted

worldwide. On the other hand, the absence of negative effect for quotas on operational performance contradict arguments of studies like (Pande and Ford, 2012) where they mentioned that quotas are negatively perceived by women affecting their ability to participate efficiently in the decision-making processes in board rooms. Enforcing gender quotas on corporate boards interferes with the effect that females may have on firm outcomes such as firm operational and market performance.

6.5 Summary of hypothesis testing

The study formulated 16 hypotheses to test the moderating role of firm level factors (i.e. board size, board independence, ownership concentration and institutional ownership) and external country level factors (i.e. legal support, female tertiary education, female labour market participation and culture) in the relationship between board gender diversity measured by percentage of women on boards and firm market performance (measured by T'Q) and firm operational performance (measured by ROA). The results of testing these hypotheses are shown in table (6.1).

from table 20, we notice that FEM results were consistent with 2SLS model results for the 16 hypotheses. We also notice that results of testing for the moderating role of firm and country level variables in the relationship between board gender diversity and firm performance measured by T'Q or ROA were similar except for culture, legal support and female labour market participation, where results of ROA models were opposite to results of T'Q.

Table 6.1 Summary of hypothesis testing

ROA Models				T'Q Models			
H's	**Moderation variables between WOB and performance**	**FE Models**	**2SLS Models**	**H's**	**Moderation variables between WOB and performance**	**FE Models**	**2SLS Models**
	Firm level variables:				Firm level variables:		
	Board composition variables:				Board composition variables:		
H1	Board size	Rejected	Rejected	H2	Board size	Rejected	Rejected
H3	Board independence	Accepted	Accepted	H4	Board independence	Accepted	Accepted
	Ownership structure variables:				Ownership structure variables:		
H5	Institutional ownership	Accepted	Accepted	H6	Institutional ownership	Accepted	Accepted
H7	Ownership concentration	Accepted	Accepted	H8	Ownership concentration	Accepted	Accepted
	Country level variables:				Country level variables:		
H9	Female tertiary education	Accepted	Accepted	H10	Female tertiary education	Accepted	Accepted
H11	Female Labour Force	Rejected	Rejected	H12	female Labour Force	Accepted	Accepted
H13	Culture	Accepted	Accepted	H14	Culture	Rejected	Rejected
H15	Legal support	Rejected	Rejected	H16	Legal support	Accepted	Accepted

6.7 Concluding Remarks

The findings of this study confirmed that the effect of board gender diversity on firm performance is contingent on firm and country level factors. It also confirms that this relationship is highly contextual just like all aspects of corporate governance phenomena in general. These findings are consistent with findings of other studies like (Low *et al*., 2015, Abdullah *et al*., 2016, Post and Byron, 2015, Mahadeo *et al*. 2012). Institutional differences between countries not only play an important role in women representation on corporate boards (Carrasco *et al*., 2015, Grosvold, 2011, Grosvold and Brammer, 2011), but also form an isomorphic pressure (normative and coercive) on corporate outputs such as performance. The integration of firm or micro level theory (i.e. Agency Theory) with a macro level theory (i.e. Institutional Theory) was an important and necessary step to understand board gender diversity and firm performance phenomena. The different results obtained when using different performance measures prove that isomorphic pressure have different effects depending on the performance measure that is used (ROA or Tobin's Q).

The next chapter is the final in this thesis which will provide an overview of research findings and thesis contributions. Based on these finding, several policy and practical implications will be discussed. Policy recommendations will be directed more to GCC countries, in line with the current status of women representation on corporate boards of these countries and the efforts to bridge the gap between women educational achievements and labour market participation.

Chapter Seven: Conclusion

7.1 Introduction

Whereas the previous chapter, in line with existing literature, illumined the results of the testing of the hypotheses of the thesis, this chapter summarizes the previous chapters. The main contributions of the thesis are to be elaborated in terms of theory and practice. Reflecting on internal and external environments of the firm, several policy implications are to be elicited from the main findings of the thesis. Prefatory to observations concerning limitations attending the thesis, finally, the chapter details recommendations and avenues for the future studies in the field of board gender diversity and firm performance.

Vocational gender equality is in the maelstrom of an on-going debate worldwide. Corporate leadership appointments, such as to seats on boards of directors, have received much attention in this debate -- given the economic power, in terms of decision-making authority, attending such positions. The empirical evidence on the association between board gender diversity and firm value and performance is mixed and remains inconclusive. True, some organizations propound the use of board gender diversity as a tool to enhance firm performance and economic value. However, such claims should be looked at carefully as some corporates worldwide are forced, by quota laws instituted in many countries, to assign female directors. Such countries include Norway, France and Spain.

Assigning women as directors to promote gender diversity may be a disadvantage in such cases. Thus, the association between board gender diversity and firm performance should be investigated on various levels. Based on the existing literature, this thesis proposed a conceptual model that integrates internal factors related to board gender diversity of the

firm with external factors that interact with presence of women on boards of directors. The impact of these factors on the relationship between board gender diversity and firm performance was tested in a unique context juxtaposing GCC countries with the UK and France. The findings of this study ought to be utile to policy makers in GCC countries, which largely have adopted the Anglo-Saxon model of corporate governance. However, institutional environments in these countries differ substantially from those of Anglo-Saxon countries with respect to both women empowerment issues as well as prevalent corporate internal governance mechanisms. The following section briefly outlines the findings reported in the previous chapter (Chapter six).

7.2 Research summary and findings

The relationship between board gender diversity and firm performance has been debated among scholar since Catalyst (2004) claimed that inclusion of women in board of directors enhances firm performance and adds economic value. Most studies in the literature exclusively evaluated this relationship on a firm-level (Campbell and Minguez-Vera, 2008, Haslam *et al*., 2010 and Carter *et al*., 2003). While another group of studies investigated this relationship taking in consideration external environmental factors – mainly, culture -- such as (Low *et al.*, 2015; Abdullah *et al.,* 2016 and Mahadeo *et al.,* 2012). Other institutional factors that precipitate isomorphic pressures on firms in conjunction with cultural attitudes towards women were neglected in the literature. This thesis posits that the relationship between board gender diversity and firm performance is contingent on internal as well as external factors that interact with the presence of women on board of directors.

On the firm level, factors such as board size, board independence, ownership concentration and institutional ownership were included in the conceptual model of the thesis. On the other hand, country-level factors related to women representation on board of directors -- such as female tertiary education, female labour force participation, culture and legal support -- were also included in the conceptual model. Data was drawn

from three different cultural clusters (i.e. French, Anglo and Arab) to render feasible comparative analysis. The influence of internal and external environments on the relationship between board gender diversity and firm operational and market performance was tested using a battery of statistical tests. The results of these tests, along with the hypotheses testing, were reported in chapter five and six.

On the firm level, findings indicated that board size [which was discussed in early board gender diversity studies (Carter *et al*., 2003 and Erhartd *et al*., 2003) does not affect the impact of board gender diversity on firm operational/market performance such that that the impact of the level of participation of women on performance of boards is unrelated to the size of boards. On the other hand, board independence, a key governance tool in emerging and developed markets, was found to influence the relationship between board gender diversity and firm operational and market performance. This finding indicates that the greater the board independence, the stronger the positive impact of increasing levels of participation of women on boards as reflected in the investor valuations of the firms comporting with the findings of Adams and Ferreira (2009), which links women to the concept of the "independent director".

Moreover, institutional ownership was found to affect the relationship between board gender diversity and firm operational and market performance. This finding indicates that institutional investors tend to follow best governance practices that help improving firm performance and valuation (Terjesen *et al*., 2015) including gender diversity of the board. On the other hand, ownership concentration was found to impact the relationship between board gender diversity and firm operational performance measured by ROA without manifesting an equivalent effect on market performance as measured by Tobin's Q contradicting, in this unique aspect, Abdullah *et al*., 2016.

On a country level, findings indicated that female tertiary education strengthens the effect of board gender diversity, on the one hand, on both firm operational and market performance on the other. Highly educated women can create value augmenting operational and market performance. However, labour market participation of women

does not have any effect on the relationship between board gender diversity and firm operational performance. In contrast, labour market participation of women impacts the relationship between board gender diversity and firm market performance, by increasing the positive effect of the former on the latter in a dynamic reflecting valuation of investors.

Culture was found to affect the relationship between board gender diversity and firm operational performance by affecting the culture of workplace while -- in contrast to results indicated in (Haslam *et al.*, 2010; Abdullah *et al.,* 2016; Mahadeo *et al,* 2012 and *Low et al.,* 2015) -- being bereft of any effect on market performance as measured by Tobin's Q. For, investors, as sampled in this study, harbour no negative attitudes towards female directors as indicated by the above-referenced studies.

Finally, although not impacting the effect of board gender diversity on firm operational performance, legal support strengthens the positive impact of presence of women on boards on market performance of the firm as measured by Tobin's Q in contrast to studies like (Low *et al*., 2015).

It is worth mentioning that presence of women on boards does add to the quality of decisions where gender diversity enriches the decision-making process with different backgrounds. However, the effect of board gender diversity on firm performance interferes with many other economic circumstances. One example may be the current pandemic of COVID-19 where financial performance of firms worldwide is negatively affected. This would make it difficult to clearly address the relationship between board gender diversity and firm performance.

