The Effect Of Corporate Governance On The Intellectual Capital Disclosure; Evidence From Jordan.

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Abstract:

As the modern economy becomes more and more reliant on Intellectual Capital (IC), so businesses assets structure dramatically changes towards intangible assets. This has built the appetite for researchers to examine IC from different angles. Some have examined the concept and the components of IC, some have examined the measurements of IC while others have examined the effect of IC on the performance.

This study offers a genuine contribution to the literature as it departs from the main stream of prior research's concentration on the concept and the measurements of IC; instead it focuses on examining the relationship between Corporate Governance (CG) and ICD quantity and quality. Also, this study contributes to the literature by offering evidences based on data form a brand-new research context: a geographical area that has been previously neglected by the research community.

The data relating to IC has been captured through a disclosure index. The index is adopted from prior studies after bening customised to take into consideration the specific feature of Jordanian economy and the social, cultural, and political climate. Also, the disclosure index has been developed to allow the researcher to measure ICD quality. The data been collected from corporate annual reports which pertain to 100 listed in the Amman stocks exchange (ASE) which account for 75% of the total market capitalisation. Descriptive statistics and panel regression models are used to analyse the collected data. In addition, semi-structured interviews have been conducted to validate the results of the regression model and to provide a more insightful explanation of ICD in Jordan.

This study provides a comprehensive picture of the ICD patterns in Jordan. And, it provides a detailed explanation of the relationship between the CG and the level and quality of IC information shared by Jordanian companies through their annual reports. This study reveals that not all IC items are of the same importance to Jordanian companies: focus seems to be on structural capital among the IC sub-capitals and within the structural capital, the focus was on the corporate strategy and IT systems. Meanwhile, the effect of CG mechanisms varies on ICD. There is a significant positive effect found for foreign ownership, institutional ownership, audit committee characteristics and having a CG committee within the board on the ICD levels or quantity of the information while the family ownership found to be negatively affect the ICD. Moreover, institutional ownership, audit

committee size and independence were all found to significantly affecting the variance of the ICD quality.

The present study has provided significant empirical evidences that will help in generating additional improvement of the state of knowledge in relation to IC disclosure and the effect of the CG on the level of transparency and the quality of information both empirically and methodologically. It provides information users, preparers, regulatory bodies as well as academics with a state-of-the-art understanding of IC disclosure practices in the annual report.

Keywords:

Intellectual Capital Disclosure, Content Analysis, Annual Reports, , Corporate Governance, Amman stock exchange, Jordan.

Dedication:

I dedicate this humble piece of work to the memory of my late father who I am sure will celebrate my success somewhere up in haven; and to all cancer's victims and survivors around the world.

Acknowledgment:

I remain grateful to all who have contributed in many ways to the successful completion of this humble piece of work. I would first and foremost offer unconditional praises and thanks to ALLAH THE ALMIGHTY for His guidance, enlightenment, care and blessings throughout all my life and during this PhD journey.

Enormous thanks to my supervisor Dr Renata I. Stenka for all what she has offered me since accepting me under her supervision, also, for the academic guidance, professional advice and care she provided me throughout my endeavour. Besides, I must pay a tremendous thanks to Professor Patrick Gagliardini, The Dean of Faculty of Economics, Universita della Svizzera Italiana; for being generous with his time and for his kind help during my learning of econometrics and my training on the statistical analysis that are applied in this thesis.

My deepest, most sincere and boundless gratitude to my mother who constantly prays for me as well as keeping me, at all time, within her thoughts.

My late father; I must acknowledge his effort, toil and charisma, and even his battle against cancer remain a source of inspiration to me. I am indebted to your approach in bringing up me and my siblings and equipping me with the grit and perseverance that allow me to finish this journey.

My family remained supportive to me in this endeavour with the unlimited love and support they have offered me since the day I waved my hand in farewell - especially my sister Amani. My brothers, my uncle Mohammad and aunt and my in-laws - you are all fabulous: thank you all.

During working on this PhD project, I have been privileged enough to work with a team of other PhDs and research staff at the School of Business informatics, Systems and Accounting (BISA) at Henley Business School, University of Reading. I do highly appreciate their friendship, warmth, cooperation, and contributions, especially my dear friend, honest colleague and my neighbour Abdullah M. Aldosari and his family: they remain all the way a source of support and joy for me and for my family.

Also, I would like to acknowledge the support, love, care and endurance of my wife Rawan, as she has empirically proved that “behind every successful man there is a woman”. Given that I am successful! And of course, my guardian-angel “my sweetheart daughter” Amani “the apple of my eye”: she is always source of joy, happiness, strength creativity and inspiration.

The academic staff in BISA including professor Keiichi Nakata and Professor Ke-Cheng Liu and the Head of PGR Accounting, Dr Jessica Yang my assessors during all assessment procedures, my examiners for the confirmation and every single one of the faculty and staff, the IT desk, the kind people of UoR-SSC, especially the deputy director of the centre Mr Elessandor Leidi:- all of them collectively have been kind, cooperative and supportive and of course I will not forget the admin team they all were keen on making mine and my colleagues' research easier and more comfortable.

Professor Khaled Hussainey form The University of Portsmouth for his kind advice and guidance during the development of this research's instrument, he was so generous in his time and effort to provide the final review for the disclosure indices used in this research; so thank you professor Khaled.

Last but not the least, I wish to acknowledge the comments and feedback I received from the chair and the participants in the BAFA conference Durham, 2017; and the reviewers and the participants of the 9th European conference on intellectual capital, Lisbon, 2017; and the chair and participants of the BAFA conference Newcastle, 2016. Their insightful comments enlightened my research and opened my eyes to new approaches and new ideas. And I can't deny benefits I gained from presenting my early version of "before confirmation" work in the BAFA doctoral conference 2015, Manchester and in British Academy of Management (BAM) research conference 2015, Portsmouth.

Fnally, I do thank all those who agreed to take part in the interviews despite their huge responsibilities: due to the nature of the research, their names are not listed. Thank you all.

Declaration

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Related Papers and Conference Papers

The effect of the governance structure on the intellectual capital reporting; evidence from Jordanian listed companies. (2017) The British accounting and finance association, Financial reporting and business communication. Durham Business School. 6-7, July,2017.

The patterns of the Intellectual Capital in the emerging markets; Evidences from Jordan, (2017). 9th ECIC, Lisbon April, 2017. https://www.dropbox.com/sh/r0wkw4uyuz72je2/AADQ4n-QAX5v9s_bLHrPcKbta?dl=0

The Effect of Corporate Governance on The Intellectual Capital Reporting; A Critical Review of Literature. (2016) British Accounting and Finance Association. Emerging market AFEE special interest group; University of Northumbria, 25th November 2016. https://www.essex.ac.uk/ebs/documents/16-AFEE-Workshop-Programme.pdf

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List of Abbreviations

AFM Amman Financial Market

ASE Amman Stock Exchange

JSC Jordan Securities Commission

CCD Companies' Controller Department

GAM General Assembly meeting

GM General Manager

GT Grounded Theory

GCC Gulf Cooperation Council

CEO Chief Executive Officer

IIRC International Integrated Reporting Council

IR Integrated Reporting

IAS International Accouhnting Sandards

IFRS Internationa Finanacial Reporting Standards

IC Intellectual Capital

ICD Intellectual Capital Disclosure

IMF International Monetray Fund

JCGC Jordan Corporate Governance Code

JCL Jordanian Corporate Law

JSC Jordan Security Commission

CBJ Central Bank of Jordan

OECD Organization for Economic Cooperation and Development

R&D research and development

PSC Public shareholiding Corporation

SDC Securities Despository Centre

1 Introduction

1.1 Study Overview

As the beginning of the twentieth century has affected by the industrial revolution, the machinery and fossil-fuel industry explosions, the ending of that century has been affected by the introduction of a knowledge-based economy. This knowledge based economy and the huge investment in the intangible assets including: R&D, media industry, PR, and the information and telecommunication industries collectively have led to a brand-new component of the economy and a very promising production input i.e. Intellectual Capital or the intangible assets (Lev & Zambon 2003). Intellectual Capital (IC) which according to Zambon, (2016) recently forms a *scholarly-hub* and is a timely and very important topic not only for academics but also for professionals, analysts and policy makers (Zambon 2016). As a result of significantly increasing value of intangible assets and the sheer shift towards a knowledge economy (CIPD & PIRC 2015), questions about (IC) can be insurmountable without having a clear definition of the capital itself. This will definitely change according to the context, as many types of capitals have been introduced by scholars since the beginnings of capitalism. The concept was initially introduced in the mid 1870’s by Sir Adam Smith, who defined “Capital” as the resources invested now to gain future benefits. That definition was derived from his theoretical concept for the production according to his philosophy. The production process consists of four factors namely: “Land”, “Capital”, “Labour” and “Entrepreneurship”. Hence starting by approaching the literature for a generic definition of “Capital”; we can find different types of “Capitals”. The best and the most overarching classification is that the one offered by The Technical Task Force of the International Integrated Reporting Council (IIRC) (2013) which introduced a six types (classifications) for the capital according to the figure shown in the right side of the text.

Moreover, IIRC offered a comprehensive definition for each type of these “Capitals” which mentioned below: -

Financial Capital: This is generally perceived as the pool of funds available to entities. This includes both debt and equity finance. This description of financial capital

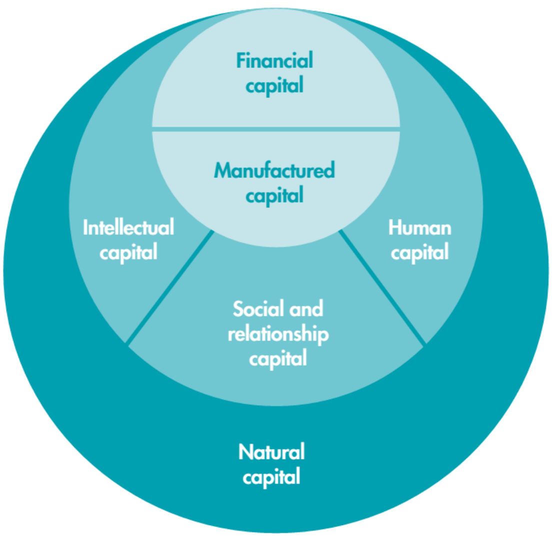

Figure 1.1 Types of Capitals (IR, 2013)

emphasises the source of funds, rather than how they may be used, which results in the acquisition of manufactured, intellectual or other forms of capital.

Manufactured Capital: This type of capital is defined as the production-oriented, human-created, instruments, equipment and tools that are used for production process.

Intellectual Capital: According to IIRC Intellectual Capital includes all knowledge-based assets such as intellectual property, tacit knowledge, systems and protocols. Intellectual Capital is a very important component in the firm's future prospective profits, with a tight link and contingency between investment in R&D, innovation, human resources and external relationships, which can determine the firm's competitive advantage (Mouritsen 1998; Naidenova & Oskolkova 2010). Moreover, the literature e.g. (Botosan & Review 1997; Guthrie & Petty 2000; Dumay 2009) mostly agreed on identifying the following three subcategories for the IC:

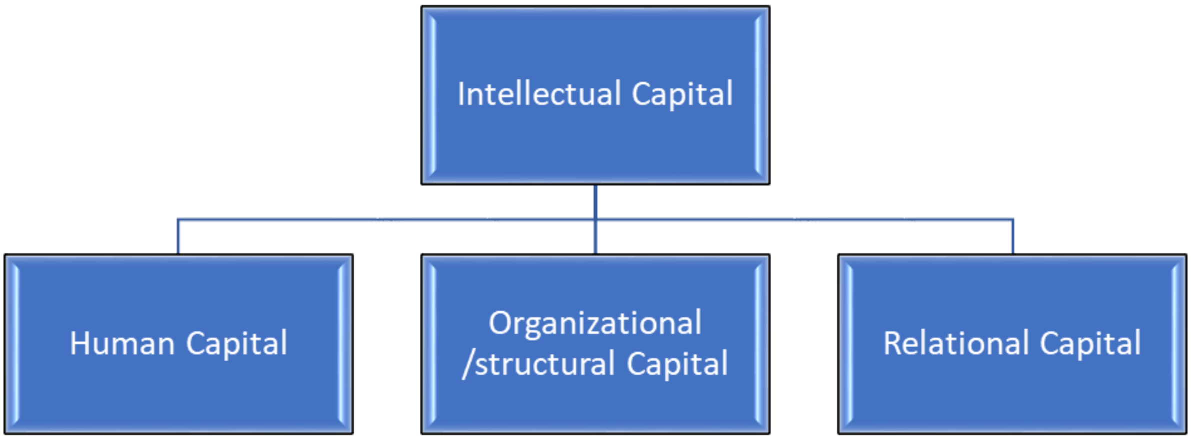

Figure 1.2 IC sub-components

Human Capital: This is introduced as the collective abilities, competencies, skills and/or experiences carried by the firm's employees in the form of tacit knowledge.

Social & Relational Capital: This refers to the relationships, networks, agreements and any other kind of connections between the company and the groups, communities, stakeholders and other parties involved, affecting the firm's business or affected by its operations.

Natural Capital: this includes resources, such as wood, fisheries, water (oceans, seas or rivers, minerals, etc., that could be utilized by humans to produce goods, services or other resources. Another definition for natural capital introduced by Wackernagel et al. (1999), where they define "Natural Capital" as all the natural resources taking part in creating and/or of supplying human wealth, examples would be, timber, winds, tidal power and minerals.

It is notable that the IIRC separates Human Capital and "Social" and "Relational" capitals from the Intellectual capital despite the extant literature, which introduces human capital and relational capital as subcategories of IC. They justify this separation by the following: -

1- There are some aspects of human capital and social capital that could be downplayed if considered as part of intellectual capital e.g. (recognition of human capital and the trust and shared values under social capital).
2- Separation of these items as independent categories of capital will help in understanding their value and better understanding of the proposed capital model.

However, for the purpose of this study, the researcher will consider human capital and relational capital as components of the IC, following the extant literature (Edvinsson 1997; Guthrie & Petty 2000; Mouritsen 2003; Guthrie & Boedker 2006; Dumay 2009)[1]. Which also overlap with pioneering practices in industry example: (Edvinsson 1997; CIMA 2003). In addition, Jordanian companies (study context) still have not employed the integrated reporting yet. Thus, as the current practice of ICD within Jordanian companies stick to the three dimensions IC (structural, human, relational).

This study aims to examine the Intellectual Capital Disclosure (ICD) patterns in publicly-held companies in Jordan and the relationship between ICD and Corporate Governance (GC); this is still one of the most timely and controversial topics in accounting's concurrent stream of research. (Serenko & Bontis 2009). (Serenko & Bontis 2004). John Kenneth Galbraith as cited in (Sveiby, 1998), was the first to introduce the modern concept of IC. When he (Galbraith) wrote in a letter to the well-known and highly distinguished European economist Michael Kalecki saying "*I wonder if you realize how much those of us in the world around have owed to the intellectual capital you have provided over these past decades*", and he meant Kalecki's Intellectual Productions [Books, Articles…etc.,]. Since that time many definitions and related concepts have been introduced. Some definitions, such as (Brooking, 1996 (P.12); (Mouritsen et al. 2002)) refer to IC as the value of the intangible assets of the firm. Researchers as just mentioned before; have divided IC into two categories, non-financial and non-physical resources that create competitive advantages (e.g. OCED, 1999; Roos et al., 2005 and Jussupova et al., 2007). A threefold classification of IC was introduced by researchers like Sveiby (1997) and Guthrie & Petty (2000). The former categorizes it into structural, human and organizational capital, while the latter alternatively classifies it into external structure, internal structure and human capital. CIMA (2003) offered a more overarching and comprehensive definition of IC, where it refers to it as: *"….the possession of knowledge and*

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[1] This also agreed amongst professional bodies e.g. (EY 2013; PricewaterhouseCoopers 2012; CIMA 2003)

experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organization a competitive advantage".

Despite the various advantages of the reporting of value creating intangible resources, corporate practices, in both developed and developing countries, are still weak in the field and perform below expectations (Li et al. 2008). In a recent study, Bellora & Guenther (2013) found low levels both on quantity and quality of voluntary intellectual capital disclosure of 51 European firms. This therefore, exacerbates the information asymmetry problem and makes deficiencies in the allocation of financial resources in the capital markets (Li et al. 2007). However, this raises many questions inncluding: why companies do not pay sufficient attention to ICD, what are the common categories of ICD, and what are the determinants of amount of ICD?

1.2 Corporate Governance

It is well known that sound corporate governance mechanisms will lead to enhancing the forms and quantity of corporate disclosures (Aljifri et al. 2014). Agency theory provide the theoritical linking between the CG and voluntary disclsosure, where the governance mechanisms intend to reduce the agency problem which arise due to management and ownership separation. In addition, Literature (Li et al, 2008; Aboody and Lev, 2000) suggest that information asymmetry between the investors and the managers is expected to be wider in IC reliant companies more than physical capital reliant companies, due to the unique nature of the IC which make it vague for informatin users without a sufficient details about the items, classifications, costs and future plans and expected growth. Finally, reporting on IC is still not well regulated in comparison with tangible assets which appear on the face of financial statements. All these reasons highlight the importance proper CG mechanism to safeguard the intangible assets and secure a sufficient level and good quality of ICD.

Many studies have proven the existence of an impact of different proxies of corporate governance on the levels and nature of ICD practices (e.g. Keenan and Aggestam, 2001; Cerbioni and Parbonetti, 2007; Li et al. 2008; Li et al. 2012 and Moeinfar et al. 2013). Thus, companies that possess a robust and sound corporate governance system and an effective board of directors as well as effective board level committees (e.g. Audit Committee and Nomination and Remuneration Committee) are normally associated with higher level of transparency and a greater extent of disclosure. This is empirically proved in many different contexts (e.g. Ben-Amar and Zeghal (2011); Donnelly and Mulcahy (2008); and Andrea et al (2008)). Likewise, Nor, et al (2015) as they investigated the relationship between the corporate governance and the R&D disclosure which is one subcomponent of structural capital. They examined 187 annual reports of a publicly-listed company in Malaysian stocks exchange. This was used to assess the effect of corporate governance on the "board structure, ownership structure and audit firm size". Controlling for firm size, leverage and performance, they found that government ownership has a positive effect on the R&D information in annual reports and they failed to show any significant relationship between R&D disclosure and other independent variables. In contrast, poor governance mechanism may lead to loopholes or allow more opportunistic behaviour for the managers (Devos et al. 2015) and this eventually will jeopardise other stakeholders' interests.

Despite IC significance and importance for firms and for nations as well, its need to be closely monitored. There is a significant need for transparent control mechanisms to be developed that will ensure that these vague sources of wealth are not being misused by the executive managements. Thus, the importance of the Corporate Governance (CG) for investment in IC is of a fundemental essential. CG is defined as the system that defines the rules and guidelines for managing the firms (Hagiu & Bărbulescu 2016). Another definition for the CG introduce it as a set of policies, procedures and mechanisms that determine the way in which business is run. Solomon, (2013, PP.11-13). According to the Oxford Dictionary for Finance and Banking CG is defined as "The means in which entities, principally limited liability companies, are directed and the means of accountability of the managers to the owners". This topic has been of increased importance since the publication of the Cadbury Report (1992), which set out guidance in a Code of Practice (the Cadbury Code). Furthermore, the collapse of companies like, Barings Bank, Enron and WorldCom; contribute further to drawing the public's attention toward the importance of the CG and the effectiveness of the board of directors in supervising the executive managements.

1.3 Motivations of the study

The widely-recognised importance of the IC in creating value, leveraging firms market value, and enhancing its operations performance and connectedness to outer parties magnifies the necessity of providing sufficient and reliable information about such resources. Other parties (including potential investors, creditors, financial analysts, and suppliers) need adequate information about IC to allow them to make a proper judgment and informed decisions. Thus, it is the role of CG system to ensure adequate disclosure relating to this value driver and furthermore, the information disseminated by management should be reliable and trusted which can be achieved be ensuring a sound internal control system as an integral part of proper CG system.