7.3 Thesis contributions

The impact of presence of women in top management teams such as board of directors on firm outcomes (i.e. performance) has been investigated by many researchers in various contexts (Carter *et al.,* 2003; Campbell and Minguez-Vera, 2008; Mahadeo *et al*., 2012; Abdullah *et al.,* 2016 and Low *et al.,* 2015). However, the empirical evidence has

not been conclusive. The inconclusive evidence might stem from several reasons: [1] methodological issues that might prevent researchers from capturing this effect efficiently as a result of the endogenous nature of the relationship between presence and performance; [2] flawed conceptual frameworks that fail to consider all relevant variables associated with this relationship; [3] failure to choose the proper theoretical basis that explain why women would affect firm performance in certain contexts while they do not in others; and [4] failure to differentiate among different performance measures given that performance encapsulates multiple levels and different ways of measurement. Such might affect the outcome of measuring the effect of women directors on firm performance based on the chosen performance measure (e.g. Tobin's Q, ROA, ROE, and ROI).

In this regard, this thesis manifests several contributions to knowledge through its chapters on theory, methodology and context. These contributions are elaborated below.

7.3.1 Theoretical contribution

Several previous studies grounded their theoretical framework on agency theory (Abdullah *et al*., 2016; Campbell and Minguez-Vera, 2008, Ararat *et al*, 2015; and Mahadeo *et al*., 2012) to explain why women directors would affect firm performance. The arguments of these studies are predicated on the role designated to boards of directors as tools of enhancing governance, reducing agency costs and balancing the interests of shareholders and management of the firm. Female directors are assumed to have innate abilities that differentiate them from their male counterparts, rendering them, in effect, closer to the idealized concept of the "independent director" (Adams and Ferreira, 2009). Eventually these differences would add value to the firm and be positively valued by investors. However, this construct posited by agency theory is oversimplified failing to capture complications impacting presence and performance related to firm governance such as ownership structure and board characteristics. In effect, agency theory was criticised for dealing with the firm as if it is a black box with no interactions

with the external world. Moreover, agency theory, as a derivative of classical capitalism ideas, ascribes no contribution to factors such as human capital (Bradely *et al*., 1999) and led to calls for adaptation of an alternate concept able to enhance its applicability in different environments (Kumar and Zattoni, 2017). Such led to attempts to study the role of board of directors as a means of connecting the firm with the external environment through the lens of resource dependence theory (Zahra and Pearce, 1989) along with other theories such as social capital theory in studies such as (Shehata et *al.*, 2017 and Abdullah et *al*, 2016).

Institutional theory, which is an important theory of explaining firm behaviour and outcomes, was used in various studies (Grosvold, 2011); Grosvold and Brammer, 2011; Carrasco *et al*., 2015) to explain the variance in performance among firms across countries attributable to the presence of women on board of directors. Prior to the aforementioned studies, this theory was not previously used to explain the relationship between presence of women on boards and firm performance.

This thesis integrates paradigms from agency theory and institutional theory to build a conceptual model that is underpinned by both theories. The basic argument of this thesis is that the relationship between board gender diversity and firm performance is contingent on firm-level factors related to governance (agency theory) and country-level factors (institutional theory) that creates isomorphic pressures on the firm with respect to increasing the presence of women on boards. This suggests that the capacity of women to augment performance of the firm is situational consistent with the arguments propounded by Forbes and Milliken (1999) linking board effectiveness with board context.

Institutional factors that create isomorphic pressures on the firm to assign women as board directors were extracted from the literature of board gender diversity and included in the conceptual model of the thesis. Culture, which is the most significant factor in determining representation of women on boards (Grosvold, 2011; Grosvold and Brammer, 2011) and Carrasco *et al*., 2015); educational level of women (Hillman *et al*.,

2002 and Simpson *et al*., 2010); women participation in labour market (Martin-Ugedo and Minguiz-Vera, 2014) and legal support (quotas) (Terjesen and Sealy, 2016) were the institutional factors included in the thesis as factors posited to affect the relationship between board gender diversity and firm performance.

Therefore, the theoretical contribution of the thesis centres on the integration of two broad theories in the literature: agency theory and institutional theory. The integration of both theories enhances understanding of how board gender diversity impacts, in which ways if at all, firm performance.

7.3.2 Methodological contribution

The methodological contributions of the thesis are manifold. First, using panel data drawn from two levels (firm and country) spanning two years (2017-2018) from three different cultural milieus (Arab, Anglo and French) departs from both previous cross-sectional studies that employed either single level data from different countries for several years and previous longitudinal studies that handled data from single country on the firm-level only.

Second, the thesis used a group of firm-level factors (board size, board independence, ownership concentration and institutional ownership) and country-level factors (female tertiary education, female labour market participation, culture and legal support) as moderators in the relationship between board gender diversity and firm performance. In previous studies, firm-level factors have rarely been used as moderators (Abdullah *et al*., 2016), although some of them have been used as control variables (board size). In contradistinction, however, country-level factors have not been used as moderators in this relationship prior to the current thesis.

Third, the thesis used two different measures of performance namely (Tobin's Q and ROA) to differentiate between operational and market performance of the firm. This differentiation permits insights into how representation of women on boards impacts performance of firms across varied dimensions.

Lastly, to overcome the problem of endogeneity, the thesis used two different methods of modelling the moderation effect: Fixed Effect Model (FEM) and Two Stage Least Squares regression model. The results of both modelling techniques were consistent and confirmed each other.

7.3.3 Contextual contribution

The thesis contributed to the existing literature on board gender diversity and firm performance in emerging markets. With the notable exceptions of (Abdullah *et al*; 2016; Low *et al*.; 2015 and Mahadeo *et al*., 2012), few studies, of this genre, have focused on GCC countries (UAE, KSA, Kuwait, Oman, Bahrain, Qatar) with their unique socio-economic fabric. Indeed, the scarcity of studies on GCC countries served as an impetus for this thesis. In studying the effect of board gender diversity on firm performance in this regional context, multiple dimensions overlap. A cultural component is embedded in the sampling of the population of firms in the form of clusters (Arab, Anglo and French) articulated along the lines of (Gupta *et al.,* 2002). Cultural clustering in the sample is paramount since GCC countries follow the Anglo-Saxon model of corporate governance yet share some similarities with the French business milieu especially in terms of the legal system (Civil law). These three contexts allow the study to test evaluate the extent to which firm- and country-level factors impact the relationship between board gender diversity and firm performance.

From the resulting evaluation, policy implications proceed bearing relevance to policy makers in GCC countries. For, board gender diversity is a nascent element in women issues in the process of development addressed in the context of policies and legislation designed to serve empowerment of women in emerging and developing economies.

The next section considers policy implications and possible recommendations mainly in the GCC context building on the findings of the thesis elaborated in Chapter Six. These recommendations hold out the potential to foster representation of women on boards of directors in GCC countries in particular and participation of women in GCC labour markets

in general. In addition, these recommendations collaterally serve to enhance governance structures in GCC firms.

7.4 Policy and practice implications

Promoting women into leadership positions has been on the political agendas of many governments around the world. In the aftermath of the declaration promulgated by the United Nations General Assembly in 2015 of the Sustainable Development Goals (2030), which recognizes gender equality as a key element of sustainability, many countries prioritized women issues on their agendas and in their visionary plans. High educational attainment levels of women ought to be reflected in high levels of female labour market participation. To overcome obstacles including “glass ceilings” that women face while advancing in their careers, policies should clearly support equality of opportunity between men and women. Women who occupy leadership positions such as on seat of boards of directors serve as “role models” encouraging other women to strive to advance up to the highest rungs of the corporate ladder. This creates a supportive culture for women that buoy managerial effectiveness off women serving on boards of directors.

Quotas of the sort mandated in France and “comply or explain” approach implemented in UK represent two alternate approaches, engendered through political process, that suit economic and cultural environment in each of those countries. With the exception of the UAE, GCC countries do not have any legal support for women representation on boards.

7.4.1 The role of governing elites in the empowerment of women in GCC countries

GCC countries are conservative societies governed by hereditary monarchs hailing from royal dynasties since their establishment. These countries share unique cultural and economic attributes including, on the one hand, Islam, as a state religion, and Arab ethnicity and, on the other, high per capita national incomes based on natural resource

(energy) exportation, Characteristically, however, the institutional infrastructure in these countries is underdeveloped and initiatives undertaken by governing elites are essential to stimulate cultural, economic and political change. In 2013, Shaikh Mohammed Bin Rashid Al-Maktoum announced on tweeter, “All boards of companies and governmental entities in UAE should have at least one woman”. This announcement sheds light on the role of governing elites in GCC countries play in promoting policy changes. It also indicates the importance of using celebrities and elites in orchestration of change (Terjesen *et al.,* 2015).

7.4.2 Educational attainment and labour market participation

Until recently, GCC societies exhibited conservatism towards female participation in the work-force and in public life; however, these attitudes have gradually changed with the advent of women achieving high levels of educational attainment relative to men on all levels (Gender Gap Report, 2018). Several prominent women occupy upper echelon positions such as ministers and business leaders. Yet, labour market participation of women generally lags behind that attained in other regions outside the Middle East and North Africa (MENA) such that governmental steps need to be taken to empower women. Such renders the formation of effective strategies designed to bridge gender gap in labour market participation as crucial and much-needed. These initiatives should be undertaken according to paths of least resistance – namely, in the business arena, in which negative cultural attitudes towards women have largely dissipated. Policies and initiatives of systematically inclusion of women in various levels of management – particularly at board-level -- are crucial to GCC institutional development (McKinsey and Company, 2014). Both the public and private sectors should implement effective strategies to enhance women employment.