Proper CG system in companies has a crucial role in enhancing the transparency and enforcement of voluntary disclosure about the IC which otherwise can be easily manipulated by management either by passing inaccurate information or by withholding information to achieve gains by taking advantages of the information asymmetry. Hence, a sound and strong CG system is a greater necessity in IC intensive firms because the IC and intangible property can widen the information asymmetry: information users can be either misled or misunderstand the financial and operational position for such firms. Furthermore, transparency and information availability can reduce information asymmetry and allow accurate estimations can be made by the investors and analysts as well as other stakeholders. Thus, examining the relationship between the CG and ICD seems to be a very interesting and challenging field of study. It also can bring many benefits to the companies, analysts, investors as well as for both academics and professionals by advancing knowledge and providing new empirical evidence about the possible effect for the CG and ICD: this is the primary motivation for this study. Moreover, this study can be of a great aid to the policy makers either in Jordan or other Arab countries in planning and the policies concerning the IC. It can reveal how IC can be used to increase the firm's value and facilitating the access to capital market as well as providing proper allocation of resources. In addition, legislators will benefit from the deliverables of this study by shedding light on the importance of creating a legal framework for disclosure with regard the IC components. Finally, the following points summarise the motivations of the current study:

First, studies, that have investigated the determinants of IC voluntary disclosure in annual reports are still underdeveloped. Furthermore, the studies that have examined the drivers of ICD in annual reports, despite being a few; they have considered only firms' characteristics (e.g. (Li et al. 2008; Abeysekera & Guthrie 2005; Abeysekera 2008; Dumay 2016; Guthrie & Petty 2000), with limited evidence regarding the corporate governance variables (e.g. Li, et al., 2008; Li, et al., 2012; Nor et al., 2010; Nekhili et al., 2012; Nekhili et al., 2015). Thus, this study is motivated by exploring a new evidence on the relationship between CG and ICD.

Second, exploring the difference across countries regarding the ICD is another motivation for introducing helpful insights into ICD practices in the annual reports of the Jordanian firms. Furthermore, this study examines the relationship between corporate governance and IC different forms of disclosure (narrative, numerical, and visual) for a respectively big sample of listed firms in ASE, to the best of my knowledge, the studies that have examined IC voluntary disclosure in annual reports conducted in many countries such as UK, US, Australia, and Scandinavian countries; while the developing countries been neglected by research community; which represents a gap in the extant literature and this study aims to address.

Third, as mentioned in the second point this study comes to fill the existing gap in literature by considering new empirical evidence for the effect of the CG and ICD based on newly explored research context with wide applicability as the results that will be concluded based on Jordanian context are generalized to other Arab and MENA countries due many similarities between these countries.

Fourth, morover, this study aims to address the call for more research to examine the ICD e.g. (Schaper et al. 2017; Sudibyo & Basuki 2017; Aljifri et al. 2014; Dumay 2016) who called for more studies in IC field to deepen the understanding of the ICD phenomenon.

Fifth: another motivation for take the burden of this study is the potential benefits for the people in business, policy makers, analysts and researchers who interested in IC and ICD phenomena. The expected outcomes of the current study will provide a clear picture and deeper understanding of the ICD practices in developing countries with a state of art evidences that provide a full picture of the current situation and what could be developed either in terms of the practices and/or the regulations.

1.4 Research Objectives

This study aims to examine the effects of the corporate governance on the ICD. Accordingly, a survey will be carried out on the annual reports of the Jordanian listed companies to collect the data relating to the board of directors and governance mechanisms adopted by them and the level of disclosure about the IC items based on a specially developed research: the disclosure index. Therefore, the research objectives are summarised by the following points: -

A) Extending the understanding of IC and ICD by identifying the patterns of ICD among the Jordanian listed companies and the trends of ICD within the study period.
B) Providing a new evidence from an underresearched geographical context about the relationship between the CG and ICD.

1.5 Research Questions

Despite the reality of having a plenty of accounting literature that has dealt with the corporate voluntary disclosure; studies in ICD are still rare and feeble (Cuozzo et al. 2017; Abdifatah Haji Ahmed & Nazli A Mohd Ghazali 2013; Li et al. 2008). Besides, the existing literature in IC generally and in ICD has focused mainly on the developed countries and overlooked the developing nations (Dumay & Cai 2014; Morariu 2013).

MENA region as one of the most populous and geographically large area formed of many developing countries with great economic and scientific potential has been neglected by research community and exploring this region with empirical study on ICD and the effect of CG on the ICD will provide a great contribution to the extant literature. However, due to the time, resources and scope limitation it would not be possible to conduct the research on all MENA countries but due to the shared characteristics between MENA countries including the cultural, demographical, geopolitical and historical similarities doing the study over a sample from one country in the region (Jordan) will help to understand the full picture of the ICD in the whole region. Thus, the current study will explore the ICD phenomenon and its determinants focusing on the CG factors due to the rapid development in regulations and regulatory framework that organize the business environment and the governmental serous endeavor towards developing the financial market and investment environment targeting efficient and fully transparent market.

This study which as in the stated objectives will address the existing gap in literature and answer the calls for more studies in developing countries will try to answer the following questions:

1- What are the current practices of ICD in Jordanian listed companies?

2- To what extent does corporate governance affect ICD quantity and quality within the Jordanian listed companies?

Thus, an empirical longitudinal study will be carried out by the current PhD to understand the ICD

practices as well as the causal relationship between CG and ICD. As discussed in detail in the methodology section the research questions will be answered based on data collected from corporates annual reports using a disclosure index to capture the data relating to the ICD quality and quantity and a check list for the CG variables.

1.6 The Structure of the thesis

The current thesis is organised in two sections and seven chapters. The following diagram summarise the orgnisation of this PhD thesis:

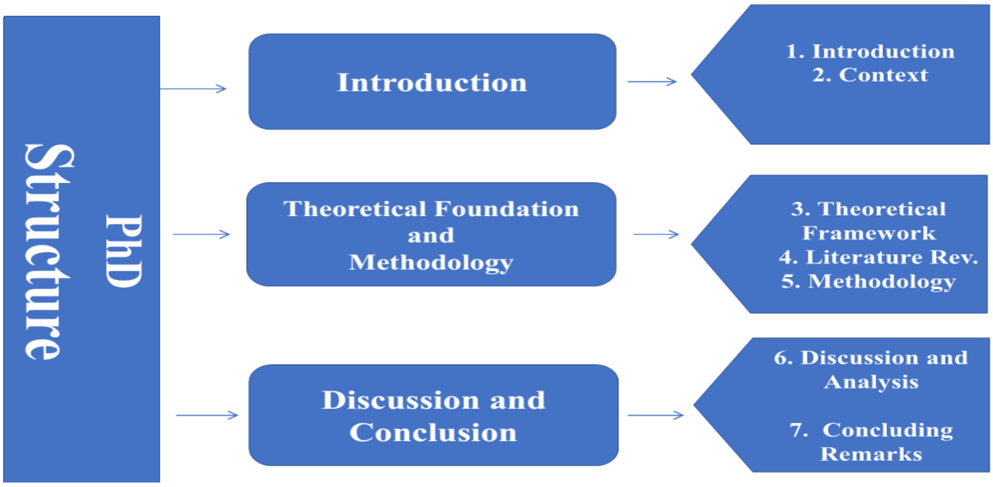

Figure 1.3 Thesis Organisation

this thesis is formed of seven chapters:

The present chapter includes an overview of the PhD project and summary of the research aims and objectives, research questions and the description of the general structure of the study.

The remainder of this theses is orgnised as the following:-

Chapter 2. Includes the description of the study's context (Jordan) and the justification of choosing that context as Jordan provide a very interesting research context due to numerous factors including: it's economic and political situation as developing country and emerging market, ability to generalise the resutls to other Arabian countires and MENA countries due to the similiarities and other factors mentioned in detail in chapter 2. Also, chapter 2 gives an overview of the regulatory framework for that context as well as the financial market and economic affairs for the country and how this interact and affects the phenomena investigated in this study.

Chapter 3. This chapter provides a brief presentation of the broad range of theories that have been tested and proved to provide an explanation and justification of voluntary disclosure in general and the ICD specifically. The suggested theoritical framework to explain the ICD presented to facilitate the understanding the conceptual foundation for ICD.

Chapter 4. A comprehensive literature review provided in chapter five. The current study is keen to provide all views and critically discuss all the prior studies in the field of ICD. The determinants of ICD and the link between the CG and ICD. The gaps in literature also have been identified and strategies of how the current research will address these gaps.

Chapter 5. The fifth chapter of this thesis discusses the used methodology, research reasoning, ontological stance of the study, research paradigm and the justifications made for choosing the current research methods and methodology. Also, this chapter has showed the process of developing the research instrument and data collection processes.

Chapter 6. In chapter six the thesis provides a detailed description of the data including a descriptive analysis and discussion of the patterns of ICD sectorial analysis. Regression models for both level and quality of ICD discussed and the regression analysis results presented.

Chapter 7. The concluding remarks are provided in chapter seven. This includes the summary of the study's findings, applications and implications, recommendations to the industry and policy makers and of course its contributions. In addition, this chapter includes a brief discussion of the study's limitations and areas for further research.

1.7 Summary

This chapter has provided an overview of the current thesis aims and objectives, motivation, research questions and this thesis' structure and organisation.

This PhD project comes to fill existing gaps in accounting literature and especially in the field of IC; it empirically examines the effect of CG on ICD. IC has become a very researchable topic and a very important issue for the professionals, academics and for policy makers. This is related to the continuous shift towards a knowledge economy and societies thriving on technologically smart solutions: this calls for a huge and continuous investment in IC and IC's infrastructures. Thus, the IC starts and on unceasing bases to occupy bigger space in the companies' books.

Nevertheless, IC despite its very significant importance for the businesses and for the societies as well. It needs to be closely monitored and develop a much improved level of transparency to ensure that this type of assets is not misused by the executive management. Hence, a strong CG system is really needed to guarantee that the facts and information about IC will be shared and made available for the interested parties on timely basis.

This study is motivated to explore a new context and deepen the understanding of ICD patterns and to examine the relationship between the CG and ICD as the topic is timely and debatable. Prior studies in the IC field have failed to offer a conclusive and prepossessing opinion about the relationship between the CG and ICD. The current study aims to extend the understanding of ICD motivations and limitations by examining this phenomenon in an overlooked context neglected by the research community. Also, this study aims to offering an empirical evidence to explain the relationship between CG mechanisms (board structure, and ownership structure) and ICD either in terms of level of disclosure or the quality of information.

2 Study context

2.1 Introduction

This chapter will show the background and the relevant information concerning the present study's context. The social and demographical characteristics of Jordan will be briefly summarised. The characteristics of the Jordanian financial market will be discussed and the legal and regulatory framework also will be discussed including a brief discussion of the characteristics of the Jordanian economy and the different economic sectors.

2.2 Jordan

Jordan a middle east country. It is now, considered as a developing country, classified by the World Bank in 2016 as an upper middle-income country with a GDP of about USD 39 Billion[2]. After being awarded the status of an independent state by Britain in 1921, five years after *Sykes-Picot* agreement between the French and British to divide the Ottoman Empire territories: this led to the creation of new countries including (Iraq, Jordan, Syria, Lebanon, and Palestine were given a special status, Egypt was under British administartion, Algeria, Tunisia, Morocco, Mauritania, were under French direct conquest and Libya was aministered by Italy[3]), (Thomas, J., 1971). Jordan remained under the British administration until 1946; or as known "Mandatory of Jordan"[4] this impacts on the Jordanian institutional and constitutional structure. As on one hand the former British administration remains the role model for the bureaucratic style of public administration. And on the other hand; there is a tendency in Jordan to mimic regulations and legislative change in the style of this colonial legacy, resulting sometimes in form without achieving the prerequisites in substance.

Jordan faces many challenges which will be discussed in detail later in this chapter. It is not privileged with natural resources and the economy is partially dependent on international aids and support basically from the west and some other oil exporting Arab countries.

Since the establishment of the state, the economy has been suffering from many challenges. The public finances of the country suffer from many deficiencies and chronic problems. These include

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[2] For more details, please visit the world bank website: - https://data.worldbank.org/country/Jordan

[3] These countries in addition to modern Turkey share many similarities including cultural and religious similarities, language, political and social structure.

[4] http://www.britishempire.co.uk/maproom/transjordan.htm

high tax avoidance, long-lasting high-levels of unemployment, unstable political and geographical area and poor utilization and allocation of resources.

Jordan is heavily dependent on foreign aids. And at the absence of a real heavy industries (cars, ship building, machineries and tools, mining, and exportable goods) the Jordanian balance of payment is heavily depends on overseas remittances, tourism, and a few raw materials exports (basically Potash, Phosphates, and seasonal fruits and vegetables): these are the main sources of foreign currency earnings which are used to pay for the imports which are basically energy, food, feed machineries, medicines and defensive equipment. Unlike its neighbouring countries, Jordan suffers from a lack of oil, gas and coal reserves.

In the decades following the award of independence, the 1950s and 1960s the Jordanian economy was totally exhausted, largely caused by Arab coalition's defeat the protracted war against the state of Israel[5]. At this stage the economy was small, limited and fragile. The infrastructure was damaged and obsolete. Even the demographical structure was unstable and has remained so auntil the present day. This unfortunate situation became the norm in Jordan and it further degenerated when Jordan has lost some of its most agricultural productive area to Israel in 1967.

Between 1969-1970 Jordan, experienced a form of civil war between the Jordanian regime's military and the Palestinian militias who thought at that time the regime in Jordan had played a role in the establishment of Israel. The socio-political situation did not help the Jordanian economy to grow and in the 1987, due to the sharp decline in oil price, oil exporting Arabian countries stopped the financial support to Jordan this was in conjunction with the decline of the expats remittances, some of whom had already lost their jobs because of the oil price crash. This had put Jordan in a really serious situation as the options were very limited and the government was running out of foreign exchange reserve (Jaradat, 2010). Accordingly, in 1988, and as a result of the continuation of the deteriorating economic situation, the government in an attempt to mitigate the effect of the public debit depreciated the Jordanian Dinar: it had lost about 45% of its value against the US dollar, and the inflation rate had seriously increased; consequently the percentage of the population that was below the poverty line rose to 30% (Alhababseh, 2016).

The government to remedy these problematic complications which nearly brought the state to financial destress; had sought the help of the International Monetary Fund (IMF). Accordingly, the Jordanian government underwent a very tough austerity budgets and a strict economic reform

[5] Israel declared its independent on 14th of May 1948. Following to that it was recognized by the two major powers USA on 15th, of May and USSR 18th, of May. However, it became a member of UN a year later in 11th, May,1949. Details on the Israeli ministry of foreign affairs website: http://www.mfa.gov.il/mfa/foreignpolicy/peace/guide/pages/declaration%20of%20establishment%20of%20state%20of%20israel.aspx

process under the close supervision of the IMF in 1989. The IMF reform package to Jordan at that time included a reschedule of the outstanding loans and its arrears (interests and the installments) and a new loan basically to pay the salaries and necessary expenses for three months (Brynen, 1992; Alissa, 2009). However, in 1990 and 1991, and due to the Jordanian political stance in supporting the Sadam Hussein's regime in Iraq when he has invaded Kuwait during the second Gulf-War, the Jordanian economy encountered a sheer cut off financial and logistic support from Gulf cooperative council countries (GCC) and Western countries too. Moreover, GCC countries to pay back Jordanian for supporting Sadam Hussein's dismissed half million Jordanian expat workers and their families.

In addition, Jordan had received more than a million Iraqi citizens who escaped the war as a refugees. However, there were some positive aspects in the situation as some of those who came due to the war had brought their savings to invest in the Jordanian economy and of course they brought their experience in business and expertise. Because of the Iraqi refugees and Jordanian expats deportation from GCC countries and in order to solve problem resulting from huge pressure on infrastructure and steep increase in energy bills Jordan signed another Stand-By Agreement with the IMF in 1992 to cope with the consequences of these catastrophic events on its economy (Alhababseh, 2016). That tough economic and fiscal situation found Jordan falling behind its Arab neighbouring countries. As a prerequisite for any kind of support from the USA and its allies; Jordan found itself obliged to sign a peace treaty with the state of Israel in order to unlock financial support and it was the second Arab country to do this after Egypt.

Following to the peace process; a huge financial and technical support have come to Jordan from the west mainly from the USA and EU (Al-Akra *et al.*, 2009). Moreover, Jordan had access to a new technical assistance form the World Bank Group and the IMF had agreed to support a new economic reform programme. Therefore, with the guidance, supervision, and assistance of the World Bank and the IMF, Jordan began many economic and financial reform processes. It introduced sales tax (value-added tax) in 1994, reduced maximum custom tariff from 70% to 50% in 1996, trade liberalisation followed, and most importantly, launched the privatisation process (Al-Akra *et al.*, 2009; Alissa, 2009).

The privatisation process in Jordan is one of the most successful privatisation programmes in the Middle East (Alhababseh, 2016). The programme started in 1996, and the main aims were to enhance the efficiency and productivity of the targeted enterprises, creating a suitable investment environment to attract external investment, and strengthening the economy and financial market by this long-term investment (ASE, 2014).

Moreover, and since the inauguration of king Abdullah the second in 1999, a massive programme of economic and regulatory reforms have been taking place. These include huge tax increases, the narrowing of the tax exemptions and the widening of the tax base; there has been a notable shrinking of governmental subsidies for food, feed, health care and education. And perhaps the most importantly the huge process of privatization which led to giving away of more than 90% of the state-owned assets.

Privatization has introduced different styles of corporate governance as assets had been directly soled to strategic foreign investors the government intention of enhancing the management practices: the government was betting on the foreign investors bringing fresh expertise and a new paradigm of management to the country examples: the selling of the government's shares in the Jordan-telecom to the French telecommunication company (Orange), and selling its shares in Jordanian Cement Company to Lafarge group, also selling its shares in Arab Potash Company to Canadian Chemicals Corporation. Privatization also took the form of direct sales in the financial market for the state shares; an example being the Royal Jordanian Airways (the national carrier). (Al-Hosban, 2015). To stump up , after 1994 and following the peace process with Israel and the resumption of democracy in Jordan, various regulatory changes have been taking place making Jordan an attracting investment environment either for local investors, expats and especially foreign investors.

Hence, as part of these reform processes new organization have been created either to replace old ones as in the: Amman stock exchange replacing Amman financial market or in new regulatory bodies being created like the Jordan security commission and security depositary centre which serves as a clearing house to prudently manage and supervise the process of documenting deals and contracts that take place in the ASE.

In the following section a brief presentation of the regulatory framework that govern the financial and capital market and how these have developed until we reached the current corporate governance code which was issued for first time in 2006: an improved version was issued in 2008.

2.2.1 Regulatory framework for business in Jordan

As mentioned before Jordan's regulatory system has been frequently reviewed by the regulators to cope with the region's radical changes which impose a political, social and economic consequences calling eventully for these changes. The government want to actualize the announced vision to make Jordan the first destination for foreign investors in the middle-east.

However, this PhD project is interested in the regulations that have effect on the business and capital market which eventually have either direct or indirect effect on the investment in intellectual capital. As a part of its efforts to succeed with the privatisation process, to improve governance and the disclosure system, and to increase confidence in the overall economy and financial environment to attract more investment, the Jordanian government enacted the most important regulations for contemporary business and the financial environment, which are: The Corporate Law as amended of (2006), Securities law (2002), Disclosure directives (2004), Listing securities instructions (2012) and the patents law (1999). These laws set the framework for the corporate governance system, improved corporate disclosure, and emphasised the adoption of International Accounting Standards/ International Financial Reporting Standards (IAS/IFRS).

2.2.2 Corporate Law No. 57 of 2006

The government has enacted this law, part of normal course of legislative development to replace the previous one (Companies Act 1997) to keep pace with its new economic phase: the previous act was enacted in 1997 which was before the major privatisation flow took place.

Subject to the provisions of corporate law no. 57, companies registered under this law should be divided into the following forms: General Partnership, Limited Partnership, Limited Liability Company, Limited Partnership in Shares, Private Shareholding Company, and Public Shareholding Company (Article 6).

With respect to the Public Shareholding Companies (PSCs), the law provides in details the PSC procedures of establishing such entities, minimum capital requirements (capital increase and decrease), offering procedures, annual general assembly meetings (GAMs) process, PSC's management, merger, takeover, and cease and liquidation. Also, the new act emphasises the requirement to adopt IAS (IFRS) and ISA.

The following brief discussion will shed the light on the main contents of the act and how it affects the listed companies' management, supervision, and reporting and how it promotes or protect intellectual capital (or intangibles).

- **Chapter One**[6]:
- Article (5) of the aforementioned law emphasise the protection of the company's name brands and logos and prohibits the use of one company name to deceive the customers or

[6] Of the Corporate Law.

other stakeholders. This reflects some aspects of corporate law that aims to protect some aspect of IC.

- **Chapter Eight**:

This part of the Corporate law focus on the management of public shareholding companies. The following summarises the main articles that affect the governance structure, board memebers sellection, and their relationship with executive management and other stakeholders.

- Article (132) deals with management of the shareholding companies, which states that the members of the board are elected for a period of four years by the shareholders in a secret ballot. The voting is cumulative and the number of the board members will be between three (minimum) to thirteen members (maximum); according to the provision of this law those who can be elected must not be have a criminal record or any convections that breach the integrity "*Any felony or misdemeanour involving honour such as bribery, embezzlement, theft, forgery, abuse of confidence, false testimony, or any crime against public manners and morals, or if he is incapacitated or declared bankrupt unless rehabilitated*". However, membership is not allowed in a PSL company until they have finished his/her twenty-first year and nor could they be public servant unless representing a legal entity that has hire him/her.
- The board will elect amongst its member in a secret and direct ballot its chairman and his/her deputy chairman.
- In articles (140-142) the act states that the Board of Directors "*shall prepare, within a maximum period of three months from the end of the fiscal year of the company, the annual balance sheet of the company, its profit and loss statement, and cash flows statements accompanied with their clarifications compared with those of the previous fiscal year, all duly certified by the company auditors, to be presented to the annual general assembly meeting*".

The board also, "*shall prepare semi-annual financial statements and the chairman, CEO, and the external auditor will be responsible of the correctness and fairness of the annual financial statements*". Moreover, the board will prepare annual report discussing the financial and operational conditions of the company and this report shall discuss all material aspect affecting the company business and its plans for the next year. An important pillar of the transparency by this law which make it mandatory for the PSL companies to publish its financial statements and the annual report "*The Board of*

Directors shall publish the Company balance sheet, its profit and loss account and a detailed summary of the annual report of the Board of Directors, along with the auditors' report within a period not exceeding thirty days from the date of the meeting of the General Assembly".

- Publicly listed firms shall prepare thier financial statements in accordance with the international accounting and auditing standards. The Companies law shows some aspects relating to the process of board of directors' nomination and selection. Within four months after the end of the financial year, an invitation is sent to each shareholder (at least fourteen days prior to the date set for the meeting) to attend the General Assembly meeting. This invitation letter is accompanied by the agenda of the meeting and the report of the board of directors, its annual accounts, in addition to the auditors' report (Article 144). Other invitations are also sent to the head of the Jordan Securities Commission (JSC) and the Companies' Controller Department (CCD) in order to attend the GAM (usually they send representatives on behalf of them).

  Company law directives board of directors to announce the date set for the meeting of the Company General Assembly Meeting in two local daily newspapers, within two weeks prior the date of the general meeting (Article 145). Also they should announce the verbal invitation once through radio or television within a maximum period of three days prior to the date of meeting (Article 145). Based on this act, the shareholders have the right to give a proxy to another shareholder to attend the meeting on his/her behalf, and the proxy should be in writing, on a special template prepared for this purpose approved by the official companies' controller (Article 179).

- In article (152), which describes the Chairman responsibilities and powers. As the chairman shall represent the company in all matters and the ability to delegate any of these responsivities to executive management or any other member of the board. Under the provision of this article of the law the chairman can be fulltime with the agreement of two third of the board and can dually occupy the position of the chairman and CEO. And this point of the law is subject to critique as it hinders the separation of duties despite the code of corporate governance has suggested the separation of two positions.

- Article (153) gives the board the authority to hire a qualified general manager GM or chief executive officer CEO to run the company and it also gives the board the authority to terminate the GM/CEO with an immediate notification to the Companies Controller and the Jordan Security Commission JSC.

- Article (155) stipulates that the board shall hold six meetings during the year and this is the minimum and the board can hold more if the company's operations and its activities nautre need more or the nature of business need more repetitive meetings.

- Article (165) talks about the dismissal of the board and it gives the general assembly the right to do this action *"The General Assembly of a Public Shareholding Company shall have the right, during an extraordinary meeting and upon a signed request of shareholders holding at least 30% of the Company shares, to dismiss the chairman of the Board of Directors or any of its members except for members representing the shares of the government or any corporate body. The dismissal request shall be submitted to the Board of Directors, and a copy thereof shall be sent to the Controller".*

2.2.3 The Securities law no (76) for the year 2002

This law was issued as an amendment to replace the Securities Act 1997. This law has been enacted to replace the previous act of 1997[7] which targeted the organisation and regulation of Jordanian capital market in line with international standards (Al-Shiab, 2006). Under this Law, three controlling and supervisory bodies came into existence. Those new bodies are the Jordan Securities Commission (JSC), the Amman Stock Exchange (ASE), and the Securities Depositary Centre (SDC). The Jordan Securities Commission (JSC) was established to protect investors, and organising and promoting the capital market ensuring fairness, efficiency and transparency. To achieve these main targets, the JSC has a responsibility to regulate the issuance of securities and monitor the dealing process, regulating and promoting firms for accurate disclosure, and to regulate the licensing and registration of listed companies. Furthermore, the JSC regulates and monitors the Amman Stock Exchange and Securities Depositary Centre (Securities Act, article 8).

The Amman Stock Exchange (ASE) was established in March 1999 as a non-profit, private institution with an independent administrative and financial position. It replaced the Amman Financial Market (AFM) which was established in 1978. The ASE is authorised to operate as an exchange for the trading of securities. The stated ojective of ASE is to secure the fairness, transparency, efficiency, and liquidity of Jordanian capital market, and to offer a strong and reliable environment for its listed securities while protecting the rights of its investors, (ASE, 2013). However, the Securities law of 2002, strengthened the role of the JSC, ASE and SDC and required all listed companies to adopt the IAS/IFRS. Also it gives more power to the JSC with respect to imposing fines, suspending trading, or delisting companies in case of significant violations.

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[7] JSC Law was the first Jordanian regulation to make it clearly mandatory to all Jordanian PSC to prepare financial statements according IAS and later IFRS. This considered the first official adoption of the IAS/IFRS even though many listed companies especially banks were adopting the IAS voluntarily.

2.2.4 the Disclosure Directives (2004)

These instructions issued by the JSC and it deals with the minimum required level of disclosure by listed companies and specifiy accounting and auditing standards that should be implemented by listed companies as a prerequisite for listing. The directives come in 24 artciles[8]. Perhaps the most imprtant part of this directive is article no. (4) which to some extent partially represnts a leverage to the ICD as it states the following: "***The Board of Directors of the issuing Company shall prepare the Company's annual report within three months from the end of the Company's fiscal year and shall provide the Commission therewith. The annual report shall include: A) the sttement from the chairman. B) A report from the board of directors***." In addition, according to the provsion of part B) of the article (4) mentioned previously, the board of directors must provide sufficient information about many issues and aspect of the company operations, performance, risk exposures and risk management, orgnasiation structre and its employess allocation on the orgnisation strucutre.

The items required to be covered unders this atricle and that have direct or indirect effect on the IC are the following:

- **The board of directors report shall provide information about The Company's accomplishments supported by quantitative indicators and a description of significant occurrences to the Company during the fiscal year.**
- **The board of directors report shall include a description of any government protection or any concession granted to the Company; as well as a description of any Patents or Licensing Rights obtained by the Company.**
- **The board of directors report shall clearly state if the company enjoys any govermantal support, subsidies, favourable contracts et cetera.**
- **The board of directors report shall provide information about the company compatativness, compliance with the internatinoal standards for business, and the implimentation of the intarnational quality standards if any, must be acknowledge.**
- **The board of directors report shall provide information abouth the company's accomplishments, achievments during the past fiscal year and how these will affect the company's business.**

2.2.5 Listing Securities Instructions 2012

The ASE listing directives 2004 is mainly a document listing the requirements that would cause suspension and delisting of the companies. Under these directives, companies to list shares in the

[8] The full version of the directive can easily be accessed on the JSC website through the link: http://www.jsc.gov.jo/Public/English.aspx?Site_ID=1&Page_ID=717

market, at least one year should have passed since the company obtains permission to work. Moreover, the company should provide the ASE with the “company's memorandum of association, articles of association and prospectus, annual report for the last financial year, the interim financial statements reviewed by an independent auditor”.

As required by the listing directives (2012); and in line with the provision of the corporate act the company's board of directors should issue a report containing the following information:

1. **A short profile of the firm's establishment, its major aims and its relationship with other related firms.**
2. **Detailed specifications of the securities issued by the firm, and for potential issuance in the future.**
3. **The board of directors' assessments supported with figures, of the firm’s performance, as well as achieved targets compared with the set plan.**
4. **Important incidents the firms faced or that affected the firms from the date of its establishment till the date of submission of the listing application.**
5. **The future plan of the firm over the next three years.**
6. **Names of the persons (entities) who hold 5% or more of the firm’s shares.**

2.2.6 The Patents Law 1999 and the following amendments for 2002

This law has been enacted since the beginning of the year 2000. This law aims to facilitate and organise the process registering the patents and secure these patents from being abused, misused or illegally used by the others without the permission of the inventor(s) or the owner of the patents.

Although, the patents law creates organisational procedures for registration, and the issuing the certificate of ownership of the patents and or the inventions, it does not include anything relating to supporting the inventors, or offering any logistic assistance to the inventors. And it also does not cover the establishment of a national database for patents or the national intellectual capital.

The law focuses on the process of registering the patents, documents needed, and the legal protection offered by the government to the inventors. the process of lawsuit in case of dispute between parties. Moreover, the legal period for protection which based on this law is twenty years from the date of registering the patent in the patent’s registrar office in the ministry of industry and trade.

2.3 Corporate Governance in Jordan

Jordan strives to put in place all the requirements to make itself a suitable destination for foreign investment and to protect investors and to secure an attractive investment environment. Thus, and since the OECD has issued the CG principal document in 2004, Jordan has taken noticeable steps to develop the governance framework for corporation in Jordan (Alshhadat and Abdeljalil, 2012). The corporate controller department (CCD)[9] has issued the first draft of the Jordanian Corporate Governance guidelines in 2006 as a recommendation and it is not mandatory (Hussein, Ala Albawwat, Bandar Barunilai 2015). This code applies to all companies wether public shareholding corporation, private shareholding, or limited liabilities. However, the Jordan security Commission (JSC) has issued a specific Corporate Governance Code (JCGC) in 2004 which has been briefly amended in 2008, providing certain enhancements to the previous one and with participation from the IMF mission to Jordan and the Central Bank of Jordan (CBJ): it becomes a listing requirement for the public shareholding compnies.

The JCGC is principle based (Alhababsah, 2016) and similar to the UK combined Code of Corporate Governance (2003) adopting “Comply or Justify” approach in CG models as mentioned before it currently provides guidelines and is not yet mandatory. This means the public shareholding companies are expected to comply with CG principles; however, if they are not complying they need to justify their departure from the CG principles and they need to acknowledge the non-compliance in their annual report.

The JCGC is compliments other laws and acts i.e. corporate law, securities law and disclosure and listing instructions and I quote from the JCGC itself: “***These rules are based principally on a number of legislations, mainly the Securities Law and related regulations, the Companies Law, and the international principles established by the Organization for Economic Cooperation and Development (OECD)***”. The following part includes a summary and brief description of the JCGC as issued by CCD in 2008:

1. **The Aim of the JCGC**: as mentioned in the code itself; the stated aims are: to develop the national capital market and its regulatory and organizational framework. It seeks to enhance transparency and accountability. It safeguards the shareholders’ rights and enhances the performance of our national economy, increasing confidence in it and in the investment climate.

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[9] This is a regulatory body its basically take care of the companies’ registration maintain records of all companies in Jordan and have a supervisory role over them and to make sure they are complying with the requirements of corporate law and the regulations issued following to that law. More information about the CCD on: www.ccd.gov.jo and the JCGC also available on the same website: https://www.youtube.com/watch?v=cGLnQ1gQkA4

2. **The Board of Directors**: in the second chapter of the JCGC has specifies that the recommended number of members as between 5 -13 and these should be elected by the general assembly in a secret direct ballot for a term of four years. A third of the board are recommended to be independent members[10]. The code stipulates that any member should do his/her duties in managing the company's affairs with the highest level of professional care, transparency and honesty and should take the interests in consideration when executing the monitoring role over the executive management. Board members should have the sufficient qualifications and relevant experience in the company's business and it is their responsibility to make sure that the executive management is has the relevant professional qualifications to run the company. It is the board of directors' responsibility to establish an effective internal control system and to ensure that it operates according to the specifications in the company by-laws and best professional practices.
3. **The Structure of the board**: the board shall establish among the members an audit committee, a nominations and remunerations committee and any other committees that allow the board to carry out its role effectively and efficiently.
4. **The board meetings**: the board holds its meetings either by invitation from the chairman or if a one quarter of the members have requested a meeting. Decisions should be voted in meetings and voting only accepted by person - no proxy voting allowed. The board at minimum shall hold six meetings a year one meeting each two months. The frequency of meeting must be disclosed in the annual report.
5. **General assembly meeting**: the general assembly shall hold an ordinary meeting once a year which takes place within the four months following to the end of the financial year. In the general assembly meeting each investor should have the opportunity to participate effectively in discussion and to express his/her opinions regarding the financial and operational affairs of the company.
6. **Shareholders' Rights**: The executive management and the board should take the necessary actions to achieve equality to all shareholder disregarding their ownership without discrimination. The rights include: proper documentation for ownerships of shares and the shareholders have the right to access any information in accordance with laws in-force. Voting in general assembly meeting may be either in person or by proxy. They have the right to file a lawsuit against the company, its management or its board of directors to compensate for any damages or losses resulting from neglect or mismanagement. The shareholder has the right to requisite for an extra ordinary general assembly meeting.

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[10] The Code define the **Independent Member** as**:** A member of the board of directors who is not tied to the company or any of its upper executive management, affiliate companies, or its external auditors by any financial interests or relationships other than his shareholding in the company that may be suspected to bring that member benefit, whether financial or incorporeal, or that may affect his/ her decisions or lead to exploitation of his/ her position with the company.

7. **Disclosure and Transparency**: The JCGC has emphasised the issue of transparency as it stated in the fifth section of the code on the following:
   "The company shall provide shareholders and investors with accurate, clear, timely disclosure information, in accordance with the requirements of the supervisory authorities and the legislations in force, in a manner that would enable them to take their decisions. This includes disclosures related to: 1. Periodic reports. 2. Material information. 3. Dealings of insiders and their relatives in securities issued by the company, including members of the board of directors and upper executive management. 4. Related parties' transactions. 5. The privileges of members of the board of directors and upper executive management". Also, the code emphasises the importance of website disclosures on a timely basis and finally focuses on forbidding of any insider information misuse or passing such insider information to others to achieve trading benefits.
8. **Audit Committee**: JCGC gives a comprehensive authority to the audit committee and assigns a good part of the code for the Audit Committee and its duties and organisation. The code emphasises that the Audit committee members should possess proper standards of education and qualifications to carry out their duties. The committee is recommended to hold at least four meetings yearly. The Audit Committee will engage in many financial and managerial supervisory activities e.g. *"Discussing matters related to the work of the external auditor, including his, observations, suggestions, and reservations, pursuing the level of responsiveness of the company's management to them, and submitting recommendations to the board of directors accordingly"* in addition, the committee will review the external auditor plan and risk assessment to the company, receive and review the external auditors report and make the suitable recommendations to the board. The audit committee will make sure that the internal audit function is independent and carries out its duties according to the internal audit standards and have access to all necessary resources and information.
9. **Other Committees**: the code gives the board full authority to form amongst its members any other committee according to the business and its operation; the code namely mentions the following committees (Nomination and numeration committee, Corporate governance committee, Risk management committee … etc.,).

2.4 Jordanian Capital Market

Capital market in general works as growth leverage for society. Certainly, it has a very important role in the economy as a hub for free and fair equity trading. The capital market gives the public the opportunity to invest and grow their liquid resources, and access funding through public offerings; it boosts the social mobility through wealth sharing[11]. Jordan enjoys a relatively good and well-established capital market.

Jordan has the second largest capital market in MENA region in terms of the market capitalization preceded by Qatari one (Moumen et al. 2015). It is the second to the Cairo Stock Exchange in terms of the date of establishment as the first was established in 1906 and the second in Amman was established in the early 1930s. according to the information published on the ASE website. Jordanian Securities Market (as the most important component of the Jordanian capital market) "*Jordanian public already subscribed to and traded in shares since that time where in that time there were three publicly shareholding companies i.e. the Arab Bank was the first public shareholding company to be established in Jordan in 1930, followed by Jordan Tobacco and Cigarettes in 1931, Jordan Electric Power in 1938, and Jordan Cement Factories in 1951*". However, at that time the financial market was unregulated and run by private sector through private porkers and agents and that remain the case until the issuance of the company act at 1964. Anyway, the public trading and financial instruments exchange have experienced many and extensive developments and reforms; one important advancement was the amendment to the companies' law as of 1974 were under the provision of this amendments the companies become legally liable to disclose to public its financials and other information about its management and operations. Many reviews of the trading activities and the regulatory framework have been carried out to let the capital market cope with the international best practices applied in this field.

Recently and after the liberalisation process of the economy and the huge privatisation procedures, the most important legislation was the securities act of 1999: under the provision of that act Amman financial market have been replaced by the Amman Stock Exchange (ASE) as an independent entity owned by the government. It aims to offer suitable environment for a progressive financial market to succeed and to be efficient technically and legislatively, both regionally and globally; it operates with the utmost possible compliance with the latest international standards in the field of financial markets to support the national economic growth provide an attractive investment environment. And to achieve this ASE will try to do the following: Create a fair, secure, competitive, transparent and credible investment environment,

[11] This is a summary of training workshop about capital markets by Goldman Sachs can be accessed through: http://www.goldmansachs.com/s/interactive-guide-to-capital-markets/

in addition, to increase the public awareness right across all society of the importance of the securities trading. In addition to enhance the market discipline, transparency and corporate governance to reach a fully efficient market. Furthermore, the securities law has established two more bodies to compliment the capital market and make sure that trading is conducted according to the provisions of the enacted laws and regulations and that transactions are properly documented to protect the rights of all interested parties. These two bodies are the Jordan security commission - a regulator and supervisory body and the securities depository centre as a clearing house to documents all trading operations and ownership transfers. In the next part, a brief description follows of the two bodies' objectives and role in maintaining transparency, fair trading, and the highest possible of corporate governance.

2.4.1 Jordan Security Commission (JSC)

The stated aims of establishing the JSC can be summarised in three points:

Licencing and Registration: JSC takes the necessary steps to regulate financial markets starting from the earliest phase of registering the public shareholding companies in the JSC records and licencing them for listing in ASE. In this phase the JSC will check if the company has accomplished all the listing requirements. In addition, the JSC will license the brokers and brokerage houses that operate in Jordan including investments advisory firms and those who deliver services such as investment management, investment trusteeship, safe keeping and issuance management and will maintain a registry of these entities.

Disclosure and Transparency: the JSC will supervise the listed companies and will take the necessary actions to make sure that they all comply with the requirements of Corporate law and adhere to the dates of publishing their financial statements and the annual reports and semi-annual reports which are a listing requirements.

Continuous Inspections on the financial companies: Companies that provide any service specified in the securities law no (76) of the year 2002 shall be subject to ongoing onsite inspection by JSC inspectors to make sure that they fully comply with the provisions of the law and to make sure that they provide services in accordance with the professional standards with proper policies to organise their operation and clearly specify their activities in accordance with their licence. Moreover, JSC will organise on a regular basis a training sessions for all parties to make sure that they will be up to date with all regulatory and professional developments that take place in the field.

2.4.2 Securities Depository Centre (SDC)

Like the previous two bodies, the SDC has been established by the virtue of the securities law no. (76) of year 2002 to serve as a clearing house and this will include the following three basic functions:

1. Registration and desposits of securities. 2. Safekeeping and ownership transfer. 3. Execution the clearance and settlements operations. The SDC provide a crucial job to Jordanian capital market as it holds the ownership registers of all issued shares. It has been assigned, in cooperation with the JSC and the ASE, the task of developing the Jordanian capital market, enhancing market efficiency and supporting rights and protections and transparent and well governed trading.