7.4.3 Cultural attitudes

The effective use of media to raise awareness on the importance of increasing women participation in leadership positions such as boards should be implemented. Hamdan, 2020 indicates that negative societal attitudes towards women on boards was not found in UAE, especially after implementing the one women quota in Emirati firms supported by the declaration of Shaikh Mohammed Bin Rashid in 2013. In Kuwait, however, Al-Shammari, 2014 concluded that women on Kuwaiti boards did not have any significant effect on market performance due to the lack of awareness of the importance of board gender diversity by investors. However, this is an exception. Generally, high receptivity to women occupying high rungs of management in the public and private sectors acetates the elevation of the status of women in GCC societies, contrary to other culturally resistant societies that exhibit resistance towards board gender diversity such as Malaysia (Abdullah *et al*., 2016) and South Asian countries (Low *et al*., 2015).

7.4.4 Legal support

Legislation such as board membership quotas ought to be an effective legal tool to enhance women representation on boards given the low percentage of women directors found in GCC countries in general, compared to the global levels. The Emirati quota enhanced women representation on boards with no evidence of negative consequences on firm performance (Hamdan, 2020). Moreover, the negative attitudes of women towards quotas were not strong among GCC women business leaders (McKinsey and Company, 2014). This provides strong support for inauguration of quotas in KSA, Qatar, Kuwait, Oman and Bahrain.

7.4.5 Firm level and corporate governance

The British voluntary approach “comply or explain” has both advantages and disadvantages. However, it expresses the uniqueness of the British economic and legal

environment. The major concern in UK is increasing of presence of women on boards on a scale on a par with other European countries (Doldor, 2017). Provisions of the Voluntary Code of Conduct for Executive Search Firms (2014 version) consist of the following:

- Succession Planning: Search firms should support chairmen and their nomination committees in developing medium-term succession plans that identify the balance of experience and skills that they will need to recruit for over the next two to three years to maximize board effectiveness. This time frame will allow a broader view to be established by looking at the whole board, not individual hires; this should facilitate increased flexibility in candidate specifications.
- Diversity Goals: When taking a specific brief, search firms should look at overall board composition and, in the context of the board's agreed aspirational goals on gender balance and diversity more broadly, explore with the chairman if recruiting women directors is a priority on this occasion.
- Defining Briefs: In defining briefs, search firms should work to ensure that significant weight is given to relevant skills, underlying competencies, and personal capabilities and not just proven career experience, in order to extend the pool of candidates beyond those with existing board roles or conventional corporate careers.
- Longlists/Shortlists: When presenting their longlists, search firms should try to ensure that at least 30 percent of the candidates are women—and, if not, should explicitly justify to the client why they are convinced that there are no other qualified female options, through demonstrating the scope and rigor of their research. Search firms should seek to ensure that the shortlist is appropriately reflective of the longlist, discussing with their clients each woman on the longlist and aiming to have at least one woman whom they would 'strongly recommend' that the client should meet.
- Candidate Support: During the selection process, search firms should provide appropriate support, in particular to first-time candidates, to prepare them for interviews and guide them through the process.

- Supporting Candidate Selection: As clients evaluate candidates, search firms should ensure that they continue to provide appropriate weight to intrinsic competencies and capabilities, supported by thorough referencing, rather than over-valuing certain kinds of experience. Search firms should, as necessary, advise their clients on how to run their interview process to demonstrate the required rigor and professionalism and share best practices on how to avoid unconscious gender bias.
- Induction: Search firms should provide advice to clients on best practice in induction and 'on boarding' processes to help new board directors settle quickly into their roles.
- Embedding Best Practice: Search firms should ensure that best practices in supporting clients on enhancing board gender diversity are well-documented and shared internally and that adherence to the Code is effectively monitored.
- Signalling Commitment: Search firms should signal their commitment to supporting gender diversity on boards, and their adherence to the Code, through their websites, marketing literature and client discussions. They should share data on their track record on their website as appropriate and include case studies of their success.
- Broadening the Candidate Pool: Search firms should seek to broaden their own databases of potential candidates, leveraging as appropriate external lists produced by organizations such as Cranfield. They are encouraged to invest time into developing relationships with the pipeline of future female candidates. Although the previous provisions are targeting the British environment, they might be implemented in other environments where necessary.

In GCC countries, the majority of boards with female directors have only one female and most of these females are first time directors. It might take long time for other women to be able to occupy board seats without necessary intervention. Gulf states may need many years to reach a critical mass of women (3 or more) on their boards of directors. Thus, widening the pool of women directors by providing professional governance training and

effective networks would enhance women representation on boards. Establishing governance training centres in all GCC countries is strongly recommended. Developing a supporting HR infrastructure that demonstrates non-gender-biased organizational policies in recruiting is a very important step at the organizational level. Since boards are a crucial element of governance and evidence supports that women and board independence enhance board effectiveness, these elements should be regulated by governance codes in all GCC countries. Along with board gender diversity, all other types of diversity should be promoted on an organizational level for what it brings to the board environment dynamics. The process of selecting directors should be transparent.

To maximize the value and effectiveness of presence of women on board of directors on performance of the firm, Kakabadse *et al*. (2015) emphasized several points:

- Overcoming cultural barriers that prevent women from developing in their career lives to reach business leadership positions such as boards of directors;
- Providing high quality education for females in addition to necessary practical training and skills needed in the boardroom;
- Mentoring and guiding women on the importance of having the resource of professional networks that provides access and entry to board rooms;
- Buying in of a powerful chairperson/CEO fully committed to the effective participation of female directors on boards;
- Developing organizational strategies mandating elevation of qualified women to leadership positions such as on boards of directors.

7.5 Generalisability of policy recommendations

Designing policies is a complex task mandating careful attention to contextual and environmental dimensions to reach a workable solution enjoying political consensus. The results of this thesis demonstrate that effectiveness of corporate performance instilled by board gender diversity is driven by country- and firm-specific factors. This limits the generalizability of policy recommendations in some GCC countries that have legislation

targeting increasing of women representation on boards of directors such as (UAE). Although some broad lines should be applicable in all contexts. Board gender diversity in in GCC countries takes the economic perspective that mandates enhancing representation of women in labour market and provides women with high quality education to eliminate reduced women representation in leadership positions and labour markets to achieve economic growth. In some contexts, women may have negative attitudes towards quotas where they believe that it affects their image and hinders their ability to contribute effectively in the decision-making process. In GCC countries, however, quota seems to be an attractive legal tool to enable women to occupy board seats breaking through the "glass ceiling" without significant risk of engendering cultural backlash.

7.6 Study limitations and future research avenues

Limitations attend some parts of this study. Performance of the firm is a very complicated thing to measure and observe, although two performance measures were used by this thesis (ROA and Tobin's Q). Different results may be obtained if other measures were used.

The study's conceptual model limited the level of analysis to meso and macro level factors to emphasize the relationship between board gender diversity and firm performance due to the empirical nature of it. The micro level, which would entail consideration of individual women directors, especially in GCC countries, would hold potential to contribute valuable insights to the literature to the extent that studies on this level of analysis are not available.

On the firm level, only selected variables (board size, board independence, ownership concentration, institutional ownership) were included in the model. Other variables, if included, would potentially affect results generated from the study. In MENA, privately held family corporations prevail over publicly traded corporations, yet data sets on the former do not exist (bearing on sample validity across the overall population of firms). On

the country- level, other variables may be included and tested to enhance validity of the model (e.g. country level governance indicators). Single country studies may also be applicable to better understand how and through what channels presence of women affect firm performance in GCC countries. Deeper analysis of the role of governing elites in achieving cultural and economic change in GCC countries is also an interesting avenue for the future research.

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APPENDIX

Appendix 1 Sample of Reviewed Studies

Author/Journal / type of study	Research questions	Research contribution	Theories	Variables	Methods	findings
Ararat et al. (2015) Corporate governance :an international review (A) Empirical study	1.What is the effect of board diversity on corporate performance in emerging markets? 2.How does ownership configuration influence board diversity?	1.Proving the importance of contextual variables like ownership configurations on the relation between board diversity and firm performance 2.proving that board diversity may be a tool to create more diligent monitors that prevent dominant shareholders expropriation	Agency theory Resource dependence theory	DV: Firm performance IV: Diversity indices MoV: Ownership MeV: board monitoring	Moderator-mediator model. Building a board diversity index	multiple diversity attributes have a compound effect on performance. Board diversity indices positively affect monitoring role of boards explaining the role of dominant shareholders in reducing the monitoring role of diverse boards. The study found that the effect of diversity is nonlinear and synergetic as well. Board demographic diversity has a stronger effect on performance in high wedge firms. The study did not take a single variable of diversity but a compound variable and also augmented it with ownership type and board independence, it also investigated channels that diversity might affect performance through.
Abdullah et al. (2016) Strategic management Journal (A*) Empirical study	Is gender equality among boards beneficial to all firms and societies?	1.Proving that gender diversity influence depends on institutional factors 2.proving that gender diversity influence differs using different measures of	Agency theory Resource dependence theory	DV: accounting performance Market performance IV: Women in boards MoV: board ethnic diversity Ownership concentration Family ownership	Regression models with moderators comparative approach	impact of women presence in boards manifests in conflicting directions, positively affecting accounting performance and negatively influencing market performance different

		performance basically on the societal perception of women participation in leading positions		Governmental ownership Board independence		ownership configurations exhibited different reactions towards women presence in boards provided a better understanding for the emerging markets behaviors towards the presence of women in boards. the article found that effect of presence of women in boards is tied to the context of nature of corporate governance in a specific institution and the cultural perception for the presence of women in such places. There was difference between the effect of women presence in boards on accounting measures where they were affected positively while market measures were affected negatively due to the cultural perception of women presence in board positions.
Bianco et al. (2015) Corporate governance: An international Review (A) Empirical study	What is the role of family connections in board gender diversity? What are the implications of presence of women on governance measures?	1.proving that governance mechanisms differs in family and non family owned businesses 2.gender diversity could be tied to board independence	Agency theory Resource dependence theory	Company level variable Director level variables	Probit regressions	emphasized the differences found between family controlled and nonfamily controlled firms board diversity should be accompanied by board independence as well to enhance performance. The study provides evidence on the role of

						ownership structures especially family ownership in the relation of diversity and performance. Companies with family affiliations had worse performance. Institutional concentrated ownership firms were prone to assign more female directors. Some governance attributes were affected by the presence of women like number of meetings.
Daniel Ferreira(2015) Corporate governance: An international Review (A) Commentary	1.What can we learn about diversity from studies of board diversity? 2.What can we learn about corporate governance from studies of board diversity? 3.Is research about gender diversity useful for policy discussions?					generalizability of results is extremely limited as boards are not representable of the population. results regarding presence of women and corporate governance aspects are highly inconclusive and each firm has its own characteristics researchers jump into strong conclusions, there should be causality assessment for the relation between presence of women and firm value
Terjesen et al. (2015) Journal of management and governance (A) Empirical study	Does gender diversity enhance board independence ?	Relating effectiveness of independent directors on corporate performance with gender diversity in multi country level	Several theories	DV: Firm performance (T'Q & ROA) IV: percentage of independent directors and percentage of female directors	generalized method of moments (GMM) regressions	presence of females in board enhances the effectiveness of independent directors on firm performance. Institutional and insider ownerships where also dependent on board diversity in their effect on

						performance. The study took in consideration other variables that may affect gender diversity like dividends, economic condition, level of corporate governance, percentage of woman work force and country's GDP to compare between different countries comprehensively. The most important finding was that board independence becomes secondary when not addressing the issue of gender diversity of board
Miller & Triana(2009) Journal of management studies (A) Empirical study	What are the mediators of ethnic and gender diversity and performance relationship?	Proving that firm reputation and innovation mediates the relation between ethnic and gender diversity with performance	Signaling theory and behavioral theory of the firm	DV: firm performance IV: gender and ethnic diversity MiV: firm reputation and innovation	Mediators OLS	Board's ethnic and gender diversity is positively related to innovation which was found to be mediator between racial diversity and performance. The racial diversity may promote innovation due to generating new ideas by different mentalities, this is consistent with the behavioral theory of the firm. Racial diversity was positively associated with reputation which is consistent with signaling theory. Gender diversity was positively associated with innovation but not reputation. Using mediators in the study gave it a

						new perspective which is different from what exists in the literature. It also used behavioral and signaling theories which are not used usually. Perhaps the study needs using moderators to strengthen the results
Bohren and Strom (2010) Journal of business finance and accounting (A) Empirical study			Agency theory			
Adams & Ferreira (2007) The Journal of Finance (A*) Review	How to create boards that monitor properly at the same time creates value to the firm?	The study compared between 2 tier boards and sole boards on a country level that differ in their governance system				The study analyzed the relation between CEOs and boards where creating a friendly boards may be optimal as well informed board may be tough monitors and more independent directors may be tougher and not creating value when being too much informed. The study suggests a U shape relation between independence and monitoring role
Hillman et al. (2007) Academy of management Journal (A*) Empirical study	What are the organizational predictors of women participation in boards of directors?	The study specified some organizational predictors in US firms that may characterize institutions that are more likely to impose women in their boards Linking resource dependence theory to gender diversity issues and how it could benefit the firm	Resource dependence theory	DV: Female representation in board of directors IV: Organizational size Industry labour force Diversification strategy Network effects	Regressions	Larger firms are more likely to impose women in boardrooms due to higher pressure from the society Firms that have greater female employees have greater likability to have women in their boards Having women directors networking will increase the likability of having more women directors in these networks

Hillman & Dalziel (2003) Academy of management Journal (A) Review		Integrating resource dependence theory with agency theory				Board capital affects both monitoring functions and provision of resources and board incentives moderates these relationships
Anderson & Reeb (2004) Administrative Science Quarterly (A*) Empirical study	What are the mechanisms that limit expropriation of dominant shareholders in family owned firms?	Independent directors would balance family board representation	Agency theory	DV: firm performance (T'Q) IV: three tier categorization of board members Insider directors Independent directors Affiliated directors	Regressions	The study found that firms with more family representatives and less independent directors have worse performance than more independent directors in family owned firms. The study also found that independent directors mitigate the conflicts between minority and majority shareholders
Hillman (2015) Corporate governance : An international review (A) Review		Providing directions for future studies regarding board diversity in many dimensions				Diversity of boards may lead to better decision making. Boards with gender diversity decisions were more ethical. Employees of firms with demographic diversity are more likely to stay in these firms where woman may have better ability to keep efficient employees reducing the turnover costs. Presence of women in boards may enhance the ability to better understand the needs of the market and the customers. Researchers must dig more to better understand the board diversity effects in terms of its timing and if it is forced on the firm like quotas. Other

						types of diversity should be taken in consideration rather than gender diversity like nationality
Carter et al. (2010) Corporate governance: An international review (A) Empirical study	What is the impact of presence of women and ethnic minorities in boards on the financial performance of US firms?	Assessing the business case for imposing women and ethnic minorities in US firms and the effect of them on financial performance	Agency theory Resource dependence theory Human capital theory Social psychology theory	DV: Financial performance IV: women and ethnic representation in boars and committees	Fixed effect regressions	The study failed to find relations between the variables in US firms. it also concluded that there is no business case for including women and ethnic minorities in boards or there should be other criteria to determine the effect of including them into boards rather than future financial performance. The study pointed that board ethnic and gender diversity and financial performance may be endogenous. Many studies indicated the same results in US as it is believed that in US and UK, ownership structure is characterized to be widely dispersed and laws are strong enough to protect investors thus demographic diversity or board independence may not be of great noticeable effect
Carter et al. (2003) The financial review (A) Empirical study	How does presence of women in boards affect corporate governance and financial performance of a firm?	Linking between gender diversity and corporate governance practices and financial performance as well	Agency theory	Firm value Diversity Governance variables	2SLS	The study found a positive relation between ethnic and gender diversity with firm value. the study also found that fraction of women decreases when the number of insiders increases. This

						may be used in the argument that presence of diverse boards may enhance independence of boards which is an important aspect in good corporate governance practices.
Erhartd et al. (2003) Corporate governance (A) Empirical study	What is the relation between demographic diversity and firm financial performance in US firms?	Providing an evidence on the relation between demographic diversity and financial performance from US firms		DV: Organizational performance IV: Demographic diversity (gender & ethnicity)	Correlations and regressions	the study found a relation between demographic diversity and firm financial performance
Liu et al. (2014) Journal of corporate finance (A*) Empirical study	What is the effect of independent board directors on firm performance in Chinese context	The study provides robust evidence on the positive effect of independent directors on Chinese firms performance	Agency theory	DV: firm performance IV: number of independent directors	2SLS & endogeneity checks	The study provides robust evidence on the positive effect of independent directors on Chinese firms performance. The Chinese context is characterized by high governmental ownership dominance which forms a suitable environment for misusing the firm's resources or violating the rights of small
Haslam et al. (2010) British Journal of management (A) Empirical study	What is the effect of presence of women on several performance measures?	Differentiating between performance measures regarding the effect of presence of women in boards of directors		DV: corporate performance IV: board composition	Correlations and regressions	The study found that presence of women in boards did not affect performance it also found that there is what is called prejudice where firms with male boards are perceived to investors to be performing better and women only exist in weak performing firms . The study also handled a very important issue where investors perception or market performance may

						not be always reflecting the truth regarding the actual performance of the firm
Ben-Amar (2013) British Journal of management (A) Empirical study	What is the role of board diversity and ownership structure in mergers and acquisitions?	Clarifying the role of diversity of boards and ownership structures in strategic decisions like mergers and acquisitions	Agency theory Stewardship theory Theories based on resources, competencies and organizational learning	DV: M&A decisions DV: constructed index of ownership and diversity variables	Regressions	The study found an impact for board diversity on M&A decisions which are strategic decisions and considered to be affecting performance levels. Ownership structure was also affecting the effect of diversity. This is an important study where it links the three variables. It also handled institutional ownership as a key variable because it is found in the Canadian context. The effect of other types of ownerships in other contexts may be beneficial as well
Hambrick et al. (1996) Administrative science quarterly (A*) Empirical study + developing a theory	What is the effect of top management teams heterogeneity on the firms strategic moves?	Studying the actual concrete market actions taken by firms and how they were affected by certain top management propositions		DV: Competitive magnitude of actions and responses IV: management team heterogeneity	Regressions	The study found that top management teams that were diverse in terms of education, functional background and company tenure exhibited high magnitude actions towards the propositions while heterogeneous teams were slower in their reactions towards competitors moves in the market . heterogeneity is a double edged sword however, market share and profits were positively affected by it.