The figure below summarises the regulatory framework for business in Jordan and the orgnising bodies:

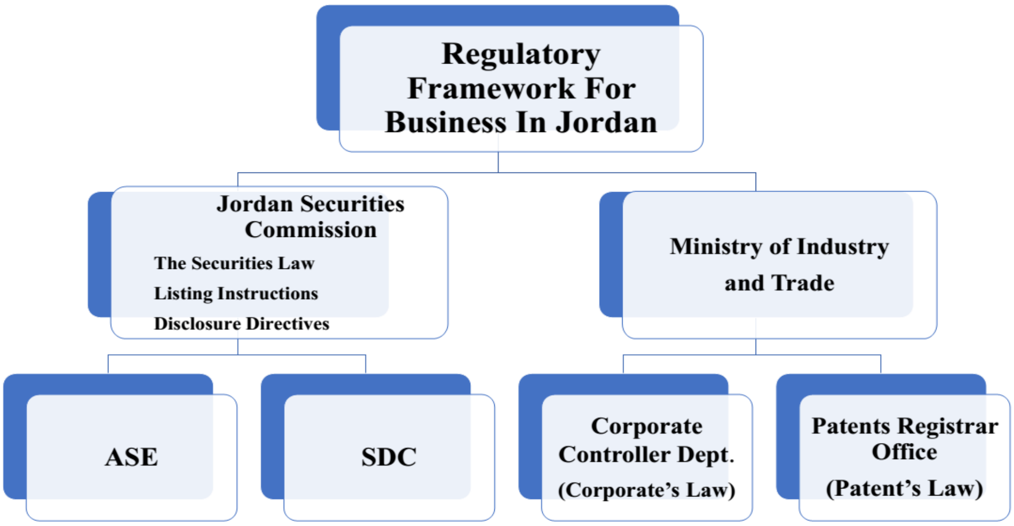

Figure 2.1 Regulatory Framework for Business in Jordan

2.5 Intellectual Capital in Jordan

Intellectual capital is a very important component of Gross Domestic Product (GDP) for developed countries. One example for this high importance is the investment in the intangible in UK for the last 10 years was higher that investment in the tangible assets according to Intellectual Capital Office (ICO) standing at £133 bn, £121bn respectively (IPO 2016). According to the same resource the allocation of that investments in IC were as follows: training accounts for £26 bn, organisational capital for £22bn, design £14bn, software £28bn, branding £15bn and scientific R&D £19bn. The same pattern is seen in countries like Denmark, Switzerland and Austria (OECD, 2014). However, this is not the case in developing countries and Jordan clearly fits into that category.

Jordanian government does not produce any official report summariesing its IC nor any kind of official document that provides a clear picture of the country's status in terms of its intellectual abilities may be impeded in its citizens or institutions. It is the same case in respect to intangible assets or investments in knowledge based assets. However, Jordan had many initiatives to maximise the utilization of the current intellectual capacities especially the human capital.

One of these initiatives and perhaps the most important on Jordan level is the King Abdullah II Centre for Governmental Performance Excellence and Transparency[12]. As after a king's creed of establishing a specialised and independent centre which it's stated ojectives are to promote excellence and standardised performance that is in line with the international best practices in delevering public services and running business.

King Abdullah II's Centre for Excellence aims at promoting a culture of excellence in Jordan and the region through developing excellence frameworks and assessment criteria based on international best practices, assessing organizations' performance, manages King Abdullah II's awards for excellence and promotes excellence within the public sector, private sector, not-for-profit and non-governmental organizations. The role of the King Abdullah II Centre for Excellence is to promote continuous excellence in the public sector, private sector, business associations and non-governmental organizations and Education Services Providers for the purpose of increasing Jordan's international competitiveness and so to help secure a sustainable, prosperous future for Jordan. The evaluation process covers the policies and procedures, accuracy and speed in providing the service to the beneficiaries doing so in transparent manner and with the best compliance with international best practices.

Another institution which deals with empowerment of intellectual capital at the state level is the Royal Scientific Association which provides technical support to other institutions, investors and researchers to mainly in R&D field. It tests against the international standards and to some extent provides training for public and private sectors to spread awareness among them of the importance of compliance with the international standards of performance and production.

[12] King Abdullah II Centre for Excellence was founded in January 2006 further details found on the centre website: http://www.kace.jo/index.php/en/about-the-center/the-vision-mesion-objective

Other governmental and semi-governmental institutions established *with the implicit objective* of enhancing the process of producing and developing intellectual capital including the King Hussein Fund for Excellence, Jordan River Foundation, and Institution for Leadership Excellence. Unfortunately as is often the case in developing countries the activities of these bodies tend to have a lack of transparency and accountability and to some extent overwhelmed by mismanagement (Odat, 2017)[13]. Despite these bodies being funded from tax monies but they do not have any material effect in developing the economy or providing any opportunity rather than having any positive effect on the national intellectual capital. In sum the public sector in Jordan despite many initiatives to increase the productivity and improve the intellectual contents of the sector; is still and after 70 years of establishment of the state characterised by poor-management, out-dated systems some low productivity, disguised unemployment (administrative gridlock), nepotism, deep-state interfering, and malfunctional system.

Jordanian companies generally thrive when competing for the opportunities offered by international market and especially on the regional countries. Many Jordanian companies rely on business in the Gulf Countries market and most of them have already reached out directly to neighbouring countries examples include: The Arab Bank group has open branches in all Arab Countries except Libya, Jordan National Bank has opened branches in Palestine, Lebanon, Bahrain and UAE. Many other companies as well operate regionally and internationally either directly with branches and subsidiaries or indirectly by franchising agreements and/or licensing.

The below figure summarises the institutional environment for IC in Jordan:

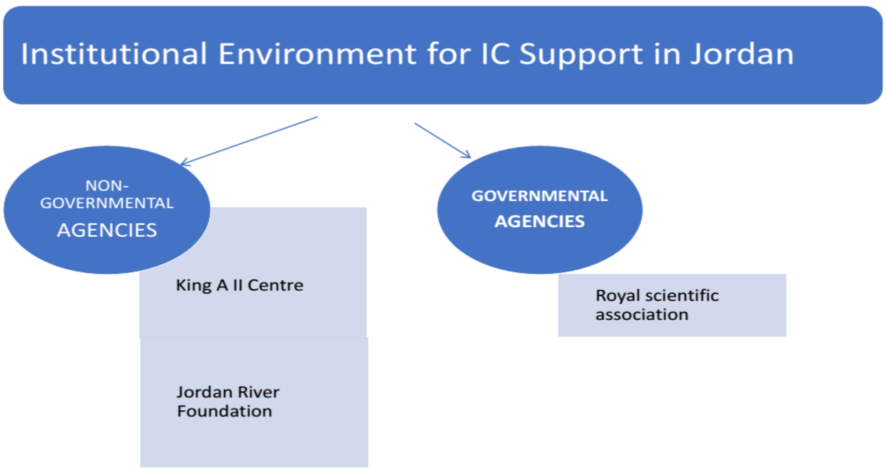

Figure 2.2 Institutional Environment for IC Support in Jordan

[13] The article in Arabic to be found on: http://www.ammonnews.net/article/305709
also more details about the main reasons behind such situation can be found on:
http://maqar.com/?id=71893

2.6 Why Jordan

Jordan is a very interesting research context due to many facts and characteristics that make Jordan researchable context and these include:

- Jordan is one of the Arab countries which share many similarities including cultural, political, social and demographic issues. These make any conclusion come out Jordanian context applicable and generalizable to the neighbouring countries.
- Jordan which maintains one of the oldest financial markets in the region provides and facilitates investment in IC's infrastructure. Thus, exploring the ICD within the Jordanian firms will give researcher a good context with respectively long established firms that allow the researcher to dig deeper into the phenomenon to develop a good understanding of this phenomenon.
- Jordanian financial market is dominated by the family ownership comparing to western countries and this will provide a new contribution to knowledge considering this difference in ownership structure between developed countries and developing ones.
- Jordanians and Arabs generally are conservatives and risk-averse in their investment behavior. Thus, approaching the ICD phenomenon within this context and considering the point of view of people from such environment will provide a very interesting contribution to disclosure's literature.
- To the researcher's best knowledge, in all MENA region countries, especially in Jordan, there is no previous literature examining the effect of CG on ICD. Hence, there is a strong motivation to study this matter in a virgin context where both CG and IC research, in general, is underdeveloped. Additionally, an analysis of this issue from the developing countries allows exploring the phenomenon in underdeveloped legal and institutional settings given the context of relatively weak investor protection which will provide a valid and interesting contribution to literature.

2.7 Summary

This chapter has presented an overview of the research context and why the researcher has decided to conduct his research project in Jordan considering Jordanian listed companies; it examined benefit of the research outcomes and deliverables to the literature, practice in the contexts' country and other neighbouring countries who share the same economic, cultural and socio-political circumstances. Moreover, this chapter presents the significance of researching the Jordanian context and how this will participate in filling the one of the existing gaps in literature. In addition, in this chapter a description of the IC in Jordan has been presented. This include the common utilised elements of IC. Providing an essential information about the IC and IC infrastructures on both levels the public and private' sectors.

This chapter also has described the legal framework that regulates the business practice in Jordan and how this will affect the investment in IC and intangible assets. A brief description of the Jordanian corporate law, Securities law, Patents law, disclosure directives and other regulations as well as the CG situation in Jordan, and a brief summary of the Jordanian CG code. Meanwhile, this chapter presents a background information about the Jordanian financial market: the types and nature of organization that the market subjects to its supervision.

The components of the capital market in Jordan have been presented and the supervisory agencies that facilitate trading process which all affect the investment environment either directly or indirectly.

Finally, this chapter provides an overview of the IC, the agencies that sponsors and support investment in IC and help in providing suitable infrastructures for more investments in IC. Moreover, the current chapter has provided a brief discrebtion of the problems that affect the advancement of the investment in intellectuals and other intangible assets.

3 Theoretical framework

3.1 Introduction

Positivistic research builds its hypothesis and questions about phenomena based on empirically proved theories to formulate the theoretical framework for the research project. This then directs the researchers when they test certain relationship between two or more variables before they empirically test it. However, one major obstacle encountered by the researcher in the accounting field is the absence of one universally agreed and accepted theory for accounting. Hence, a multiplicity of theories co-exist and heated debate and conflicting points of views will continue to exist (Bromwich, 1992). This challenge is clearly appearing in the definition of financial accounting which simply refers to identifying, analysing, classifying, documenting, and reporting the economic and financial activities on timely basis. This indicates two important points to be considered: (1) Financial accounting consists of many interrelated activities and (2) Accounting is bound by a combination of theories and practices. The previously mentioned state of a lack of a comprehensive and universal theoretical framework according to Schroder and Clark, (1995) makes the scholars in accountancy field when it comes to voluntary disclosure use several theories to explain disclosure practices and choices. Even the prior literature on ICD has failed to provide a comprehensive theoretical framework to interpret the companies' incentives and motivations to disclose information about its intellectual capital (An et al. 2011; Abeysekera 2006).

Theory is defined as a set of interconnected relationships between variables, definitions, and propositions which present a systematic view or offer a description of phenomena and explain to some extent the patterns or directions of that relationship between the specified variables (Creswell, 2009 p. 51). Hence, the relationship between the IC and CG could be inferred from many theories despite the absence of agreement on a theoretical model for studying the ICD. This state of disagreement on the theoretical framework is considered by some scholars a research problem (Vlismas & Venieris 2011).

Extant literature suggests that many theories can be used to explain voluntary disclosure and why firms tend to provide extra information about its IC including: projects, business lines, future plans, staff qualifications and management's capabilities despite it not being required by either law or professional standards (Dumay 2012), (An et al. 2011), (Vlismas & Venieris 2011), (Mouritsen 2006), and (Rodrigues 2005). The literature survey has revealed that many theories have been tested and used to give explanation to ICD e.g. agency theory, stakeholder theory, signalling theory and legitimacy theory (An et al. 2011). agency theory, political cost theory, legitimacy theory and signalling theory by (Rodrigues 2005) in contrast (Li et al. 2008) used only the agency theory to test the relationship between the CG and the ICD while (Abeysekera & Guthrie 2005a) used signalling theory to explain the ICD phenomena.

It is advisable in the research community that the researcher presents briefly all the conflicting theories that might explain or help to offer an explanation for the phenomenon that is subjected to examination. Thus, in the following section the theories that usually are used to interpret the corporates behaviour in voluntary disclosure will be presented.

3.2 Conflicting theories in voluntary disclosure literature

3.2.1 Agency Theory

When it was first introduced by Jensen and Meckling, (1976) agency theory has provided an explanation to the principle agent relationship which put managers under pressure from the firm's owners who exercise a monitoring role over the managers and the firms' performance. Under this assumption, managers will find themselves obliged to voluntary disclose information to satisfy the owners need for information and allow them to evaluate the managers' performance as well as the firm's performance too. However, most accounting scholars who implemented agency theory in their research to justify the voluntary disclosure e.g. (Jensen & Meckling 1976; Cooke 1989; Watts & Zimmerman 1990; Guthrie & Petty 2000; García-meca et al. 2005; Deegan 2002; Holland 2005; An et al. 2011) have built their assumptions based on two conceptual points:

1. Information asymmetry and; 2. Principal vs Agent conflict of interests.

Under the first assumption, information asymmetry,[14] the executive management (the insiders) have unlimited access to the firm's information including its operations, level of production, productivity and its performance and most importantly its future plans. This type of information is not available to the other stakeholders (the outsiders); thus, this kind of information gap between the two parties (insiders and the outsiders) put the management under pressure to share voluntarily more information to satisfy other stakeholders needs for information. The other assumption under agency theory that seeks to explain voluntary disclosure is that managers (agents) who run the business on behalf the owners (principals)

[14] The concept of the asymmetrical information perhaps first introduced by *George A. Akerlof* in 1970 in his paper *the market for "lemons": Qualitative uncertainty and the market mechanism*, where he gave an example from the used cars market in USA where the seller knows the good car and the bad car, the Peach and Lemon, and the buyer do not know such information; under these conditions the sellers will make extra income due to knowing thing that the buyers do not. This kind of behaviour is connected to the opportunistic behaviour of the managers under agency theory assumptions.

will find themselves under-pressure to allow the principals (owners, creditors, governmental agencies) to access information which facilitate their supervisory role (M. Griogore, et al, 2013). The above mentioned work of Jensen and Meckling has been further extended by Watts R., and Zimmerman J. (1978), when they introduced the positive accounting theory which has emphasised the concept of *collection of contracts* to refer to the organization: this implies that managers, when they choose the accounting methods to report the firm's performance, will do a kind of ***Cherry-Picking*** among the accounting methods to suggest that they did a great job and have fulfilled their contractual requirements. This is described as the opportunistic behaviour of management. As they (the managers) will remain loyal to themselves and are driven by perceptions of ***self-interest***. Thus, the managers need to be put under ongoing supervision by the owners to make sure that this conflict of interests will not affect the business continuity and other stakeholders' interests (a detailed discussion of the agency theory will come later in this chapter).

The difference in disclosure practices according to the listing status is explained also by the agency theory which according to Wang et al., (2008) who stated that dual listed firms are really motivated to share more information voluntarily as an action for investors interests' protection thorough providing better quality of disclosure.

Under agency theory's premises, the contractual relationship between the principal and the agent is a means to put all involving parties' interests in alignment (Fama F and Jensen M.C. 1983). However, such contracts are remained insufficient in eliminating all agency's conflicts as to some extent the managers (agents) still have significant residual control rights, which may lead to possible misuse of these discretionary authorities. Another aspect of contractual shortfall is the managers' ability to make the accounting choices that serve their own interests including (earning management, creative accounting and/or income smoothing) to keep their performance-based incentives (Watts & Zimmerman 1990).

Beattie & Smith (2012) suggested that accounting reports will provide additional mechanism for effective direct and indirect monitoring from the shareholders which will lead to high level of transparency in the capital market.

Agency theory has been used by many accounting researchers to explain the voluntary corporate disclosure practices e.g. CSR reporting (Td et al. 2014; Schwindenhammer 2013; Michelon & Parbonetti 2012); corporate governance (Hermalin & Weisbach 2012; Madhani 2016; Rodrigues & and Cia Lima 2017); corporate internet based disclosure (Kelton & Yang 2008; Satta et al. 2015) and also, in ICD (Li et al. 2008; Mangena & Pike 2005; Kang & Gray 2011; Ahmed & Hussainey 2010).

How can agency theory explain voluntary disclosure?

Under the theoretical premises of agency theory, we find that the ownership management separation principle is a primary motivation for the disclosure as owners will demand higher level of information to reassure themselves that the agents are acting according to the contractual agreement between the two parties (Jensen and Meckling 1976).

The agency theory suggests that the ownership diffusion will create huge pressure on the executive management to provide better disclosures so the shareholders can evaluate their investments and that will facilitate their decision-making process and of course that meanwhile will facilitate their supervisory role over the management (Holland 2006).

Under agency theory the concept of independent supervisory role within the introduced as a guarantee of stronger internal control system and this will lead to more rational managerial decisions and more transparent business environment (Hussainey and Mouselli 2010).

In the light of the agency theory we can expect a direct theoretical connection between the agency problem and ICD is manifested in many points summariesd in the following: -

- IC represents the lifeblood for businesses and it surrounded with a great deal of ambiguity and investors will be very uncertain about investment decisions associated with intangible assets generally thus, demand for more information to bridge the gap between parties inside the firm and parties outside the firm (Marcuccio & Steccolini 2009).

- IC have its own unique characteristics which make it mostly outside the regulatory requirements of the IAS and IFRS and this accordingly will give rise to the information asymmetry which creates more pressure on the management (the informed party) to share more information about IC to reduce the agency cost resulting from the information gap between agents and principals (Baboukardos & Rimmel 2014; Liao et al. 2013).

- Information disproportionateness between executive management and the shareholders and other stakeholders will increase the agency cost because of implementing more resources for the sake of monitoring the executive management performance. Thus, voluntary disclosure will help in reducing the monitoring and supervisory costs (Scott 2014; Ishak & Al-Ebel 2013).

- Investment in intangible and IC is normally long-term investment which increase the uncertainty and that will motivate the investors and analysts to demand for higher level of disclosures about these items to lessen the severity of this uncertainty (Cordina 2014).

All these points showed how the agency theory can provide explanations of the managerial choices when it comes to ICD. However, agency theory could not offer a comprehensive explanation of the transparency and voluntary disclosure in the corporate world and another causes may arise in the arena to explain why firms voluntarily share non-mandatory disclosures. (Hart 1995).

3.2.2 Positive Accounting Theory

The positive accounting theory (PAT), mainly developed by Watts and Zimmerman (1986) to explain why the agent (the executive managers) act in a particular manner or taking certain actions. The basic assumption of the PTA is that the relationship between the owner and the agent referred as a set of contractual agreements or set of contracts that specify and determine each party duties and expectations. However, this will incur extra cost they have referred to it as contract cost. The notion of the contract cost also implies the social and political cost that imposed on the management which management try to address by offering more information about firm's operation and performance to legitimise management behaviour (Deegan and Hallam 1991).

The main development of the PAT theory is based on "rational economic person assumption", which assumes that managers are motivated particularly by self-interest and will behave opportunistically to maximize their own utility (Watts & Zimmerman 1990). Thus, the self-interest assumption creates a need for organisations to establish alignment mechanisms to align principal and agent objectives and these must be through the proper corporate governance structure (Cerbioni & Parbonetti 2007).

However, the explanatory power of the PAT for ICD is not very clear due to the overlapping with many other theories e.g. agency theory, political cost theory, legitimacy theory, and transaction cost theory. Thus, the PTA is still available choice to explain some accounting choices but it needs to consider many other notions to capture the full picture of corporate voluntary disclosure.

3.2.3 Signalling Theory

Signalling theory was developed and originated in biological and behavioral sciences to explain some aspect of animal and human behavior and evolution which underscore a theoretical framework for examining the communication between individuals, both within the same species and across different species. Many categories of signalling introduced under biological and behavioural signalling model this include the sexual signalling e.g. hunter/gatherer human (mail) had used the food sharing with female as signal to sextually attract her and another example of signalling is among the peafowl, when the peacock uses its large colourful tail to signal the peahen (Debelle et al., 2017). Nevertheless, in the field of corporate communication signalling theory was first introduced by (Spence, M., 1973) in his widely citied article "Job Market signalling" which he authored based on his PhD project in Harvard University where he researched the Market Signalling. In that work signalling theory sought to more fully explain the information gap between the employers and the job seekers. Before hiring, employers can not properly assess how well the job seeker will fulfil the job requirements before appointment. On the other hand, the jobseekers will signal their skills and qualifications to the employers by applying to the job. The hiring process, according to Spence, looks like buying a lottery: there is always a margin of uncertainty associated with the decision. After the decision is made any adjustment needed from both parties, either by training and education from the employer or the cost of quitting by the employee is referred to as "signalling cost". Thus, researchers refer to this theory wherever there is information asymmetry in labour market (Morris 1986). For example, where the managers who possess the information will voluntary use it to give signals to the outside parties who are interested to know the firm's news (An et al. 2011). Under this theory managers are interested in sharing their achievements and the positive performance that their firms have actualized. Within signalling theory the notion has been developed that the managers intentionally provide such signals to market themselves in the labour market as distinguished and successful leaders (Morris 1986). Sometimes, companies want to make their competencies visible and to offer the relevant information that investors and potential investors need for decision taking (Li, Jing and Mangena 2014; Kang & Gray 2011), allowing precise evaluation (Edvinsson and Malone, 1997). An et al., (2011) stated that signaled disclosures to investors normally comes with good quality information and is helpful for decision making and reevaluating the company's value. It gives numerous details about products, future plans, growth potential and expansion strategies (Morris 1986). In addition, (Li et al. 2008) suggested that firms may try to signal their expertise and excellence to the market in the form of voluntary disclosure concerning the qualifications of management, and employees as well as business strategies and business lines. This point of view is also concluded by (García-meca et al. 2005). Hence, signalling theory can give us some explanations for managers rationale in disclosing voluntarily financial and non-financial information.