Hermalin and Weisbach (1998) American Economic Review (A*) Theoretical	How to create effective monitoring boards on the CEO by a process that is partially controlled by him?	Suggested independent directors to be in the boards to create effective monitoring boards	Agency theory			CEO bargaining power comes from his perceived ability relative to potential successors in addition to many empirical findings that are related to performance
Choi et al. (2007) Journal of financial and quantitative analysis (A*)	What is the effect of governance reforms in Korea on the value of firms?	Assessment of the value of outsider directors after the reforms in Korea following the Asian financial crisis	Agency theory	DV: performance of the firm IV: governance reforms Ownership structures	Correlations and regressions	The study found a positive effect of outsider directors on the firm performance and a positive effect for foreigners as well. The study found a positive impact for institutional owners but found a negative or no impact for family connections. Overall the study supports the idea that outsider directors effectiveness is associated with the market environment that the firm work in and the nature of ownership structure found in each firm.
Cho and Kim (2007) Corporate governance (A)	What is the role of large shareholders and managerial ownership in the relation between the presence of independent directors and the firm's profitability?	Assessing the impact of outside or independent directors on firm profitability taking in consideration the moderating role of large shareholders and managerial ownership	Agency theory	DV: Company performance IV: Ownership structure Outside directors in the firm boards	Moderated regressions	The Korean context was found to be owner controlled at that time. After the reforms the effect of outside directors was weak and this was perhaps because it is too early to assess the impact of the reforms. The result also proved that ownership structure moderated the relation between board independence and firm profitability

Black and Kim(2012) Journal of financial economics (A*)	What is the effect of governance reforms in Korea on the valuations of Korean firms?	Evidence about the effect of governance reforms on firm valuations		DV: firm valuations IV: board composition (board independence + board committees)	Event study	The study found that outsiders directors and audit committees have a positive impact on the valuation of firms the event study found that at the time of reform, market valuations jumped to high numbers but after a while these valuations did not change which may mean that the market valuated the reforms not the performance of the firms in the market. The study may lead us to believe that sudden enforced reforms may not lead to better governance at the same time to all sizes of firms
Tam & Tan (2007) Corporate governance (A)	How does governance practices interact with ownership dimensions affecting firm performance?	Providing an evidence about impact of ownership structure on performance through the mediation effect of governance practices	Agency theory	Ownership concentration Ownership types Board characteristics	Regressions	The study found that ownership concentration has an impact on firm performance . Ownership type has an impact on governance mechanisms addressed in this specific study which are CEO duality, debt and ownership concentration.
Neilsen & Huse (2010) Corporate governance: an international Review (A)	What are the gender differences that may create value in the reactions of corporate boards?	Specifying some gender differences that may enhance the job of corporate boards	Group effective theories	Strategic control Operational control Board development activities Open debate Conflict Industry Board Size Outsider ratio Executive ownership	Survey	pointed the limited ability of the traditional theories in understanding the role of women in boards like agency theory and resource dependence theory, the study suggested focusing on the gender differences in

				Non executive ownership Chairperson tenure Women directors ratio CEO duality		performing different tasks in firms like leadership and other board tasks. The study used gender differences and group effectiveness theories and found that effectiveness of women presence is highly dependent on the type of tasks that are performed by the board and it is also mediated by board processes as they are affected by the presence of women which in its turns enhance or inhibit board effectiveness and strategic decisions
Desender et al. (2013) Strategic management Journal (A*)	What is the effect of ownership structures on bard characteristics and behavior?	Linking ownership structure to governance practices and audit fees	Agency theory	IV: ownership structure Board independence CEO duality Types of controlling owners	Regressions	Best governance practices are highly dependent on the environmental and institutional settings and they are only effective in certain combinations. The study argues the type of ownership and degree of ownership concentration affects the monitoring role of board of directors in terms of external audit fees where firms with dispersed ownership requires higher audit fees because independent directors need more efforts to monitor the behaviour of management while in highly concentrated ownership firms,

						independent directors usually have more information due to their ties with controlling shareholders thus audit fees are less. The study's argument discussed the importance of identity of the concentrated ownership structure claiming that this identity affects the outcomes of the firm
Chen et al. (2011) Asian Pacific Journal of management (A) Theoretical + Empirical	Are OECD prescribed governance procedures affective in an emerging market?	The study claims that the prescribed OECD procedures are not always effective in an emerging market economies	Agency theory	DV: Corporate performance Explanatory variable: ownership concentration Governance variable (board independence , board meeting , etc..)	Fixed effect OLS techniques	The study hypothesized 5 hypothesis regarding what called good corporate governance practices and argues that they cannot ameliorate block holders expropriation due to many circumstances found in the Chinese market as an emerging market. One pitfall of the study was that it used evidences from another markets to justify its arguments however, these evidences may not hold true to this specific sample which is the Chinese market for all the corporate governance practices mentioned in the study. the study discussed 5 best corporate governance practices which are: concentrated ownership, active board directors, separation of CEO

						and chairperson positions, outside or independent directors and presence of supervisory board. One of the study's significances was that it discussed principal-principal conflict rather than the often discussed conflict of principal agent. Emerging markets uniqueness comes from the presence of high ownership concentration, weak legal forms and institutions and the presence of pyramidal control over publicly held firms.
Adams & Ferreira (2009) Journal of Financial economics (A*) Theoretical and Empirical	What is the effect of women presence in boards on governance practices and performance?	Relating presence of women in boards to improving quality of governance practices and eventually corporate performance		DV: Governance variable IV: presence of women in boards using several measures	Regressions Endogeneity checks Causality tests	On the board out puts, women were found to be having better attendance levels than men. Women were also found to be assigned for monitoring committees more than men but the average impact of diverse board on performance was negative .the study insist on looking at endogeneity issues when handling diversity and performance relation as it is a complex relation that cannot be understood by handling simple relations. The study also do not support implying quotas to boards as this may jeopardize the firms value.
Simpson et al. (2010)		Reviewing descriptive			Descriptive statistics	The study focuses on the "business

Journal of Applied finance (A*) Theoretical Review		statistics of women on boards and link it conceptually to financial performance				case" of diversity where it affects the performance of the firm. The study tries to narrow the wide range of theoretical back grounds for the presence of women on boards (economics, finance, ethics, law, management, sociopsychology ...). The study concludes that evidence from previous studies are directed more to prove that there is an actual relation between diversity and performance. It also concludes that this relation may be contingent to certain circumstances in each institution including the ownership configuration of this certain institution. Due to endogeneity issues and complexity of this variable other solutions are proposed like considering a critical mass for women on boards in order to consider it as independent variable rather than just taking the proportion of women on boards. New methodologies may be used in order to over come endogeneity problems
Jonnergard & Staffsud (2009)	How does institutional settings affect	understand board activities	Institutional theory		Survey	It helps in better understand the development of

Journal of management and governance (A) Review	board activities?	through studying the changing in the institutional setting				board duties among a period of time which may help in development of national corporate governance systems instead of relying on the Anglo Saxon model of corporate governance. Board networks characteristics and board composition explain the change in board activities
Johnson et al. (2013) Journal of management (A*) Review		Analyzing previous research regarding board composition and its effect on performance				Research should be focusing on an appropriate level of analysis, improve measurement and use new methodologies in order to address conflicting and inconclusive results. The study also outlined the necessity to extend the current and existing research to uncover more complex relations. Extend theoretical links to human capital and social capital. Addressing endogeneity and provide more control variables to reduce the effect of reverse causality. the need to break the current ground of research is providing qualitative research and understanding. Conducting studies in new contexts rather than the US market

						or using single industry data
Barontini & Bozzi (2011) Journal of management & Governance (A)	What is the relation between firms ownership, board compensation and the firms future performance?	investigating the relation between firm's ownership, board compensation and firm's future performance	Agency theory	Ownership variables Board compensation variables Corporate performance variables	Regressions	The study link board compensation to ownership characteristics like ownership concentration, cash flow and voting rights and the type of controlling shareholders. The study tries to link the high compensation rates to accessing decent or higher professional standards. The study shows that board compensation is linked to many governance attributes but not future performance. The study contributes to the global call of remuneration reform
Nguyen et al. (2015) International Review of economics and finance (A) Empirical	What is the effect of presence of women in boards on performance in a transitional economy?	Providing an evidence for the presence of women in boards in a transitional economy characterized by weak governance practice like Vietnam	Agency theory & resource dependence theory	Regressions handling endogeneity issues	DV: firm performance IV: gender diversity using different proxies for it	Gender diversity has positive effect on performance even when using different proxies for gender diversity. The study also suggests that there is a potential tradeoff between the costs and benefits of board gender diversification
*Garcia – Meca et al. (2015) Journal of banking and finance (A) Empirical	What is the effect of gender and nationality diversity on performance in Banks?	Providing an evidence about the effect of diversity (gender, nationality) on performance in a single sector which is banks		DV: bank performance IV: gender and nationality diversity	regressions	Gender diversity promotes performance while nationality inhibits it. Moderating role for institutional settings on these relations. The existence of weak governance lows strongly inhibit the positive effect of presence of women in boards