3.2.4 Stewardship Theory

Modern corporations' goals, have been shifting from the owners' wealth maximization towards value maximization and sustainable growth. Thus, stewardship theory builds its arguments on the idea that there is no clash of interest between the managers and the owners as suggested by agency theory . Conversely, stewardship theory assumes that the managers behave like stewards for the organisation, the owners and all other stakeholders (Fox & Hamilton 1994). Under this assumption, the managers are naturally motivated to take all decisions that are in the best interests of the organisation and its owners, staff, and other stakeholders (Cohen et al. 2006). Hence, managers will seek to maximise business performance and will take the necessary actions to achieve sustainable growth and a reasonable return on investment (Davis 2002). These assumptions are built on the work of organisational sociology scholars (Mcclelland, 1961; Herzberbery, et al, 1959) as citied in (Donaldson & Davis 1991). They present the manager as the *good-man* who will take care of the business on behalf of the owners opposing the arguments of agency theory; the managers here will be driven by their latent need for achievements and success as they see the business prosperity as personal achievements for themselves. Also, they thrive and gain self-satisfaction through distinction and accomplishment by doing excellently in a challenging work environment; they present themselves as stewards seeking the opportunity to prove their leadership, accountability, and responsibility towards their institutions and their employers.

3.2.5 Impression Managemnt Theory

Impression management theory poses that the managers will try to influence audiences' perceptions by information dessiminated about the firm's performance, achievements and or managerial, operational success. Impression managemnt has it roots in psychology literature as it provides explination for individuals behaviour who aim to control the impressions of others (Brennan et al. 2009).

Most accounting research of impression management are based on the postulation that managements are motivated by a latent desire to present a self-serving view of firms' performance, this understood in nomerous ways: firstly, management intention to cover poor performance, or secondly, their desire to highlight their successes and highlight their accomplishments (Rutherford 2003).

It is easy to connect the firms' visual (graphs and pictures) and textual (narratives) disclosures to impression management notion, however, it is not easy to draw a consise conclosion that the disclosure is exclusively motivated by impression management notion, due to overlapping between this notion and other notions provided by signalling theory and stewardship theory (Beattie 2014).

Approaching volunatry disclosure from the impression management point of view take into considerition two goals that the managers want to achieve: firs to hide bad news so managers intend to distract the information users from accessing these bad news as palliative procedure or to mitigate any consequencies on share price, and the second goal is to signal or underscore a good news and make them more visiable to the information users (Davison 2014).

3.2.6 Resource Dependency Theory

The resource dependency theory is not common in voluntary disclosure studies. It was first proposed by Pfeffer and Salancik's (1978) and has mainly applied in the strategic management field to explain firms interaction with the external business environment. They state that "to understand the behaviour of an organization you must understand the context of that behaviour, and the ecology of the organization". Thus, according to their argument the firm cannot be independent by itself as the firm's success is contingent on the success and effectiveness of its supply chain which depends on the vendors and providers, distributers and customers etc., or as they referred it the state of *interdependence*, However, other scholars in management field have used this theory to explain merger and acquisitions decisions (Hillman et al. 2009).

Resource dependency theory posits that the board of directors represent a critical resource for the firm and accordingly the board structure, size and composition are heavily depending on many factors including the external environment, firm strategy, and operational and financial performance (Pearce and Zahra, 1992). The board of directors will serve as an information channel to facilitate information flow from the company to the outside organizations and individuals (Williams & Ecker 2011). Moreover, and according to arguments by Hillman et al. (2009) resource dependency theory will motivate positive information sharing between the firm and the other interactive parties (Drees & Heugens 2013). Hence the providers, customers, investors who represent the relational capital for the firm will need information and the firm will be keen on providing information through different communication channels to satisfy its *business-allies* needs. Moreover, (Li et al. 2008; Haniffa & Cooke 2005) argued that resource dependency theory provides a foundation for the independent non-executive board member in facilitating the ICD. As those members be motivated to facilitate the IC transparency , providing informative, wider, non-traditional and *non-ritualistic* disclosures. This argument is also supported by (Abeysekera 2010).

3.2.7 Decision Usefulness Theory

According to (FASB 2006) the objectives of financial reporting are to provide useful information that helps the information user in making informed investment and credit decisions; also it allows the information users to evaluate the business' ability to generate cash flow. In addition, the financial reports will provide useful information about the firms' resources, claims on these resources and any expected changes to these resources. Thus, the argument behind decision usefulness theory is very much in line with the objective set by the **FASB** as it states that effective financial reporting should offer useful information for decision making from the investors point of view (Hooks and van Staden, 2004): this means information should be reliable, relevant, and timely (Al-Hababseh, 2016). Useful information according to Edvinsson and Malone, (1997) is that information that helps the information's users to understand the difference between the book value and market value. Furthermore, decision usefulness theory facilitates the understanding and gives insights into the usefulness of disclosures made by firms, which are also is contingent on many factors e.g. (context, industry, geographical and political context etc.,)

Decision usefulness theory, to some extent, overlaps with signalling theory on the point of quality of information and with stakeholder theory and legitimacy theory in terms of considering the surrounding work environment and the relating parties need for information that facilitates their interaction with the firm (Ax & Marton 2008). However, this is not a strange or odd conclusion. Most theories used to explain voluntary disclosure (Agency, Stakeholders, Stewardship, signalling … etc.) have more similarities than differences. Differentiation between them or choosing one rather than the rest of theories depends on the context of the study, and the discovered motivation of the phenomenon.

3.2.8 Legitimacy Theory

Legitimacy theory suggests that companies operate within a social and geographical boundary and must obey the social contract that organises its relationship with the components in the neighbouring environment (Deegan 2002). Business firms have no interests engaging in any kind of conflict with the social environment as long as it is not jeopardising its survival. Thus, we find that companies voluntarily share all the information that supports its image as a good citizen and proof its good deeds within its social boundaries. Legitimacy theory can to some extent explain the firms' motivations to disclose some sorts of IC items - for example social connectedness, training of employees, establishment of apprenticeships, opportunities for the local communities to benefit from its infrastructure etc.: these all aid its appearance as legitimate in the eyes of the surrounding society and help to avoid any possible conflict arising from claims of illegitimacy (Guthrie & Boedker 2006). However, IC can be a source of the legitimacy for companies ,especially when it comes in form of society-friendly operations e.g. creating new jobs, engaging surrounding academic and research entities in the companies' RD activities and educational partnerships, especially in offering vocational training and professional internship opportunities: all of which allows the firm to build up its social and relational capital, in addition to promoting its image as a good citizen and cooperative member of society.

3.2.9 Stakeholders Theory

Stakeholder theory is considered one of the key theories for accountability and CG (Solomon, 2010). Under stakeholder theory the general assumptions it posits is that the firm of business operates within a complicated multi-party environment, engages with this environment operations (Cots 2011). These parties, which are called stakeholders, are either affected by or affecting the business (Deegan 2009) Accordingly, companies will disclose information voluntarily to address the outside stakeholder's concerns and to encourage their engagement in its different activities (Michelon & Parbonetti 2012). Each category of stakeholders has their unique expectations from the business firms; for example, shareholders want continuous growth of wealth, governmental departments want compliance, and the analyst wants information that facilitate their forecast and analysis. Accordingly the information requirements are varied and under the premises of stakeholder theory the companies are expected to satisfy all these information needs. In addition, companies communicate a different type of information via its annual reports to address a different type of stakeholders and in response to a varied and wide range of needs for information. Moreover, companies that adopt a responsive disclosure policy may find themselves in better communicative position which result in a better mental image and the ability to be more competitive than companies that neglect stakeholders' claims for information.

3.2.10 Political Cost Theory

Companies operate under political pressure from different parties including but not limited to tax agencies, municipal and federal administrative agencies, environmentalists, labour unions and supervisory, regulatory and licensing bodies. Hence, under the premises of the political cost theory managers will report information voluntary to satisfy the regulators and governmental agencies or any other public sectors needs for information and to avoid the political cost of inspections form supervisory agencies or the political cost associated with disputes with environmental and labour activists (Rodrigues 2005). In addition, companies disseminate discretionary information to avoid governmental actions, or to benefit from incentives that government offers for transparent firms: this could be tax incentives, public subsidies or sometimes merely eo avoid public displeasure: this suggests that political and regulatory incentives will motivate and enhance voluntary disclosure (Healy & Palepu 2001; Suzuki 2005).

3.2.11 Proprietary Cost Theory

This theory postulates that managers on certain occasions try to hide information because they think that releasing that information to the public may harm their firms (Healy & Palepu 2001). However, this theory is sometimes, according to Julie et al., (2011), used to explain management behaviour in voluntary disclosure about non-financial sensitive information e.g. new products or future expansion plans. This kind of disclosure will be subject to the management's perceptions and estimation of potential benefits of the disclosure; an example would be facilitating the access to equity capital or creditors assessment to lend the disclosing entity credit facilities (Botosan, 1997). The favourableness of the information will play a crucial role in incentivising or disincentivising the executive management to voluntary disclosure. Thus, the proprietary costs theory posits that good news is more likely to be more disclosed by managers ,as this will pass information that will not affect their privileged position in relation to the informed party or will not harm their competitive advantage (Healy & Palepu 2001; William 1994). Another explanation for voluntary disclosure under the proprietary cost assumption is that the company will find itself needing to disclose information if peer companies in the market have disclosed such information; this is especially true when it comes to sensitive types of information i.e. new products, patents, and new market entry etc., (Healy & Palepu 2001; Singh & Mitchell Van der Zahn 2008; La Rosa & Liberatore 2014).

Table 3.1 Theories Comaprison

Theory	Notion	Targeted Audiences
Agency Theory	Principal-Agent Relationship	Share-holders Debit-holders Other interested parties like government, regulators etc.,
Positive Accounting Theory	Set of contracts between of the owners and the executive management	Stakeholders
Stakeholders theory	Accountability and putting executive management against responsibility	Companies wide range of stakeholders (Employees, tax department, analyst)
Signalling Theory	Information asymmetry Communicating Success	Market
Legitimacy Theory	Social contract between the company and the society Firm's citizenship	Society as whole
Stewardship Theory	Benefits and goals alignment between management and owners	Owners and potential investors
Impression Management	Control the audiences' impressions by hiding bad news and highlighting good news	Information users
Decision Usefulness Theory	Firms should provide information to that timely	Information users

	reliable and useful for decision makers.	
Resource Dependency Theory	How the external resources of organizations affect the behaviour of the organization.	Other Organizations
Political cost theory	Compliance with regulators requirements	Governmental and tax agencies
Proprietary cost theory	Cost-benefit analysis of disclosure	Market

3.3 Theoretical Perspective of the Intellectual Capital Disclosure

A researcher can not assume one direction for the relationship or the driver of the ICD. It is a debatable and multi-faceted issue, involving many determinants, relationships and many engaging parties. This study approachs the ICD as a dependent variable while the independent variable is basically the corporate governance (board structure, management structure and ownership structure). Hence, the basic theoretical foundation for the relationship between the study variables is agency theory. However, due to the overlap between theories and conflicts of interpretations, some researchers may suggest other theories to explain the motivation and determinants of voluntary disclosure: currently there is no consensus among researchers concerning one comprehensive theoretical framework to explain the disclosure phenomenon.

Regarding the Intellectual Capital Disclosure, the situation is the same: there is a no consensus between the scholars on one theory or certain theoretical framework to explain this phenomenon (An et al. 2011). Thus, An, et al., (2011) have introduced a suggested theoretical framework to explain the motivation of the ICD.

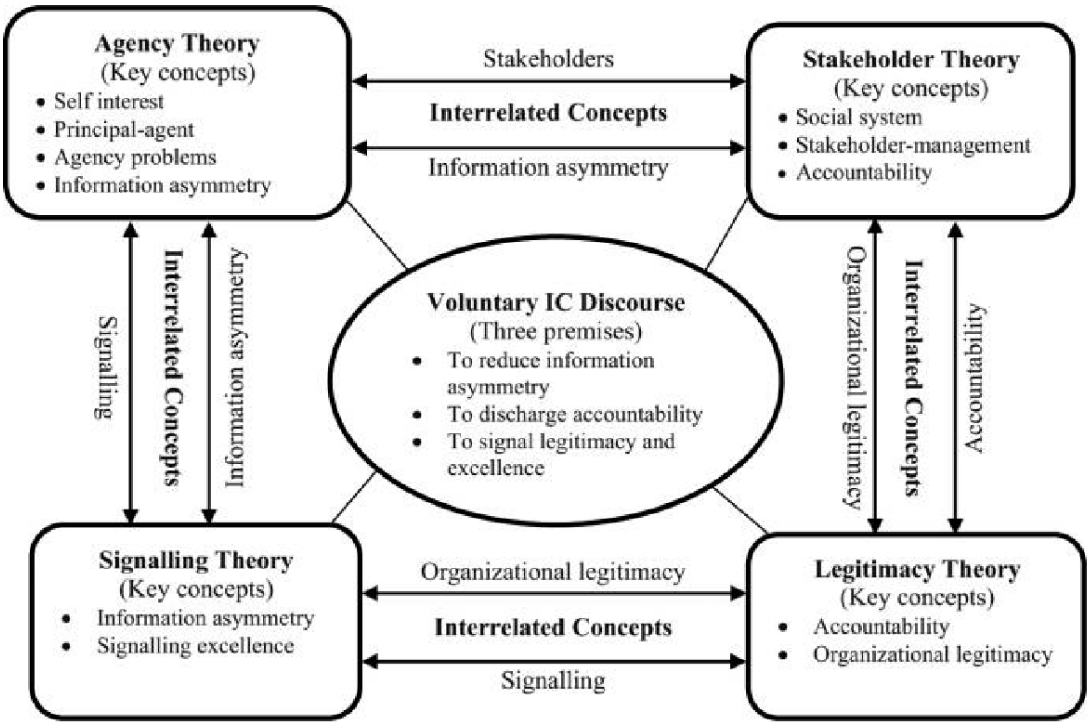

Figure 3.1 Suggested framework for ICD.

Credit to (An et al. 2011)

Hence, An et al., (2011) as mentioned before assumed that these four theories are complementing and supporting each other rather conflicting in explaining corporate behaviour in voluntarily sharing information about its IC. However, An et al., have suggested that this framework can not be completely perfect to interpret the ICD. Thus, they suggested that more theories could be empirically tested to further development of a comprehensive theoretical framework to ICD.

3.4 Summary

This chapter has discussed the theoretical framework for the study and presented all conflicting theories in the area of voluntary disclosure.

Many theories are suggested by accounting literature to explain a firms' voluntary disclosure motivations and its disclosure choices. These theories include, but are not limited to, agency theory, signalling theory, stewardship theory, resource dependency theory, decision usefulness theory, legitimacy theory, stakeholders theory, political cost theory, and proprietary cost theory.

The current chapter presented some suggested theoretical frameworks in literature for the sake of understanding and explaining the firms' behaviour when they practice ICD. Furthermore, this chapter presented a clear definition of the research variables and how they will be empirically measured as well as the control variables and why they are incorporated into the current research model.

4 Literature Review

4.1 Introduction

Companies' value maximization goal encourages companies to disclose more information to stakeholders (Jenesn, 2002). Hence, companies tend to voluntary disseminate information about its leadership, sustained competitiveness and it's various aspects of performance to satisfy the different stakeholders' needs for information, to signal the market, and to enhance its ability to reach capital (Mangena et al. 2016; Li, Jing and Mangena 2014; Abdulkarim, 2012). This motivates companies to disclose information about their financial as well as non-financial assets, as that will improve the understanding of organizational performance perceived by audiences in markets (Mouritsen et al, 2004). Within this scope and according to Petty et al. (2008) financial information users still ask for higher levels of transparency because respondents think that the disclosure about IC can be very rewarding for the companies in terms of market value (stock price in the financial market) (Shalev 2009). Management, in order to reduce the agency cost, try to disclose more information about operations, projects, future plans, and financial and nonfinancial activities. (Watson et al, 2002). In addition, promoting the firm's reputation in transparency, will reduce the cost of capital. (Beattie & Smith 2012).

This chapter considers the prior studies in the field of ICD and discusses the relevant literature to this topic; it provides a critical review to the existing literature dealing with examining the relationship between the CG and the ICD.

4.2 Prior studies

4.2.1 Intellectual Capital; the concept and the measurements

Intellectual capital comes with a high importance for business success, growth and long-term sustainability (Squicciarini & Voigtla 2015) and (Su, 2014). In addition, it gives the firms the momentum and energy to compete in the market (Bratianu & Orzea 2013). It is also considered a key value driver and strategic element to enhancing the competitiveness of the companies (Lerro & Schiuma 2013). Mouritsen & Roslender (2009) indicated that IC leads to development of new positive relationships between staff, customers, technologies and the organization itself. Likewise, Murthy & Mouritsen (2011) in their case study of an Australian Bank (Bank of New South Wales) studied the relationship between the IC and financial capital. They find that IC has a positive impact on financial capital and on the bank's value as a whole. In addition, they find that the investment in human capital results in the development of organizational and relational capital and the other components of IC. IC is increasingly attractive field for academic and professional studies from different angles. Many studies have addressed the subject of Intellectual Capital either as a concept of intellectual capital, how it recognised within firms and the attempts to theorise the ICD e.g. (Guthrie, 2001, Edvisson and Malone 1997, and Kaplan and Norton 1992). Those in the early stages of IC research dealt with IC as a concept, and its components were identified according to (Edvinsson 1997; Edvinsson & Sullivan 1996). Intellectual capital was defined as knowledge, properties and intellectual materials that have been obtained and leveraged by the entities. This was to produce more assets or to increase value, (Lerro et al. 2014). According to these studies IC divided: firstly, into human capital, which included staff competences, capabilities, expertise, skills, and/or expertise that could be used by the entities to generate competitive advantages or deliver products and secondly, structural capital: this consists of policies, procedures, systems, infrastructures and/or patents that can be transformed into value.

Sveiby (1997) (P. 9-11) provides a similar definition for IC with one extra subcategory in which he defines IC as all intangible assets that enable the firm to achieve its goals: this includes three sub-categories: employees' competencies (Human Capital), internal structure which include polices, concepts, patents, administrative and technological infrastructures. Finally, the external structure which is identified as the relationships with customers, suppliers, and providers that affect the firm's image and reputation in market. In addition, some professional and standards setting bodies introduced definitions for IC and its categories or components e.g. (OECD 1999) and (CIMA 2003): they offered a generic definitions in addition to the one provided by IIRC (2012) for the IC. Quoting those definitions here provides a clear image of how the professional bodies and standards setters understand the IC:

According to OECD (1999)*" "**Intellectual capital" is of substantial and growing importance in innovation and productivity growth, enterprise competitiveness and economic performance. Intellectual capital comprises a number of components, including R&D, technology and intellectual property rights; human resources; organisational and workplace structure; marketing, customer and supplier networks; and software**."* What we can learn from the above-mentioned definition from a professional internationally-active body for spreading guidelines for the best practices, is the emphasis placed on the role of IC in productivity and growth. This is understandable as the organization itself (OECD) is devoted to raising awareness and helping nations especially less developed ones to grow. Hence, OECD divides IC into two categories: -

1. Organisational capital where they place structural capital under the umbrella of organisational capital;
2. Human capital.

CIMA (2003) also offered a comprehensive definition for the IC: as the proprietorship of knowledge, practical experience, technologies, customer's relations and specialised skills that provide the firm with a competitive advantage in the market. This broad concept of IC is further classified into three sub-categories of capitals:

Human Capital: this is presented by CIMA as all intellectualities implied by the staff of the firm that leave it at the end of the working day. This includes all skills, experiences, tacit knowledge, professional training, creativity, innovation, staff loyalty, management competences and all attributes relating to good quality employees.

Relational Capital: all useful resources that connected to external parties with whom firms have a relationship. This include customers, suppliers, research and development partners, and indirectly all relations that exist by dealing with these parties e.g. reputation, a firm's mental image and the loyalty of customers.

Organizational Capital: this is introduced as the tacit knowledge, which stays at the firm at the end of the working day, and includes systems, plans, IT infrastructures, copyrights, intellectual properties e.g. patents, franchises and trademarks.

All the shown definitions are reliable as they are issued by International professional bodies. And give a clear picture and comprehensive understanding about IC, its components, and categories.

A notable amount of research recognized the measurements, managements and recognition of the IC e.g. (Guthrie & Petty 2000; Tangles et al, 2007; Striukova et al. 2008; Zéghal & Maaloul 2011; and Wyatt 2008). This stage of study described as "*the ostensive*" stage; according to (Mouritsen 2006) or the first stage of IC research according to (Dumay & Garanina 2013). This stage is characterised by emphasise on the measurements and accounting treatment of the IC to generalise the findings to the other organisations (Cuozzo et al. 2017). In addition, it expatiated the determinants of ICD and practices associated with reporting IC items, e.g. (Beretta & Bozzolan 2008; García-meca et al. 2005; Bellora & Guenther 2013). To measure IC many models have been presented and the following part will give a brief description of the most common:

Skandia Navigator: Skandia is a Swedish assurance and financial services firm with multi-arm, sophisticated and high-risk business activities including general insurance, life insurance, pension and mutual funds management, hedging and investments management. Skandia, founded in 1885, was the first ever company to establish an independent department to assess, measure and report to the management the IC within the company. This was in a very early stage during the period from the late 1980s to early 1990s (Edvinsson 1997). The Skandia navigator model in measuring IC, groups the intellectual items into two main groups. The first group is Human Resources which includes, knowledge, know-how, skills, and collective abilities to serve the customers or to solve their problems. These can be evaluated according to its participation in generating income for the firm. The second group is Intellectual Assets which includes, patents, productivity, policies, procedures, systems, software, computerised processes and knowledge stored in electronic devices or in written form. Evaluation of these items is based on their commercialisation value (Edvinsson & Sullivan 1996). The Skandia model shows the relationship between the tangible and intangible assets as a house where today's inputs (human capital) fuels the development of tomorrow. The figure below summarises the assumed relationships under Skandia model:

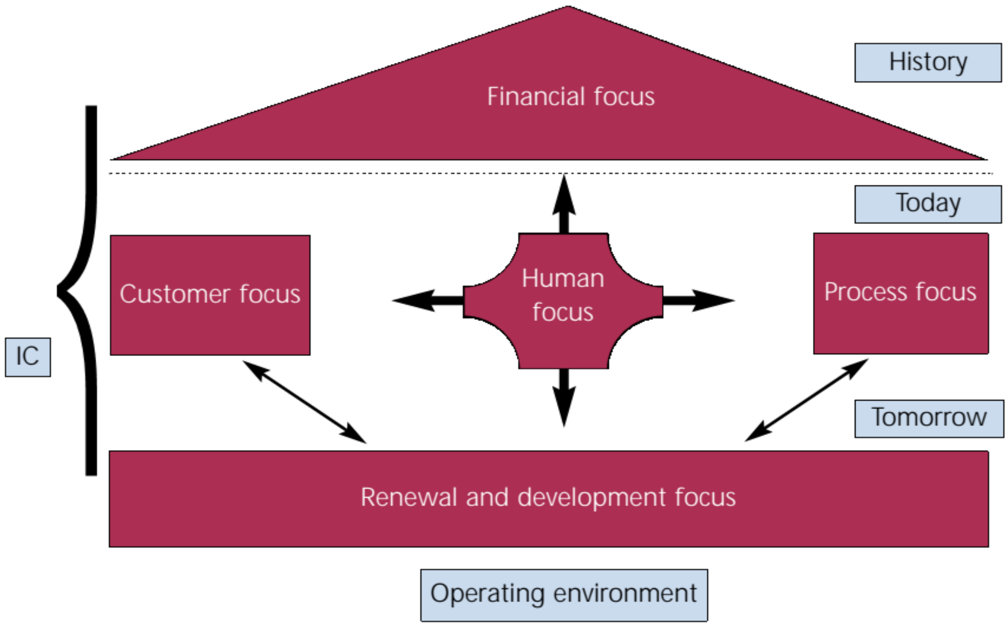

Figure 4.1 Skandia Model.

The source is Edvisson, 1997.

Balance Scorecard: This measurement method belongs to the performance based measuring group. It was developed by Robert Kaplan and David Norton in 1992 for processes re-engineering; the balance scorecard has many applications and one of these applications is IC measurement and reporting (CIMA 2003). The balance scorecard takes into account both financial and non-financial measures to evaluate the progress of performance of the firm and its subunits (Bose & Thomas 2007). The evaluation of IC using the balance scorecard methodology will be on both a strategic level (the growth aspects e.g. market share, assets, goodwill …etc.) or on short-term aspect eg. ROI, ROE, (Sydler et al. 2014).

Ericson Cockpit: Ericson is a Swedish telecommunication company and it has developed a special version of the balance scorecard to measure and report its IC (CIMA 2003). Their model was customised to five groups of IC items which are: *innovation, employee, process, customers and finance.* Thus, Ericson's model in IC measurement is affected by the company paradigm as a cutting-edge technology and communication firm: the model is web-based and run on a top-down system i.e. starting from corporate vision and log-run strategy then moving down to the executive procedures that intend to actualise these visons and strategies taking in consideration all the KPIs and key success factors (Gogan et al. 2014).

Market to Book Value: This model is the easiest and simplest one, and the most used by investors and analysts, as it simply refers the value of IC as the difference between the book value and the market value as the difference will attributed to the intangible assets and other intellectuals. A very much similar model developed by James Tobin known "Tobin's q" where instead of taking the difference between the book and market values, Tobin's q takes the percentage of the difference to the replacement value of the assets (CIMA 2003).

Benchmarking: was introduced to give a competitive edge for the companies' IC needs to be measured and analysed in the context of comparison with rival companies (Sydler et al. 2014). Thus, under this model the IC items are evaluated based on comparing the firm's IC to outstanding practices offered by peer companies anywhere around the globe (Marr 2004).

IC index: this model relies on the idea of dividing and grouping the IC items into main value drives. Then these groups are evaluated based on their ability to create value for the firm (Grimaldi et al. 2013). The figure below summarises the IC index model hierarchy to measure the value of each of the aspects in IC.

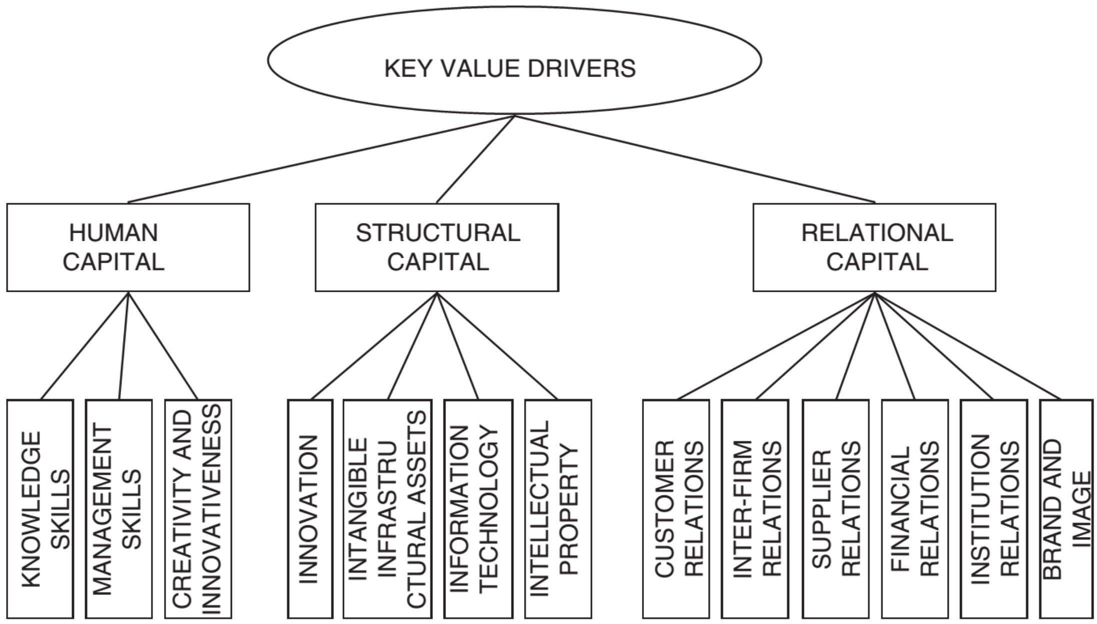

Figure 4.2 Intellectual Capital Index

Grimaldi et al. (2013)

The second stage of IC research focuses on the benefits of IC to business, including its role in value creation to business and its role in enhancing firm's performance. This stage which according to Mouritsen (2006) is the "*performative"* stage or the second stage of IC research according to (Guthrie et al. 2012; Dumay 2014b).

The third stage of studying IC is the critical approach (Dumay & Garanina 2013). This stage began to evolve when a stream of researchers started to think beyond the barriers of grand theories[15] and accounting treatment or measurement and started digging deeper towards exploring the way firms practiced or utilized these resources to create value. Also, this stage is characterised by offering critique of the previous mainstream literature in the IC field (Schaper 2016; Chiucchi & Dumay 2015; Dumay 2014a; Marzo 2014; Baboukardos & Rimmel 2014). Moreover, according to Dumay (2012) researchers in this stage have to dirty their hands in practice and not keep looking down to the concept from their academic *ivory-tower*.

On a separate note, the importance of IC for the business firms has been well-identified in the literature. As such, (Burgman & Roos 2007) highlighted the importance of ICD for companies and

[15] According to (Dumay 2012) there are two main grand theories in IC the first is the book to market value as indicator of the IC value. And the second is how the ICD participates to increase in profitability. Dumay's point of view. These two theories are not empirically proved. Thus, the research must be critical to these theories.

for communities, as providing leadership and advancement mechanisms for the companies and facilitating transparency and enhancing the decision making process for investors and other stakeholders. Henceforth, they suggested that ICD should become mandatory and a prerequisite for listing in European countries. Further, reporting on IC can positively help in giving a full picture for the business's real value and the potential growth opportunities. (Guthrie et al. 2007). Additionally, Sullivan (1999) assumed that IC participates in firm's goals actualization effectively and on a timely basis. Thus, IC becomes a profitable investment for the firm as well as giving the firm abilities to benefit from its investments in intangible assets or intellectuals in two dimensions. The first one is in value creation: as according to this study, firms can utilise the existing intangible assets to provide new knowledge and provide new technologies, and commercial and business solutions. The second dimension is value extraction which refers to an enhancement of proficiency and effectiveness that will enable the companies to convert those intellectual properties into cash. Other researchers tried to introduce acceptable framework for studying the IC e.g. (Petty & Guthrie 2000; Abeysekera 2006; An et al. 2011; Vlismas & Venieris 2011). Unfortunately, the previous efforts failed to reach a consensus or introducing a united theoretical framework to study IC and this would encourage more studies in this aspect.

Connecting the IC with the firm's performance was also examined in different contexts, e.g. (Vishnu & Gupta 2014; Sydler et al. 2014; Lu et al. 2014; Sharabati 2013; Sharabati et al. 2010; Mouritsen 1998). Vishnu & Gupta, (2014) studied the IC and Performance in pharmaceutical firms in India and they concluded that there is a positive relationship between the performance proxied by (ROA) and the ICD in pharmaceutical industry. Sydler et al (2014) conducted their study in Europe and found a positive relationship between IC and performance: and this was also the case with the remaining studies. Moreover, normally higher levels of intellectual capital within the companies are associated with better performance, lower costs of production and higher financial efficiency. This will encourage companies to report more information about its IC within its annual report to emphasise this role of IC and to draw the attention of the information users for this in order to reflect this in the market value, (Melloni 2015; Anwar 2014) Chen et al, (2005), applied the value added intellectual coefficient (VAIC) technique and developed a regression model to examine the relationship between the IC and a firm's market value and its financial performance using a sample from Taiwanese listed companies. Their results indicated a positive relationship between the IC and the market value of the firms and its financial performance. A very interesting point raised by Alcaniz et al. (2011) suggesting that IC, as a set of resource,s needs to be properly managed not only of the firm's business levels but on the wider level of macroeconomics. As according to their study the development of IC is heavily dependent on the regulatory environment and technological and educational infrastructure which in turn rely on the state collective effort to offer such environment or infrastructures. Similarly, (Handzic et al. 2016) examined the relationships between intellectual capital and the business success. The have surveyed 603 project managers for this purpose. They found that there is a positive effect for IC on business success in different ways: in terms of processes they found it become more efficient and timely. Staff were also affected by enhancing the team-work and knowledge sharing. And finally, the customers were also positively affected by IC as they found that an increase in IC will bring more value to customers: in the form of better products or services or as better support for commercial activities.

4.3 Intellectual Capital Disclosure (ICD)

ICD is a very important focus to tackle the ambiguity that surrounds intangible assets. According to the current IFRS most intellectual capital items are invisible in financial statements; this intensifies the problem of information asymmetry (Yu et al. 2017; Alcaniz et al. 2011). Recently, (Dumay 2016) has distinguished between two separate terms; IC disclosure and IC reporting. According to that study *"the revelation of information that was previously secret or unknown "while reporting is a "detailed periodic account of a company's activities, financial condition, and prospects that is made available to shareholders and investors"*.

The first documented corporate disclosure about the IC was in the Swedish corporation Skandia; in the early 1990s it started to release its IC statement that covers its human capital and intangible resources (Edvinsson 1997). Voluntary disclosure literature has documented many benefits for ICD. This include lowering the cost of capital (Botosan, 1997). Also, ICD is found to directly affect the perceived risk by external auditors (Demartini & Trucco 2016) as according to their comparative study of a sample of 191 listed companies (164 UK companies and 27 Italian companies) they found that the audit risk assigned by external auditors indicated by the audit fees is lower in the case of companies that have a higher ICD level. ICD is voluntary as it is not required by either IFRS or regulations, apart from South Africa where the IR is a listing requirement and under the <IR> the company needs to provide information about all its capitals including IC. However, it is worth mentioning that Dumay & Guthrie (2017) provide another type of information which is not mandatory nor voluntary, they call it "*involuntary disclosure".* This type of disclosure is the information that is provided or triggered by outer-parties i.e. either stakeholders (employees unions) or stake-seekers (rating agencies).

4.4 Determinants of Intellectual Capital Disclosure in the annual reports

A few studies have explored the determinants of voluntary disclosure generally (Raffournier 1995) and likewise there are studies dedicated to examining the determinants of IC voluntary disclosure, these studies have examined the conditions and factors that are expected to direct voluntary disclosure behaviour and to explain why companies disclose IC despite it not being mandatory. The following section will summarise the relating prior studies that have explored or examined the determinants of ICD but not the CG factors: this will be discussed in independent part later.

Many reasons can motivate companies to voluntarily disseminate information about IC. One reason is to bridge the information asymmetry between the insiders and other information users. Other reasons may be to access capital and/or credit facilities, or to legitimise its business within the social boundaries which reflects positively on the relations with employees and other stakeholders. Finally, disclosure can be a marketing tool to either signal the market, or to provide the reassurance to the existing customers or affecting its share market value.

A study by Brüggen et al. (2009) in a sample of 126 Australian companies to explore the factors affecting voluntary ICD using content analysis methodology they examined four factors:industry, size, leverage, and information asymmetry[16]. In that study the researchers found that out of the examined parameters only the industry type and the size have a direct positive effect on ICD. Sudibyo & Basuki (2017) examined the determinants of ICD within Indonesian listed companies using the same methodology (content analysis). They empirically tested the effect of industry, company size, profitability and market capitalization; this study also found that the factors which have a significant effect on the ICD are the industry type, the firm size and market capitalisation. Moreover, Al-hamadeen & Swaidan (2014) have explored the effect of some determinants (size, profitability, leverage, company age, ownership structure, and audit firm size) on the ICD. They have used content analysis to extract information from the annual reports of 60 Jordanian manufacturing companies listed in the ASE. Based on their test they have concluded that firm's size, capital structure, profitability, ownership concentration, institutional ownership, company's age, and the auditor's type have a significant effect on ICD. A meta-analysis study by (Eddine et al. 2015) to explore 19 published papers from ICD literature to assess the effect of certain items on ICD: the items which were covered in their study were namely profitability, size, age, leverage, and industry type. They found that the factors that affect ICD are size, profitability and industry.

[16] Information asymmetry, indicating the shares that are not owned by the top twenty shareholders of a company's capital.

4.5 Intellectual Capital Disclosure Patterns

Studying phenomena patterns will help to understand that phenomena, its components and what is actual happens in the practice concerning that phenomena. Also it will help in identifying the categories, trends and the directions of that phenomena (Schwindenhammer 2013). A few prior studies examined the patterns of ICD e.g. (Andr, Paul, Andrei Filip 2016; Wagiciengo & Belal 2012; Kvaal & Nobes 2012): these studies tried to describe the patterns of ICD in different contexts based on data collected from different industries. However, studying the patterns of a certain phenomenon is a detailed comparative analysis that focuses on describing its forms, categories, contents, components, trends and developments, regularities among these components/categories and trying to draw a conclusion about its importance, role and the expected future of that phenomena.

Identifying IC in the accounting and financial context as the available resources started with the efforts of Skandia in very early of 1990s which is agreed among the pioneering researchers in the IC field e.g. (Sveiby 1997; Edvinsson & Sullivan 1996). Sullivan (1999) identified two general patterns of IC that companies which benefited from them would share in information: these two broad categories are *Human-based capital* and *Paper-based capital*. According to his model, firms will be interested in externally reporting information about these resources to serve the strategic goals of *value creation* and *value extraction*. The OECD report (1999) has used the term intangible to refer to IC. The report emphasised the importance of comprehensive reporting of information about IC in companies: a lack of this information would be risky to both insiders and the outside parties. For the inside parties, including the management, insufficient information about IC will lead to uninformed or distorted decisions and poor planning in the long run.For outside parties the lack of, or insufficient information about IC can be a source of distortion for public policy makers and inaccurate evaluation from analysts. According to the report, the shortage of information about the IC will affect the proper evaluation of the fixed assets. Guthrie & Petty (2000) examined the patterns of ICD in annual reports among the Australian companies. They have adopted the OECD framework for reporting IC items. The data they have collected related to the 19 largest Australian companies and by analysing the contents of these companies' annual reports, they have found that the items reported by the sample covers the broad three categories of IC. These are the *Structural capital* and they identify eleven items within this category: the most reported item was "*the management processes*" and the least reported was the "*IC infrastructure*". Likewise, with the *Customer capital* where they counted nine items within this strand and found that the most reported item within this strand was "*Customers*" and the least reported items were "*the franchises and favourable agreements*". Finally, they have observed seven items under the human capital strand. The most reported item was the "*entrepreneurial spirit within the staff*" and the least reported item was the "*vocational training*".

Bontis (2002) has led a UN supported mission to explore and evaluate IC in the Arab region to develop an index for national IC in the Arab countries. That report has identified the following items of national intellectual capital among the (21)[17] Arab countries that were covered in that survey.

He has identified the following categories of the IC:

1- Human Capital: this include individuals' competencies, education, knowledge, team-work, and communication skills.
2- Process Capital: this includes IT, IT infrastructures, information and communication systems, laboratories, databases, software and hardware, organisational structures, and embedded knowledge including written policies.
3- Market Capital: this includes "*the intellectual capital embedded in national intra-relationships. Market capital represents a country's capabilities and successes in providing an attractive, competitive solution to the needs of its international clients, as compared with other countries. A country's investment and achievements in foreign relations, coupled with its exports of quality products and services, constitute a significant component in its development of market capital, which is rich in intangible assets*"

However, despite the above report being designed to provide guidelines for the policy maker on the governmental level, it can still give us an insightful look into IC patterns and components on the pan-Arab countries level. According to that report, Jordan and Kuwait held the highest levels of national IC. Jordan and Egypt were doing the best in terms of growth in the national IC. In Portugal, (Branco et al. 2010) examined ICD patterns within the annual reports of 24 companies listed in the Lisbon stock exchange (Euronext) over a period of three years. They found that for Portuguese companies focusing most on the human capital and within human capital, the most reported item was training. The second reported IC category was external capital focussed on customers, consumers and certification. The internal structure capital came in the third place and the most frequently reported item was the information systems.