Campbell & Minguez – Vera (2008) Journal of business ethics (A) Empirical	What is the relation between gender diversity and financial performance?	Adding an evidence from another context which is Spain on the effect of gender diversity on performance	Agency theory And resource dependence theory	DV: performance IV: gender diversity	regressions	Investors in Spain do not penalize firms appointing female directors and increasing female representation may provide economic gains
Nekhili & Gatfaoui (2013) Journal of business ethics (A) Empirical	What is the relation between ownership structure and female representation in France? What are the demographic aspects found in female directors? What is the relation between females in senior positions and firm characteristics and demographic attributes in female directors?	Provides an evidence about the insights of the relation between women directorship and firm specific characteristics and demographic attributes of female directors	Multiple theories	DV: number of women within board rooms IV: Ownership structure, corporate governance, company performance	Regressions	appointment of women is strongly affected by ownership structure of a firm and its size. Firms appoint director women for their professional services, network relations and valuable skills. Women face double glass ceiling to be appointed as directors
Sila et al. (2016) Journal of Corporate finance (A) Empirical	What is the relation between gender diversity and firm risk?	Providing an evidence on the relation between gender diversity and firm risk	Psychological theories	Presence of female directors Equity risk	Causality effects	there is no evidence on the influence of women on board and equity risk . the findings of negative effect between the two variables are driven by the unobserved factors in the in between relation
Liu et al. (2014) Journal of corporate finance (A) Empirical	Does gender diversity affect corporate performance in China?	Providing an evidence on the effect of gender diversity and performance from the Chinese context	Agency theory Resource dependence theory Token status theory Critical mass theory	DV: firm performance IV: gender diversity	Regressions endogeneity tests	Female executive directors have a stronger effect than female independent directors. Executive effect outweighs the monitoring effect. Gender diversity is significant in legal person controlled firms but less significant in state controlled firms
Low et al. (2015)	What is the effect of	Evidence from more than one	Agency theory	DV: Financial performance	Regressions	Female representation

Pacific Basin finance Journal (A) Empirical	gender diversity of boards on performance?	east Asian countries regarding the effect of women representation in boards n performance	Resource dependence theory Stewardship theory	IV: Gender diversity		has a positive effect on performance but this effect diminishes with higher female economic participation and empowerment. Enforcing female quotas may have negative consequences especially in countries with cultural resistance.
Upadhyay & Zeng (2014) Journal of business research (A) Review	What is the relation between ethnic and gender diversity and corporate information?	Providing a robust evidence regarding the relation between ethnic and gender diversity and firm's opacity	Groups behaviour theory	DV: Opacity index IV: ethnic and gender diversity	Uni variate and multi variate regressions	Negative relation between ethnic and gender diversity and firm opacity
Triana et al. (2016) Organization Science (A) Theoretical +Empirical	How does firm strategic decisions affected by firm performance and the power of women directors?	Providing an evidence that gender diversity and firm strategic movements is a double edged relationship that depends on the performance of the firm and the power of women directors What kind of boards that would be able to create change in times of threats like low performance levels	Threat rigidity theory	IV: gender diversity DV: firm strategic change Moderators: performance and women director power	Hierarchical linear regression	When boards are not facing threats and performance is not low and women have great power, relation between gender diversity and performance is positive. When boards are facing threats and performance is low and women in boards are powerful then the relation is negative. Suggesting a double edged relationship as it impede strategic decisions depending on the performance of the firm and the power of women
Kakabadse et al. (2015) Human Resource Management (A*) Theoretical	How does the relation between gender diversity and corporate governance operates?	Insights of the actual dynamics of the relation between gender diversity and board effectiveness and procedures			Qualitative study (interviews)	The presence of minority women in boards has an insignificant effect on board performance. Chairperson has a crucial role in increasing board diversity
Ntim (2015)	Does stock markets positively value	Providing a holistic view for the valuation of	Agency theory	IV: Gender diversity	Regressions Endogeneity checks	Gender diversity is positively valued by stock

Journal of management and governance (A) Empirical	ethnic and gender diversity?	stock markets to gender and ethnic diversity from emerging market with cultural difference like South Africa	Resource dependence theory	DV: performance		markets. Ethnic diversity are evaluated more positively than gender. There was no evidence On a significant non linear link between gender diversity and firm valuation
Khaw et al. (2016) Pacific Basin Finance Journal (A) Empirical	What is the relation between gender diversity, state ownership and firm risk taking activities?	Filling the gap of lack of evidence from emerging markets regarding the relation between state ownership , gender diversity and risk taking behaviors taking China as an example		Gender diversity Risk taking Ownership structure	Regressions endogeneity checks	Promoting women in boards may help in reducing risk taking behaviors that would harm corporations especially in emerging markets Governmental ownership could alleviate the effect of risk taking especially in emerging markets were lows are weak enough not to protect investors
Ruigrok et al. (2007) Corporate governance (A) Empirical	How does board diversity and nationality interact with board independence, number of directorships and other demographic characteristics ?	Providing an evidence from a European country n the relation between nationality and gender diversity and other board characteristics	Resource dependence theory Agency theory	Board composition variables	Descriptive statistics Probit regressions	Foreign directors tend to be more independent while women directors tend to be family affiliated to management through family ties . in order to benefit from nationality and gender diversity to the sake of firms national circumstances should be taken in consideration rather than relying on international research performed in other countries. When employing foreign and women directors there should be a prompt inspection for their qualifications and attributes
Solakoglu and Demir (2016) Management Decision	What is the effect of gender diversity on	The effect of gender diversity on corporate		Performance Gender diversity	Regressions	Weak evidence that gender diversity affect performance. The

(A) Empirical	performance taking in consideration firm specific factors in emerging market?	performance depends on firm specific factors especially in emerging markets				relation implies in firms targeting local markets, family owned or block owned by singly owner and in financial sector.
Abdulla et al. (2014) Journal of management and governance (A) empirical	What are the determinants of women presence in boards in Malaysia ?	The factors that may determine the presence of females on boards seats. Providing an evidence that gender diversity may not be supported by the business case but by tokenism	Agency theory	Gender diversity Board independence Family directorship	Descriptive statistics and correlations	Presence of women is positively associated with board size and presence of family connections. Positive association between board independence and presence of female directors. Presence of women is negatively associated with performance. Gender diversity is more driven by tokenism rather than the business case
Perrault (2015) Journal of business ethics (A) Review	How does presence of women by breaking male networks improve board effectiveness		Resource dependence theory		Qualitative research (interviews & archival + documentary information	Gender diversified boards are trustworthy by shareholders and viewed positively by active communities while homophile boards lack this trust
Bart, C., and McQueen, G. (2013) Journal of business governance and ethics Theoretical	What factors make women better directors?				Survey	Women are better when taking decisions in favor of stakeholders when competing interests on the stake . having a great proportion of female directors is a great resource for the company
Wang & Kelan (2013) Journal of business ethics (A) Empirical	What is the effect of gender quota on board chairs and COE?	understanding how gender quotas, presence of female directors, percentage of female directors on boards and other board characteristics can determine the gender of		Independence Age Qualification Board tenure Board interlock Nationality	Descriptive statistics Regressions	Gender quota has provided a fertile environment for women to be in leading positions. The presence of female chairs is positively associated with independence status, age and qualification. Firms with older and better

		top leaders of organizations				qualified women chair tend to add more women to the board . the likelihood to assign woman as CEO raises with the presence of independent directors and better qualified board chairs.
Bohren & Staubo (2016) European Financial Management Empirical	What is the effect of gender quota on board independence and firm value?	Forcing firms to apply gender quota increases independence of boards and at the same time it causes a shock leading to reducing firm value.	Trade off theory	Board characteristics Ownership characteristics General firm characteristics	Fixed effect regressions	Forcing firms to impose gender quota increases independence and decreases firm value. The gender quota shock is stronger in smaller firms and not listed firms with less independent directors and with less females directors.
Loukil & Yousfi (2016) Canadian Journal of Administrative Science Empirical	Does gender diversity on boards increase risk taking?	The impact of gender diversity on risk taking behaviour in a developing market (Tunisia)	Agency theory Resource dependence theory	Risk taking Gender diversity	Correlations and regressions	Women has risk perception that leads risk avoidance behavior. Presence of women increases cash rates . no significance in the relation between presence of gender diversity and the propensity to take financial and strategic risks
Marinova et al. (2016) The international Journal of human resource management Empirical	Does gender diversity have a positive effect on corporate performance?	Providing evidence from Netherlands and Denmark about the business case of gender diversity	Agency theory	Gender diversity Firm performance	OLS	There is no relation between gender diversity and firm performance in these contexts
Martin-Ugedo & Minguez-Vera (2014) Feminist economics (A) Empirical	What is the effect of gender diversity on SMEs ?	Providing an evidence on the relation between gender diversity and performance in SME's	Agency theory Resource dependence	Gender diversity Performance Family owners Corporate owners Financial risk Institutional owners	GMM regressions	The is a positive relation between gender diversity and firm performance. It also increases with the presence of family ownership but is diminishes with the presence of corporate ownership.