A study by (Abeysekera & Guthrie 2005) to examine the patterns and the trends of the ICD among the listed companies on the Colombo Stock Exchange, Siri Lanka over the period 1998/1999 to 1999/2000 have found that an increasing trend in the level of IC information in corporate annual

[17] These countries are: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Saudi Arabia, Sudan, Syria, Tunisia, UAE, Yemen.

reports over the study period. Moreover, they found that the focus of information is on external capital followed by human capital and lastly internal structural capital. Among the external capital items the brand building was the most reported item followed by corporate image. On the other hand, the “employees’ relations” was the most reported item among the human capital category. Regarding the internal structural capital components, the concentration was on the internal processes as it was the most reported item, followed by the information systems, IT infrastructures and management philosophy. In the UK (Striukova et al. 2008) also have examined the patterns of the ICD by connecting the ICD practices to a certain corporate characteristics. They found that larger firms provide a higher level and better quality disclosures. Retailer companies and pharmaceuticals were the top sectors in terms of level of disclosure. Retail companies obvious focus of disclosure was on relational capital items while pharmaceutical, software/IT companies were almost having a balance of information across all three IC subcategories.

In the emerging markets context a study by Singh & Kansal (2011) conducted over a sample of 20 pharmaceutical fully listed companies in India, they concluded that the pharmaceutical sector in India is not keen on sharing IC information in the annual report and this conclusion was based on the low average score for the selected sample. According to their scale the average score was 18%. However, the ranking of the sub-categories of IC placed the relational capital first, human capital was the second and the last was the structural capital. Disclosure was narrative in nature and numbers and figures were rarely presented in the annual reports. The previous humble ICD profile for Indian corporations is also supported by another study within the Indian context but focusing on identifying the ICD patterns within the IT sector companies. The study was conducted by Bhasin (2009); he applied his examination on 16 IT listed companies to find that only 18 items of IC were reported in the selected sample annual reports. The most reported category was human capital and the most frequent item within this category was the number of employees. The second was structural capital and within structural capital business knowledge was the most reported item. Finally, he concluded that ICD among the Indian IT companies was weak, partial and negligible.

In the New Zealander context De Silva et al. (2014), in their 10 year longitudinal study of ICD patterns, examined intellectual capital reporting of five traditional product-based companies and five knowledge intensive companies all listed on the New Zealander Stock Exchange; the study was based on data extracted from the corporates annual reports and the supplementary reports (Semi-annual reports, press releases etc.,). They found that ICD covered each of the three categories: human capital, external capital, and internal capital. Also, they found that internal capital was mostly reported in a general and discursive way. Numerical and monetary information were associated with the internal capital items like brands and business partnerships. While the human capital items were covered in qualitative information mostly. They noticed that the range of items reported increased over time during the study period. However, they did not find differences in disclosures patterns between the two types of firms (traditional and knowledge based) which indicates no industry effect on the ICD in New Zealand.

Recently, a study by Giacosa et al. (2017) explored ICD practices within Italian firms: they found that there are mainly three channels for ICD: the traditional (annual reports and periodic and term bases reports), websites and modern disclosure channels (social media e.g.(Facebook and twitter) and professional networks e.g. (LinkedIn and Quora). Moreover, they found that there is no conflict in the contents of any of these disclosures; however they did find that websites offer more timely information for the investors and that annual reports remain the essential source of information for the investors and the analysts. Social media disclosure is participating in connecting the audience to the company and building a modern interactive relationship between the companies and their stakeholders.

Another Inter-European study, has analysed the typology of IC based on a survey covering five European countries divided into two groups: firstly, developed and long established market economies which included Italy, Finland, Spain and secondly, developing and moving toward the free-economy with a long-centralised economy heritage. That study which was conducted by Inkinen et al., (2017) surprisingly, reported that, subtle differences between the perceptions of the IC categories among the respondents. A special feature of the Finnish IC construct was the treating of Trust Capital (TC) as a component of IC. TC which is referred to as stakeholders' attitudes toward the firm which are established based on assumptions that the firm will act and behave in their best interests and will not do them any harm. Another interesting feature of IC was discovered in the responses from Serbia: this is the Entrepreneurial Capital (EC) defined as managerial behaviour taking the initiative and starting change for a better situation. They explain that occuring within the Serbian context as the country is moving speedily to the free market model and thereby fulfil the requirements of full membership of the European Union (EU). Moreover, the researchers introduced the concept of super-culture which referres to the set of perceptions, beliefs, attitudes, values, and general accepted set of norms and behaviours in certain society. This will affect the institutional/organisational perception to the IC model. This indicate a kind of structural and configurational differences in IC among the countries based on cultural and soci-political differences.

4.6 Corporate Governance and Intellectual Capital Disclosure

Studies reporting the determinants of ICD level and quality are rare; they are even fewer when it comes to examining the effect of CG on the ICD (Baldini & Liberatore 2016). Even though it is indicated in the literature that there is a linkage between corporate governance mechanisms and

ICD (Bellora & Guenther 2013; Abeysekera 2010). For instance, Rodrigues & cia Lima (2017) have examined the influence of boards of directors on listed companies' voluntary disclosure of information concerning intellectual capital. They have studied the annual reports of 15 listed Portuguese companies over a period of five years, using content analysis and regression techniques. They found that ICD increases with company size, dual corporate governance models, industry, listing on sustainability indexes and increases in board size up to a maximum point (beyond which disclosures decrease). ICD are reduced by CEO duality and by a higher proportion of independent directors on boards. Likewise, Li et al. (2008) studied the relationship between CG variables (board independence, role duality, and ownership concentration) and Audit Committee characteristics (size, frequency of meetings) on the levels of ICD among firms listed in London Stock exchange. They found a positive relationship between all these variables and ICD except for CEO duality.

Ho & Williams (2003), conducted a comparative international study to examine the efficiency of the value added by firms from physical capital and intellectual capital resources. Capturing the data from annual reports for listed companies in three different countries [UK 108, Sweden 94 and South Africa (SA) 84] they then applied multiple regression tests to examine the relationship between the Governance features and the performance indicators (physical and intellectual capital). Their results showed that there is some significant association between the board features and corporate performance but not consistently in the three countries. Likewise, Hidalgo et al (2011) in a study examining the influence of corporate governance on IC, considered the effect of board size, board independence, role duality, insider’s ownership, ownership concentration and institutional ownership, building on agency theory premises to test the relationship between the corporate governance mechanisms and the ICD. The results show that board size has a positive and significant impact on the disclosure of intellectual capital. In addition, Li et al. (2012), concluded that the “Audit Committee” influences the extent of firms ICD practices and reduce the acute information asymmetry associated with the value creation capabilities of IC assets. Fulikhatun et al (2011), empirically examined the effect of the corporate governance proxied by: board size, ownership structure, management ownership and independent directors within the board and its impact on ICD.

Applying regression analysis to test the data they captured a sample of the annual reports belonging to the banking sector operating in Malaysia; They concluded that based on the results of their study there is no evidences supporting the effect of board size, institutional ownership and the independence of the directors on ICD. Meanwhile, they found that management ownership negatively affects the quantity of disclosed information about Intellectual Capital items. Still within the Malaysian context, Taliyang et al. (2011) explored the relationship between ICD and the CG ((1) board composition, (2) role duality, (3) size of audit committee and (4) frequency meeting of audit committee.) They used the content analysis to collect relevant data from the annual reports of 150 Malaysian listed companies from five different sectors for one year (2009). They found that only the frequency of the audit committee meetings positively affects ICD: any effects from other governance mechanisms were not supported. This conclusion concerning the positive effect of the audit committee on the ICD is consistent with other researchers' findings e.g. ((Li et al. 2012; García-Meca & Martínez 2007; Cerbioni & Parbonetti 2007)). Furthermore, Hidalgo et al. (2011) They analysed the effect of internal mechanisms of corporate governance (board of directors' independence and ownership structure) on the voluntary disclosure about intangibles (intellectual assets) within a sample of Mexican companies. They found that there is a positive effect for the large board size on the amount of transparency that companies deliver. In addition, they found that large size for the board of directors enhances the surveillance role of the board. They also found that ICD is positively affected by the existence of institutional investors within the ownership structure. That was very interesting because the analysis was based on companies operating in a developing country (Mexico). On the other hand, in the context of developed countries and when considering biotechnological companies in six European countries, Cerbioni & Parbonetti (2007) investigated the impact of the board size, composition, and structure and CEO duality as elements of CG on type and amount ICD. They concluded that CG plays an important role in orienting the amount of ICD provided by the European companies operating in the biotech sector. However, there is a negative association between size and role duality with levels of ICD. While the amount of IC information disseminated is positively relate only to the percentage of independent directors within the board. Likewise, Damayanti (2009), in his study of Islamic banks in Asia, examined the effect of ownership diffusion on ICD, controlling for bank size, role duality, auditor and ROA. The researcher found that there is a positive effect for the diffused ownership on ICD, he theoretically supported the idea that scattered ownership will put more pressure on the managements to disclose more information to the stockholders through the annual reports. This comes into line with the agency theory doctrines.

Another study by Li et al. (2007), thexamined the relationship between ICD in knowledge rich firms and the impact of market (Market-to-Book value, price volatility) and governance (board composition, ownership structure, audit committee size and directors' shareholding): the study was conducted over a sample of 100 listed companies in LSE. They used word-count technique to measure the quantity of the ICD and applying OLS regression to test the relationship between ICD and the independent variables, they concluded that there is no significant relationship between board composition and ICD. However, ownership concentration negatively affects ICD. In contrast, large audit committees are associated with more ICD. Lim et al. (2007) conducted their study over 181 Australian listed companies, using a two-stage regression test to examine the relationship between the board independence and the different types of voluntary disclosure. They concluded that there is a positive and significant relationship between the board of director's composition and voluntary disclosure. An identical conclusion was reached by Abraham & Cox (2007). They examined the effect of the board independence on the risk disclosure in the annual reports for all UK Listed companies that have a listing in NYSE: they concluded that there is significant relationship between the board's independence and the size of information disseminated in annual reports by companies in the study.

In addition, Cheng & Courtenay (2006) studied the effect of non-executive independent directors within the board of directors and the voluntary disclosure. A recent study published in this area was by Rodrigues, L. et al., (2016) who examined the effect of the dual CG model, board size, role duality, women within the board and board independence. They also used CA and pooled data regression to process the data of (15) Portuguese companies over a period of five years. Their findings proved that IC disclosure is positively associated with a dual CG model and an increasing board size up to the maximum recommended number by the local CG code. Also they found that board independence and role duality negatively affect the level of information disclosed about IC. Finally, they found that gender composition of the board has no effect of the IC reporting.

Despite the fact that the aforementioned studies were limited to particular aspects of voluntary disclosure items, it can give us some insights about the importance of the board independence in disclosing more information. Not too far from Portugal, this time in Italy Baldini and Liberatore (2026) examined the effect of some CG internal mechanisims on ICD: these were namely (board size, board independence, role duality, ownership concentration, audit committee size) and controlling for the industry if high-tech or not, firm's size, and leverage. They used content analysis methodolgy to examine the annual reports for 172 listed companies. Their findings indicated that among the studied companies only board size, board independence and if the auditors are one of the big four have significant positive effect on ICD.

The most recent study to examine the effect of the CG on ICD was in the Spanish context (Tejedo-Romero et al. 2017). This was a five year longtiudinal study over 23 listed companies. It used an unweighted disclosure index of 53 items and content analysis methodlodgy to check these items presence or absence in the corporates annual reports. The CG factors were board size, board independence, role duality and ownership strucutre; the control vairbales were the firm size, market to book value and the industry. They concluded that among the tested CG factors board size, CEO/Chairman seperation, and directors ownership are positively affecting ICD. Conversely, board independence has negative effecton the ICD.

In developing countries, some studies examine the relationship between corporate governance and ICD practices. For instance, Madhani (2016) studied the effect of CG on disclosure practices with a focus on ICD within a sample of 18 Indian knowledge based assets intensive companies using content analysis methodology. In that study, he found that a strong correlation between the score of CG and the score of ICD. Still in developing countries and in a neighbouring country to India, Bangladesh, Muttakin et al. (2015) studied the relationship between corporate governance and intellectual capital disclosure within companies registered in Dhaka Stock Exchange. They took board independence, CEO duality, family duality, family ownership, foreign ownership and the presence of audit committee as governance mechanisms to examine the effect of these variables on the variance of ICD controlling for firm size, age, leverage and performance. That study found that there is significant and positive effect for board independence, foreign ownership and audit committee on the level of ICD. On the other hand, the study found that there is a significant non-linear relationship between family duality and family ownership on ICD.

Moeifar et al., (2013) explored only the effect of board structure and board ownership concentration on the amount and quality of ICD in Iran. The results indicate that only the board size has a significant correlation with the quality of ICD. Likewise, and in the same Iranian context, Alizadah, et al, (2014) examined the effect of CG on the levels of ICD in pharmaceutical listed companies on the Tehran stock exchange. The study takes the board size and independence and audit committee independence as proxies for CG. Controlling for the performance (ROA), leverage and annual sales, interestingly, they failed to prove that there is a significant relationship between the CG variables and the variation in ICD.

In Malaysia, Zahra Moeinfar, Nasrollah Amouzesh (2011) did not find a significant relationship between the percentage of directors' ownership and the extent of ICD, controlling by other variables in the model such as firm size, age, profitability, leverage and growth. In Jordan; Al-hamadeen and Swaidan, (2014) studied the determinants of ICD in Jordan by examining the effect of firm size, profitability, capital structure, company's age, audit firm and the ownership structure on the levels of ICD using the 40 items dichotomous disclosure index. They used, for the purpose of that study, a sample of 60 manufacturing listed companies and captured the data relating to intellectual capital for one year (cross-sectional). They concluded that among the independents variables the most significant on the ICD process were firm size, ownership concentration and audit firm type (if one of big four or not). The above study is a good indicator about the ICD practice in Jordan but it is subject to the limitations of considering one sector and limited sample number. It is also a cross-sectional study which does not give any insights about the phenomenon's development over time. Another study, examining IC, by Sharabati et al. (2013) was carried out on Jordanian Telecommunication Companies business performance. They surveyed a sample of managers working at different levels in Jordanian Telecommunication companies to explore the effect of IC on the performance of the these companies. They concluded that based on the views of the respondents, IC has a significant role in Telecommunication companies in Jordan. However, the study surveyed a limited number of mangers in one sector. In addition, they did not justify using the internal mangers' views and evaluation of the firms' performance based on qustionanairs' question without incorporating proper quantiative measures; this may affect the generalizability.

The table below summaries the studies that examined the relationship between the CG and ICD:

Table 4.1 Summary of the prior studies on CG and IC.

The Author (s)	The journal	Methodology & Studied variables	Theoretical framework	Finings
Keenan, J. & Aggestam, M.	Corporate Governance International Review. 2001	Conceptual paper	Not specified	Considering the effect of the CG mechanism including Board System Salient Stakeholders Ownership Concentration Dependent Executive compensation: On the IC and the interrelationship between them, the researchers concluded that: - There are important connections between the concept of intellectual capital, which focuses on forming and leveraging an organisation's intangible capital, and corporate governance, which focuses on patterns of stakeholder influences that affect managerial decision-making.
Fabrizio erbioni and	European Accounting	Content analysis, where the sentence	Agency theory	The effects of board leadership, size and composition on

Antonio Parbonetti	Review, 2007	was coded with a score of 0 if it provided no information; with a score of 1 if it provided qualitative information; with a score of 2 if it provided quantitative information. Governance-related variables executive directors or INDs Board size CEO duality Board composition Control variables SIZE ROE LISTING AGE		disclosure are consistent with a complementary relationship between corporate variable and disclosure in monitoring managers. On the other hand, board structure shows a negative effect on the intellectual capital disclosure. The empirical results shown that higher proportion of independent directors enhances the quantity of information disclosed.
Jing Li , Richard Pike & Roszaini Haniffa	Accounting and Business Research 2008	Content analysis was used to collect the necessary Data. Including	Agency theory	Results based on multiple regression models for the three intellectual capital disclosure measures

		Text Numbers Graphs/pictures. The independent variables cover CG items: Board composition, ownership structure, audit committee size and frequency of audit committee meetings, and CEO role duality. And the control variables are the listing age, performance, and firms' size.		indicate that, with the exception of role duality, all corporate governance variables together with firm size, profitability and listing age are associated with one or more of the intellectual capital disclosure measures.
Indra Abeysekera	Journal of Intellectual Capital, 2010	content analysis methodology and the independent vairbales are: Board size, Board independence, audit committee independence. Controlling for the firm's size, industry, and the year of data collection.	Resource-dependency theory.	The number of independent directors on audit committee is highly correlated with disclose more human capital. Boards with larger number of independent directors in committees is significant for firms that disclose more tactical human capital resources Board size can be a "resource" to companies that inform investors about future earnings through intellectual capital.
Ruth L.	Journal of Business	Content analysis. the varibales are:	Agency theory	Findings show that the size of the board of directors is a

Hidalgo, Emma Garcia Isabel Martinize	Ethics (2011)	board of directors and ownership structure. Controlling for the size, leverage, performance and industry.		statistically significant factor in IC disclosure, i.e. the larger the board of directors, the greater its disclosure of intangibles. increase in shareholder ownership by institutional investors is a hindrance to IC disclosure
Jing Li, Musa Mangena Richard Pike	The British Accounting Review (2012)	Content analysis The variables exmined are: Audit committee size, frequency of meetings, the audit committee indepence, director's shareholding, board independence, and share ownership concentration. The controle variables are size, performance, and listign age.	Not specified	AC size and frequency of meetings to be positively related to IC disclosure. AC directors' shareholding is negatively related to IC disclosure. Except for AC size, the results are mixed for the components of IC disclosure: human capital, structural capital and relational capital disclosure. Surprisingly, no significant relationship between IC disclosure and AC independence and financial expertise.
Rahmat Alizadeh Seyed Ali Nabavi Asghar Jahani Bahnamiri	Management Science Letters (2014)	Content analysis The independent variables of the corporate governance: board size, , Role duality, The relative extent	Not specified	Researchers found that there is a positive association between the number of independent directors in the board and the levels of the ICD

		of nonexecutive to executive directors, the auditing committee).		
Mohammad Badrul Muttakin Arifur Khan a Ataur Rahman Belal	Advances in Accounting, 2015	Family ownership, Foreign investors ownership, Board independence, Role duality, Audit committee presence. Controle variables: firm's size, firm's age, Leverage and Performance.	Agency theory	That family duality has a negative and significant effect on the extent of ICD. However, no significant association between CEO duality and the extent of ICD was found. The results of this study suggests that a significant non-linear relationship exists between family ownership and the extent of ICD and This study also found that a positive and significant relationship exists between foreign ownership and the extent of ICD. The positive effect of foreign ownership implies that foreign investors demand higher ICD due to higher information asymmetry. It was also found that corporate governance attributes, such as board independence and the presence of an audit committee, have significant and positive effect on the ICD.

Lucia Lima Rodrigues Francisca Tedjedo-Romero Russel Craig	International Journal of Disclosure and governance January, 2016.	Content analysis This paper examines the effect of certain governance attributes on the variance of IC. These variables include: board size, role dulaity CG Model duality, and women directorship conroling for the firm's size, industry, and	Legitimacy theory and Agency theory.	Dual governance system (Latin and Anglo-Saxon) Has no effect Board activity positively affects the IC reporting Board size significant relationship Role duality, has negative effect on the IC reporting Board independence negatively affects the IC reporting Gender has no effect of the IC reporting
Maria Baldini And Giovanni Liberatore	Corporate Ownership and control, 2016	Using Content Analysis. The researchers examnied the effect of CG mechanisims (board composition, role duality, ownership concentration, audit type, size of the audit committee) Control variables: Size, Auditors firm, and high tech firms or not)	Agency theory	Among the studied varibales. The followign factors: Board size, board indepence, and audit (big4) were significantly positivly affectign the ICD.
Francisca Tejedo-Romero et	Review of Business	Content Analysis CG factros:	Stakeholder and agency theories	The have found that: board size, CEO/Chairman

al.	Management, 2017	Ownership structure, board independence, board size, and role duality. Control variables: Firm’s size, sector, and market ot book value.		seperation, and directors ownership are positively affecting the ICD. board independence has negative effecton the ICD the firm size is significantly affects the ICD in the firms operate in IT and Communicaion sectros.