Pucheta-Martinez et al. (2016) Journal of business ethics (A) Empirical	What is the impact of institutional female directors on boards on performance?	The impact of pressure resistant female directors who represent institutional owners with no business relations with the firm	Agency theory	DV: firm value IV: Institutional women on boards	Regressions	Female institutional directors on boards enhance firm performance up to a point where they turns to negatively affect firm value.
Solakoglu (2013) Applied economics letters Empirical	What is the relation between gender diversity and firm performance?	Investigating gender diversity and performance relation using regression quantile approach		Performance Female percentage Financial measures Firm measures	Regression quantile approach	results show that gender diversity has a different effect on firm performance over the different points of the conditional distribution. For accounting-based measures, results provide some support that gender diversity improves performance for average or above-average performing firms. Furthermore, firms in the manufacturing sector that do not require quick decision-making respond positively to gender diversity, while firms in nonmanufacturing sectors either show no response or negative response
Sonfield & Lussier (2009) International journal for gender and Entrepreneurship Empirical	What are the gender differences in firms owned and managed by family?	Gender issues in family owned and managed firms		Leadership style Family member conflicts Succession plans Use of outside advisors Long term planning Financial management tools Founder influence Going public Formal vs. informal	Survey	No significant relationships between gender of family business owner-manager and ten management characteristics

				management style Debt vs equity financing style		
Tanaka (2016) Applied financial economics (Empirical) (B)	What is the effect of gender diversity on pricing of publicly held firms debt?	Linking gender diversity to the cost of debts	Resource dependence theory	Regression	DV: Yield spread Female directors (inside, outside)	Firms with female dependent directors enjoy lower cost of debt after controlling for corporate governance, bond and firm characteristics
Cheng et al. (2012) Accounting and Finance Empirical	What is the relation between managerial ownership, board of directors and firm performance?	Providing evidence that two ways of solving governance problem are substitutes in shareholders maximization	Agency theory	Ownership variables Board variables Performance	Correlations Multivariate regressions Endogeneity checks	At high and low levels of ownership, effective board mitigates entrenchment effect associated with managerial ownership, at the medium level of ownership board effectiveness is less demanded . managerial ownership and board monitoring are substitutes in mitigating agency problem between managers and shareholders. Board effectiveness curbs the excessive compensation of entrenched managers at low levels of managerial ownership.
Black & Khana (2007) Journal of empirical legal studies (Event study)	What is the effect of governance reforms on corporate valuations in India?	Provides an evidence that governance reforms enhance corporate valuations in India		Firm returns Governance reforms Control variable	Event study	Indian investors appreciates governance reforms. Large sized firms and cross sectional benefited more from the governance reforms
Chu (2011) Asia Pacific Journal of management (Empirical)	What is the impact of family ownership on firm performance?	Evidence on the relation between family ownership and firm performance taking in consideration the influence of family management, family control	Agency theory	Firm performance Family ownership Family management and control Firm size	Multiple regressions	Family ownership is positively associated with firm performance. The association become strong especially when family members are COEs or controlling the firm and weaker when they have

		and firm size				less control on the firm. This effect is more obvious in SME's rather than in large firms
*Filatotchev et al. (2011) Asia Pacific Journal of management Empirical + Theoretical	How does family control affects private information abuses and firm performance in emerging economies ?	Family ownership increases the risk of private information abuse	Agency theory	Risk Family ownership Firm performance	Correlations and regressions	Family control increases the risk of private information abuse to remain control on the firm which affects firm performance negatively
Globerman et al. (2011) Asia Pacific Journal of management Review	What are the contextual difference found in Asian companies that may be affected by governance reforms ? How could corporate governance in Asian companied be improved?	The factors that affect Asian companies' performance				Understanding incentives of block shareholders in Asian companies to address proper governance reforms to these incentives How to reduce principal-principal conflicts in Asian corporates
Sharma (2004) Auditing: A journal of Practice and Theory	What is the relation between governance and fraud?	The relation between governance and fraud in other context than USA in Australia		Institutional ownership Independence Duality Fraud	Regressions	Increasing percentage of independent directors and institutional ownership decreases the possibility of fraud. Positive relationship between duality and fraud
Bradbury & Hooks (2015) Australian Accounting Review	What is the effect of ownership differences and performance ?	Evidence from the companies from the same sector which is a natural monopoly	Agency theory	Ownership structure Performance regulations	Regressions	Listed firms have same profitability as council owned firms. And both of them outperform trust owned firms. These firms has less incentives to be profitable as they have different agency costs than other types of ownerships
*Zona et al. (2013) British Journal of management (A) Empirical	What is the role of board composition and firm size in innovation?	The moderating role of firm size in the relation between board composition and firm innovation using contingency	Contingency theory	DV: firm innovation IV: board size Board independence Board diversity	Regressions	Larger board reduce firm innovation No association between board independence and firm innovation High outside directors

		model				negatively affect innovation in small firms Board diversity is beneficial in smaller firms
Walter (2010) Copenhagen Journal of Asian Studies Historical Review	How does ownership Structures changed in Chinese Market?					The impact of Western Capitalism has made its biggest effect on the Chinese State owned enterprises by shifting it toward the western model which made huge improvement on the Chinese economy
*Minichilli & Huse (2007) Corporate governance (A) Review	What are the factors that should be taken in consideration in board evaluation?	Board evaluations helps in improving financial performance.				The agent evaluating the board, the content where this board is evaluated, the stakeholders that the board was evaluated for and the way that the board was evaluated by. These factors should be considered when performing board evaluations. As there is no universal way to evaluate them unless all the aforementioned factors were taken in consideration
**Orbay & Yortoglu (2006) Corporate governance (A) Review + Empirical	What is the impact of the identity and degree of concentration of ownership and mechanisms through which insiders and outsiders interact	Providing a better understanding for the dynamics of the relation between large stockholder, management and other stockholders in emerging markets	Principal-principal Agency Theory Traditional Agency Theory	Investment performance Dual class shares Ownership structures Pyramidal ownership	regression	Better investment performance in companies that do not deviate from one share one vote policy, by using pyramidal ownership structure , dual class shares and other devices that enhance the control of large stock holders on the firm beyond their cash flow rights. Business group

						membership improves investment performance
Kappes & Schmid (2013) Corporate governance; An international review (A) Empirical	How does family governance affect corporate time horizons?	Evidence that Agency outcomes differ in the context of family governance	Agency Theory	Time horizon Family firm variables Pressure variables	Regressions	Firms that are actively managed by founders were more long term oriented and they were more able than the control group firms to face the consequences of short term pressures
Hermalin and Weisbach (1991) Economic Policy Review (A*) Literature Survey	How does board of directors formed endogenously?	How do board characteristics such as composition and size affect profitability? How do board characteristics affect the observable actions of the board? What factors affect the makeup of boards and how they evolve over time?	Multiple theories		Survey	Board composition is not related to corporate performance Board size is negatively related to performance Board composition and size appear to be related to the quality of board decisions Boards appear to evolve overtime as a function of the bargaining power of the position of COE and other directors Firm performance, COE turnover, changes to ownership structure appear to influence changing to boards.
Schauten et al. (2011) European Financial Management (Empirical)	What is the relation between quality of corporate governance and the value of excess cash flows?	Comparison between countries following common law and civil law		Corporate governance Excess cash flows	Value regression	Value of excess cash flow is positively related to the takeover defenses scores only Spending od excess cash flow in low governance firms negatively influence operational performance

Fraile & Fradejas (2014) European Management Journal (A)	What is the relation between ownership structure and firm performance ?	Studying the effect of ownership structure on firm performance in a highly concentrated ownership structure context	Agency theory	Outsiders Independents Insiders ownership Blockholders ownership debt	Regressions	It is important to pay attention to block holders and differentiate between the figure of independent directors and the group of outsiders the results confirm a negative and decreasing relation between blockholders and the percentage of independents while insiders' ownership is only significant if one looks at the percent- age of outsiders as a whole, in which case it shows a U-shaped quadratic relation.
Miller & Breton-Miller (2006) Family business Review Theoretical Review	What the factors that make some family businesses outperform other family businesses?	Proposing 4 elements differentiate between family businesses	Agency theory Stewardship theory	Family ownership Family management Multiple family owners Multiple family generations Performance	Qualitative review of theories	Family business are very heterogeneous group resulting in conflicting results Family businesses perform well when they take advantage of the low agency costs and elicit stewardship attitudes among leaders and majority owners When ownership is too concentrated or too dispersed, too much control without ownership or when too many family members clash, the financial performance may suffer
Dyer (2006) Family Business Review (Review)	What is the family effect on performance of the firm?	Provide propositions that explain the effect of a family on firm performance	Agency theory Resource dependence theory	Firm performance Firm governance Firm characteristics Management (founder)		Family businesses are heterogeneous group that performance is dependent on many specific factors in each institution

Vafaei et al. (2015) Australian Accounting Review (A) (Empirical Study)	What is the effect of board gender diversity on firm financial performance?	Handled the weaknesses in previous studies	Agency theory Resource dependence theory	Firm financial performance Ownership structure Governance attributes	2SLS	The study found an empirical evidence on the business case of board gender diversity
He & Somer (2010) The Journal of risk and insurance (A)	What are the implications of separation of ownership and control on the role of board composition ?	Determining the effect of several ownership structure exhibited in insurance industry on the composition of board	Agency theory	Firm performance Firm specifications Ownership structures Board independence	Regressions considering endogeneity	Agency costs increase with the separation of ownership and control raising the conflicts between the two parties leading to increasing the need for outside monitoring by outside directors
Kummar & Zattoni (2016) Corporate governance: An international Review (A) Editorial	What are the rationales behind board gender diversity and firm performance	Discussing the rationales found in the literature behind board gender diversity by analyzing 4 of the highly cited papers in this area				The four papers in this issue contribute to the corporate governance literature by both exploring country-level antecedents of gender representation on boards, and analyzing firm-level consequences on firm performance. Thanks to these four papers, we gain a deeper knowledge of both the relation- ship between corporate governance, board of directors and firm performance
**Post & Byron (2015) Academy of management journal (A*)	What is the effect of board gender diversity on firm financial performance?	Providing a meta analysis explaining the mixed results of studies testing the effect of board gender diversity on financial performance	Multiple theories Upper echelons theory	Firm financial performance Board duties: supervisory duties & strategic decision making Gender diversity Female parity	Meta analysis	Board gender diversity is positively related to accounting performance when there is sufficient protection for shareholders rights . relation between gender diversity and market performance is negative in countries with low gender parity and positive in countries with high gender parity . gender diversity is positively

						related to board supervisory roles and strategic decision making.
Kummar & Zattoni (2013a) Corporate Governance: an international review (A) Editorial	What is the importance of firm level and country level variables in corporate governance literature?	Critical analysis of the current literature review and encouragement to include firm and country level variables in new studies				There should be a combination between the both perspectives or sufficient justification for each point of view
Mahadeo et al. (2012) Journal of business ethics (A)	What is the role of board gender diversity in emerging economies?	Providing an evidence on the role of firm specific characteristics found in emerging economies and their effect of corporate performance	Agency theory Resource dependence theory	Gender diversity Age Education Family ownership	regressions	Women remain poorly represented on corporate boards in emerging markets there is a relatively satisfactory level of heterogeneity in terms of educational background, age and independence in relation to developed countries. they found significant regression coefficients for all four variables in terms of their impact on short-term performance. these relationships are characterised by both negative and positive impacts thereby leading to discussions on the validity of a strict heterogeneous or homogeneous board composition in the context of a developing economy
Francoeur et al. (2008) Journal of business ethics (A)	How does the participation of women in board and top management would enhance firm performance?	The effect of presence of female in top management as officers or directors on the firm outcomes	Agency theory Stakeholder theory	Female officers Female directors Market to book ratio	Fama French three factor model	Firms operating in complex environment do achieve positive significant returns when they have female officers. Firms with female directors do generate good governance and value.

Morikawa (2016) Japan and the world economy (A)	What are the determinants of presence of women in boards in Japan?	Providing an evidence on the determinants for the presence of women on boards in the Japanese context	Tokenism theory	Ownership structure Firm size Industry Board size Presence of female directors or COE	Survey	listed and long-established companies, subsidiaries of parent companies, and unionized companies tend not to have female directors. Second, owner managed companies are likely to have female directors and CEOs. Third, we find no evidence of tokenism among Japanese companies, whereby female led companies do not appoint additional females as directors. To increase the number of female executives and directors substantially, creation of new businesses is essential.
Kaczmarek et al. (2012) Journal of management and Governance (A)	What is the role of board gender diversity in the relation between board interlocking and firm performance?	Providing an evidence on the moderating role of board gender diversity in the relation between board interlocking and firm performance	Agency theory Resource dependence theory	Firm performance Board interlocking Board characteristics Gender diversity	Moderated regressions	The results of the study supports the busyness hypotheses that is when interlocking is used excessively would compromise the firm performance . negative relation between interlocking and performance. Board gender diversity serves as a factor to increase board openness for ideas that would increase innovation and performance if used properly
Hafsi & Turgut (2013) Journal of business ethics	What is the role of board diversity in social performance?	The study provided a conceptual framework for the empirical	Resource dependence theory Agency theory	Social performance Diversity of boards (Size,	Regressions	Significant relation between board gender diversity and firm social

(A)	What is the role of board gender diversity in the strategic management of the firm?	evidence on the effect of board gender diversity in social performance		independence) Board demographics		performance Distinguishing between diversity of boards and diversity in boards The relation is moderated by diversity of boards . gender and age of directors has a significant role in social performance
Saeed et al. (2016) International business review (A*)	What are the determinants of board gender diversity in emerging markets?	Providing a comprehensive comparison between developed and emerging markets		Organization size Family ownership Corporate risk State ownership	GMM Descriptive analysis Correlation	board gender diversity is positively related to the firm size, and it is inversely related to corporate risk across both emerging and developed economies. Family control affects positively board gender diversity only in India, China, UK and US. However, in contrast to developed countries, there is some evidence to suggest that state ownership has a negative effect on board gender diversity in India and Russia
Gregory et al. (2013) British Journal of management (A)	Does stock markets gender stereotypes boards of directors ?	Providing evidence that stock markets underestimate female directors and stereotypes them to be less informative on the short run	Glass ceiling theory Signaling theory	Number of daily signals Market cap of firms Value of share traded Percentage of holding traded Trade value of percentage of market cap	Event study methodolog y	The study found that female directors tends to stereotyped by stock markets in the short run, however on the long run stock markets realize that female directors are not less informed than their male counterparts and the stock markets correct them selves to be evaluating the real performance rather than stereotyping board female directors

Fitzsimmons (2012) Business Horizons (A)	Which conditions lead to benefit from gender diversity and which ones leads to the opposite ?	Provide conditions under which organizations can reap the advantages of board gender diversity	Multiple theories		Critical analysis of previous studies	Firms who seek board gender diversity for improving governance or achieving gender parity should: enhance diversity culture, avoid quotas, reach critical mass for the right reason, professionalize the search method, valuing independent board members, actively search for qualified females, measure progress, setting diversity as a strategy and discuss team processes explicitly
Al-Shammari & Al-Saidi (2014) International Journal of business and management (NOT RANKED)	What is the effect of gender diversity on corporate performance in KUWAIT?	Evidence on the relation between gender diversity and firm financial performance in Kuwait	Agency theory	Gender diversity Firm performance	OLS regressions	The study failed to find a relation between board gender diversity and performance however, it lacks any consideration for endogeneity and causality which is an important element to address in such studies
Elstad & Ladegard (2010) Journal of management and governance (A)	Are women true influencers on performance or they are only tokens?	Providing evidence on hoe women reflect themselves in board dynamics to influence and hoe they see themselves	Tokenism theory	Gender diversity Self censorship Information sharing Board membership	Survey	Women were found to have high level of information sharing , low level of self censorship and high level of influence across board membership

Appendix 2 Study Sample

The culture	Country	Financial Market	Total Listed Firms (Study population)	Study Sample		Years
The Arab culture	**GCC Countries:**					
	Bahrain	Bahrain Bourse	43	**Total sample from sector:**	**39**	2017-2018
				Commercial Banks	8	
				Investment Sector	12	
				Insurance Sector	5	
				Service Sector	7	
				Industrial Sector	2	
				Hotel-Tourism	5	
	KSA	TADAWUL	171	**Total sample from sector:**	**131**	2017-2018
				Banks	11	
				Basic Materials	30	
				Capital Goods	5	
				Consumer Durables and Apparel	2	
				Consumer Services Sector	6	
				Energy	4	
				Food Production	12	
				Food Retail	4	
				Health Care	5	
				Insurance	15	
				Investment and Financing	4	
				Management and Development of Real Estates	10	
				Media	2	
				Non-essential Retails	6	
				Pharma and Biotec	1	
				Public Utilities	2	
				REITs	2	
				Telecommunications	4	
				Transportation	4	
				Vocational and Commercial Services	2	
	Kuwait	Boursa Kuwait	175	**Total sample from sector:**	**77**	2017-2018
				Banks	8	
				Basic materials	1	
				Consumer goods	2	
				Consumer services	7	

				Financial services	13	
				Health care	1	
				Industrials	13	
				Insurance	3	
				Oil & gas	3	
				Real estate	22	
				Technology	1	
				Telecommunications	3	
	Oman	Muscat Securities Market	116	**Total sample from sector:**	**52**	2017-2018
				Financial Sector	12	
				Industrial Sector	22	
				Services Sector	18	
	Qatar	Qatar Stock Exchange	46	**Total sample from sector:**	**19**	2017-2018
				Banks & Financial Services	5	
				Consumer Goods & Services	4	
				Industrials	3	
				Insurance	2	
				Real Estate	2	
				Telecoms	1	
				Transportation	2	
	UAE	Abu Dhabi Securities Exchange	66	**Total sample from sector:**	**61**	2017-2018
				Telecommunications	3	
				Investment and financial services	4	
				Banks	11	
				Insurance	15	
				Services	6	
				Consumer Services	4	
				Industry	11	
				Energy	3	
				Real estate	4	
		Dubai Financial Market	66	**Total sample from sector:**	**57**	2017-2018
				Telecommunications	2	
				Investment	8	
				Banks	11	
				Insurance	12	
				Services	2	
				Consumer and luxury goods	6	
				Private shareholding companies	2	
				Industry	2	
				Real estate	8	

				Transportation	4	
English Culture	London Stock Exchange	FTSE 100-list Companies	100	**Total sample from sector:**	**100**	2017-2018
				Communication Services	8	
				Consumer Discretionary	16	
				Consumer Staples	10	
				Energy	3	
				Financials	18	
				Health Care	5	
				Industrials	15	
				Information Technology	3	
				Materials	14	
				Real Estate	3	
				Utilities	5	
French Culture	Paris Stock Exchange	SBF120 List of Companies	120	**Total sample from sector:**	**120**	2017-2018
				Communication Services	12	
				Consumer Discretionary	17	
				Consumer Staples	6	
				Energy	5	
				Financials	13	
				Health Care	10	
				Industrials	26	
				Information Technology	11	
				Materials	8	
				Real Estate	7	
				Utilities	5	