4.7 Summary and Identifying gaps in literature

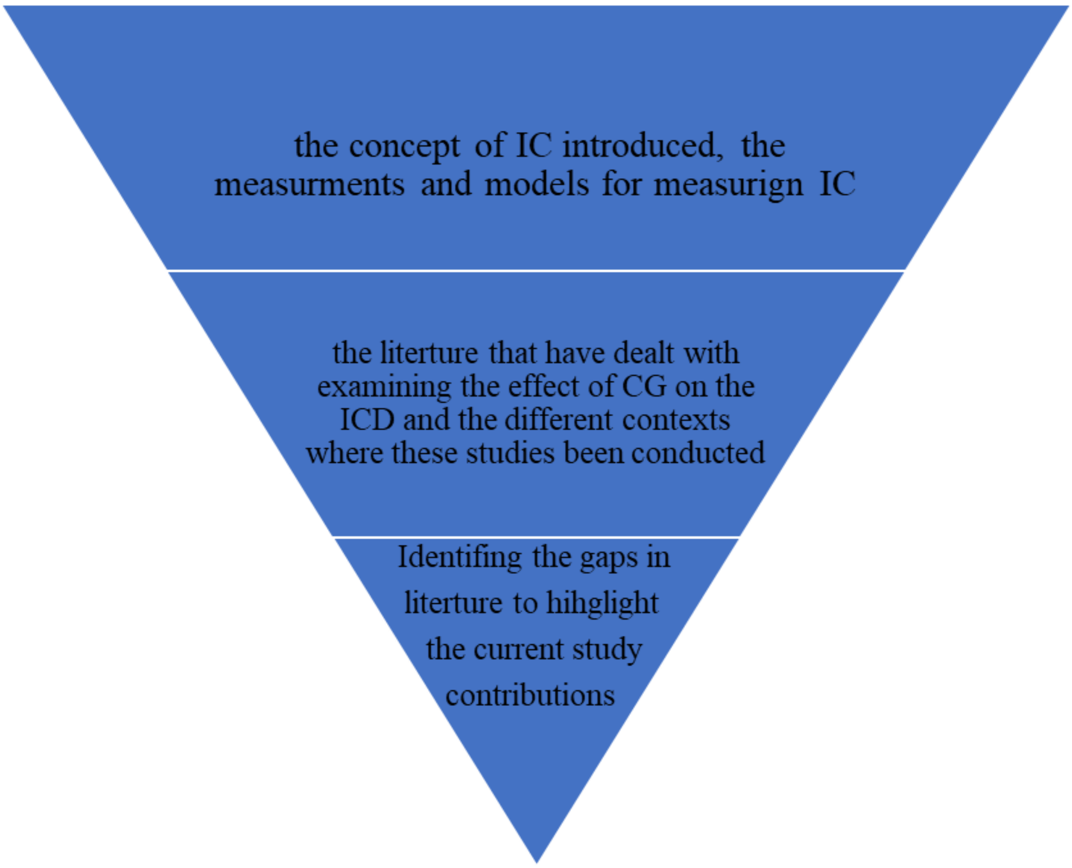

Figure 4.3 literature review process summary

A thorough review of the current IC literature, identifies many critiques which can be made and many gaps. Some of these critiques concern the research methodologies and methods as well as time-frame for the researches and their contexts. According to Mouritsen (2006) we still do not have a comprehensive theoretical framework for studying IC. Moreover, IC research is skewed toward some specific countries rather than others. According to Dumay and Cai, (2014) out of 110 published articles between 1999 and 2013 in the IC field, 50% of the analysed articles were conducted within contexts of (5) countries (Australia (17), the UK (13), Malaysia (9), Sweden (8) and the USA (8). This point of view supports the critiques raised by Sharabati et al. (2010) who stated that "***IC research has been focusing on developing countries and specifically on Anglophonic and Scandinavian nations and ignorse the developing countries in general***" Hence, there is a need to explore a new virgin context to gain more understanding of the practice and patterns of the subject phenomena i.e. IC in developing countries (Cuozzo et al. 2017) and those countries considered as emerging markets which have a potential economic impact on the world economy. Dumay (2014b) offers a valuable critique to the existing literature in the field of IC. Some of the very important points he raises are: -

1- The research methodology for the topic of IC is still repeating itself.
2- Developing nations are often ignored in such studies.

Mouritsen, (2006) suggested that a new approach for studying IC should go beyond the concept and its applications. Instead, it should be studied "*as a boundary*". In other words, new researchers should address what IC can do for the company and how this can be related to value creation.

In addition, the absence of consensus on a theoretical framework for studying IC is a big challenge for researchers. As according to Dumay (2009) currently, there is no synchronous measure which can moderate the vagueness between the interaction of IC and value creation at a particular point in time. (Andrikopoulos, 2010).

With a quick survey of the above studies, it can be concluded that there is a lack of overwhelming theoritical framework, that explains the theoretical linkage between the corporate governance and IC disclosure practices, as well as integrating all dimensions of CG in one overarching model, in both developed and developing countries. In particular, those developing countries which have been overlooked by the research community. In addition, according to Tejedo-Romero et al. (2017) longitudinal studies are still respectively rare compared to cross-sectional studies: this is condsidered one of the major critiques to the existing literature. According Campbell & Abdul Rahman (2010) longitudinal studies are really required to strengthen the generalisability. This study fills in these gaps in the literature by undertaking a longitudinal, field study based on developing country, namely Jordan. Meanwhile, this study incorporates CG meachnisims in the one model more than any other prior study according to the researcher's best knowledge. In addition it examines the effect of new CG mechanisim (namely CG committee) which has not been tested before according to the researcher’s best knowledge. The study will come up with a finding applicable not only on Jordan but to the Arab countries as a whole based on their similarities in culture, historical background, economy, demographical aspects, and language.

4.8 Hypotheses development

Considering the empirical researches findings in IC and the relationship between CG and ICD, this research will test the following hypothesis: -

The board of director size: there is no consensus among scholars, professionals or regulators about the ideal number directors on the board. The prior empirical evidince is conflicting on the effect of board size on voluntary disclosure. Some prior studies suggest that larger boards could enhance the ability to carry on the monitoring function and enrich the variety of expertise of the directors: others have failed to find any relationship between board size and voluntary disclosure.

H01: No significant effect for the board size on the intellectual capital disclosure; *Ceteris Paribus.*

Board Independence: Fama F and Jensen M.C. (1983) introduced the debate about the characteristics of that board that facilitate the best supervisory role. Board independence is one of the most debatable topics in CG literature (García-Meca & Sánchez-Ballesta 2010). Many studies suggested that more independent members within the board can positively affect the level of transparency.

H02: there is no significant effect for the board independence on intellectual capital disclosure; *Ceteris Paribus.*

Role Duality: CG principles as issued by OECD (2004) and all the following corporate governance codes and the worldwide-approved best practices recommend the segregation of duties for the benefit the firm as well as its investors: there should be more emphasise put on the separation of the role of CEO from the chairman. Moreover, literature suggests that the separation between the CEO position and the chairperson of the board can result in enhancing the transparency.

H03: There is no significant relationship between the role duality and the intellectual capital disclosure; *Ceteris Paribus.*

Family ownership: as mentioned before, ownership concentration has historically been family based and this definitly has its implications and affects managemnt choices in information sharing and openess to other parties and other stakeholders (OECD 2014) .

H04: There is no significant relationship between the family ownership and the level of intellectual capital disclosure; *Ceteris Paribus.*

Management’s Ownership: as indicated by the agency theory assumptions management and ownership sepration will lead to a state of conflict of interrests because mangers will be incentivised to maximise their own benefits at the expense of the shareholders et al., 2009). However, the mangers engagments as sharers and not only agents will give them additional motivation to do all that is possible to maximise the owners benefits as in this scenario the value creation for owners will be the managers’ value too.

H05: there is no significant relationship between the existence of managerial ownership and the level of intellectual capital disclosure; *Ceteris Paribus.*

Institutional Investor ownership: Institutional investros have a sophisticated mechanisms to evalute their investments and make prudential investment decisions. Thus, their presence as owners will introduce more pressure on the management to share more information to the shareholders and that will positively impact the disclosure choices for the firms.

H06: there is no significant relationship between the existence of institutional investor ownership and the level of intellectual capital disclosure; *Ceteris Paribus.*

The Foreign ownership: as they based in a geographically remote area the information asymmetry expected to be high. Thus, higher pressure for more information could be associated with the foreign investros ownership.

H07: There is no significant effect for the foreign ownership and the intellectual capital disclosure; *Ceteris Paribus*

Audit Committee Independence: accordign to agency theory assumptions, the AC independence will provide a better monitoring fuction for the committee and this will lead to better disclosure levels and transperant accounting choices (Samaha et al. 2015)

H08: There is no significant relationship between the independence of the audit committee and the level of intellectual capital disclosure; *Ceteris Paribus.*

Audit Committee Effectiveness: the frequency of AC meetings indicate an efficient committee which fulfils its duties. Thus, it is expected that more frequent meeting for the AC will be associated with better transperancy levels and better information quality.

H09: There is no significant relationship between the AC frequency of meetings and the level of the intellectual capital disclosure; *Ceteris Paribus.*

Audit Committee Size: most CG codes suggest a minimum number of members to the AC. However, the ideal size of the AC that motivates voluntary disclsure is not precisely defined: it is dependent on firm's conditions and context. Thus it worth examining the effect of AC size as one of the CG mechanisims on ICD levels and quality.

H010: There is no significant relationship between the size of the AC and the intellectual capital disclosure; *Ceteris Paribus.*

The existence of corporate governance committee: JCGC suggests that the firm's board of directors should esablish among itself a specialised committees to handle the firms' issues with foucs and concentration which will help to raise efficiency of the supervisory role of the board. One of the comittees that the code suggests is a CG committee to evalute the governance strucutre in the firm and suggest any amendments or corrections and to develop and update the firm's code of the CG. Thus, this study will examnie the effect of esalishing such a committee on the ICD either its level and the quality of the information.

H011: There is no significant relationship between the existence of CG committee and the intellectual capital disclosure; *Ceteris Paribus.*

4.9 Summary

The current chapter presents an up-to-date literature review summarising prior studies and offering a critical review of the existing body of literature in mostly all areas that are relating to the present study.

This chapter starts by presenting the literature that has dealt with the IC concept and the measurement of the IC.

Definitions offered by both academics and professionals have been showed. In addition, a brief description of the IC measurements techniques or strategies have been presented in this chapter including Skandia Navigator, Balance Scorecard, Ericson Cockpit, Market to Book Value, and Benchmarking. Then, this chapter moves to define ICD and its the disclosure channels and determinants. Studies that examine disclosure patterns have been presented to identify the differences between the disclosure choices and between the different contexts based on the available literature. After that, this chapter narrows the discussion to focus on the prior studies that have examined the effect of t CG on ICD. It includes a critical analysis of all these studies to highlight the current study contribution to literature and what the additions are that the present study will provide to fill the existing gaps in literature.

Finally, this chapter presented the hypotheses that will be tested, developed to address the identified gaps and to offer answers to the research questions.

5 Research Methodology

5.1 Introduction

This chapter will discuss and illustrate how the research is conducted in a manner that addresses the detailed process and the systematic approach required to answer the research questions and to fill the existing gaps in literature. Research's methodology is defined as a set of philosophical and ontological principles that determine how to define logic, reality (as we consider it), values and what counts as knowledge which informs the research. Or it could simply refer to the ways of thinking that direct the research strategies techniques, processes and tools that are used by researcher to solve the research problem or to generate new or incremental knowledge. Accordingly, research methodology provides the logical stance and rational justifications for the choosing of the research methods, data collection techniques, and the processing and analysing of data (Collis & Hussey, 2003, p.55).

This chapter is organized in the following manner: the second section discusses the research reasoning and philosophy. The third section discusses the research paradigm. Followed by a section which presents the research methods and the research strategy. The fifth section discusses the data collection process and the data collection tools development and testing the tool for validity and reliability. The sixth section presents the importance of incorporating more than one research strategy and considers the advantages of using a mixed method approach.

5.2 Research Philosophy

Research philosophy is usually determined by the researchers ontological and epistemological perceptions to the reality which comes as a result of the researchers understanding of the theoretical framework for the relationships and phenomena (Creswell 2009) pp 6-7. Crotty (1998) indicates that the systematic approach of research in choosing the research method(s) is a product of the methodological understanding the theoretical relations and boundaries of the philosophical ontology (reality perception) and the claims or hypotheses upon which the researchers build their perception.

Two approches have been identified for research reasoning. The first one is the deductive approach which starts the research by assuming or hypothesizing a relationship between two or more variables based on a prespecified or predefined theory. Deductive approach uses an apporpriat methodology to test the hypothesis (Elizabeth C. Hirschman 1986). Under deductive approach the researcher remains unbiased and does not interfer in the research settings to maintain the objectivity and impartiality. Thus, the results can be generalised to other smilir populations (Sekaran, U. and Bougie 2010).

The second approach in research reasoning is the inductive appoach. Under inductive appoach; the researcher starts by observing phenomenon/phynomena and collecting data about that phenomena to develop or introduce the theory. Unlike the deductive appraoch, the researcher under inductive appoach is engaged with the research population and control or affect the research settign. Hence, the generalisability or wide application of the results is not a target for inductive research.

Noramlly, the deductive approach associated with positivistic research paradigm, while the inductive appraoch associated with interpretivistic research paradigm (Sekaran, U. and Bougie 2010).

The present research is deductive as it empirically examines the causal relationship between the studied variables (CG and ICD) and it starts by hypothesizing a relationship between the studied varibales based on literature and pretested theory (agency theory) which assumes a positive effect for the CG on voluntray disclosure. the table below summarises the differnces betweent the deductive and inductive appoarches in research reasoning based on Saunders et al (2007):

Table 5.1 Deductiv, Inductive Approaches

Deducive approach	Inductive appraoch
• Starting from theory • Testing causal relationship between variables • The researcher is objective and does not control research settings • Sufficient sample to be selcted to collect data and to facilitate generalisability	• Startign by observing the phynomena and move to collecting data to generate the theory • Researcher’s engagement reprsents a part of the research • Generalisablity is not a target • The research is unstructured which gives more flexibility to change the research settings at any point

The interaction between the elements of the knowledge can be presented as a stepwise process i.e. one elements leads to the other. Crotty (1998) summarise this relation between these elements in the following figure:

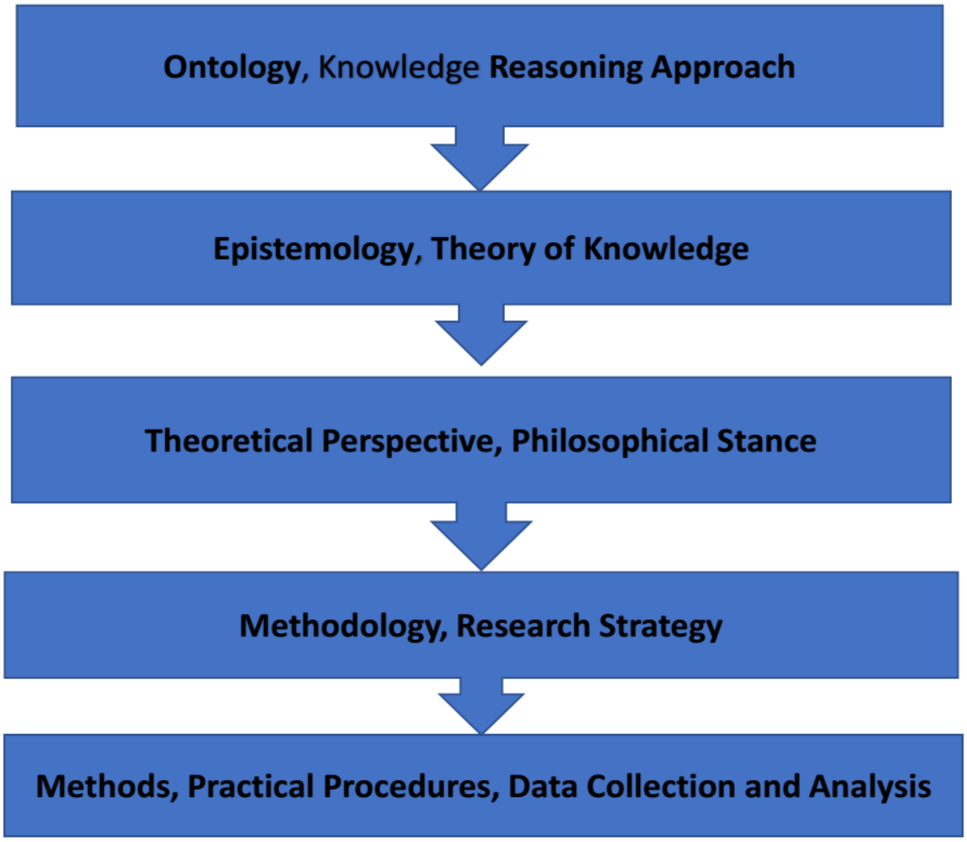

Figure 5.1 Summary of the research methodology. Credit to Crotty (1998)

5.3 Research Paradigm

The research paradigm is referred to as the set of beliefs, assumptions, concepts, perceptions, considerations, and practices that govern individuals' mind-set or form his/her/their views of reality (McGregor & Murnane 2010). Or simply we can refer it as the assumptions underlying the researchers perception of reality (Krauss & Putra 2005). It is the summary of a whole range of assumptions, research techniques, established results and methodologies that are used as theoretical framework or choice of paradigm defines the intent, motivation and expectations for the research. You place your own research within certain philosophical thinking patterns or arguments. Creswell (2003) defines four research paradigms:

1. Positivism.

2. Interpretivism
3. Pragmatism
4. Advocacy

in the following part a brief description of each one of these paradigms will be presented. Following to that; the current study's paradigm will be defined accompanied by the justifications and rationalisation of choosing that research paradigm.

5.3.1 Positivism

Positivism is defined as the research paradigm that examines the causal relationships between the phenomena based on a theoretical explanation. This assumes the minimum engagement or interference from the researcher in the research settings. Essentially, it attempts to offer an empirical explanation for phenomena's behaviour (Sekaran and Bougie, 2010).

Positivism is one of the most popular research paradigms in business research (Alhababseh, 2016). Under the positivistic research umbrella, the aims will be deterministic to test the cause and effect relationship between the research variables. Moreover, a positivistic researchers is of their nature reductionist means always try to specify the variable(s) effect(s) to the least measurable unit. Positivism assumes that science is subject to test quantitatively and establish the assumptions based on already tested theory or established laws measuring independent facts about a single comprehensible reality (Healy & Perry, 2000). Positivisim is the research paradigm of the current study as it adapt a positivisitic stance in dealing with research project as it aims to empirically test the effect of the CG on the ICD based on the notion of the agency theory which states that the principal will always claims for more information and higher level and better quality of disclosure.

5.3.2 Interpretivism

The interpretive paradigm is the epistemology philosophical position that considers that the world around us is mentally constructed and it is therefore interested in understanding what is happening in people's mind rather than searching for the objective truth (Sekaran and Bougie, 2013). Creswell (2009) described Interpretivism (social constructivism) as the research paradigm that relies on researchers seeking understanding of the universe in which they work and live. They develop subjective meanings of their experiences and meanings directed toward certain phenomenon or objective (Henderson 2011). These meanings are varied and multiple, leading the scientists or researchers to look for a wide interpretation of views rather than the reductionism found in the approach of positivism. Thus, the researcher here starts by asking very wide questions. Meanwhile, the researchers are subjectively involved in the researched environment and interfere and interact with people and society: it is from this that the name social constructivism derives. Hence, under this paradigm the researcher is concerned basically with other people's beliefs and perceptions about the phenomena rather than scientific laws or pretested theories. (Sekaran and Bougie 2010; Creswell 2009). This study can not be interpretivisitic as it does not aim to develop a new theory or to go through qualititive discription of the phenomena.

5.3.3 Pragmatism

Pragmatism as a research paradigm represents the practical seeking of knowledge or problem solving without the restraints of specific philosophical schools. Focusing on reaching the research goal, using all available techniques and implementing all accessible resources (Feilzer, 2009). Hence, pragmatism could be a mix of more than one philosophical stance and group more than one research methodologies together as long as the researcher thinks that combination will lead to problem solving or fact identification (Feilzer, 2009). Despite using mixed methods in this study it can not be descriped as pragmatist as it basically rely on the preesablished theory to test the relationship between the dependant varibal and the independent varibales and the interviews wil be used as validation technique and for seeking a explination of the empirical results not to provide a new evidences.

5.3.4 Advocacy

Advocacy or transformative methodology as (Creswell, 2003) refer it is defined as participatory knowledge which is a socio-political specific paradigm has developed recently during the period 1980-1990 (Neuman, 2000). Under this research paradigm researchers try to consider the views, feelings, requirements, and perceptions of the less represented or marginalised groups for example disabled people or the racial minorities. This research paradigm which is not common among researchers is mainly used in studies relating to controversial and socially sensitive aspects for example studies relating to feminism, or homosexuality which are considered within socio-political aspect of knowledge (Creswell, 2009). The present study is empirically examining the relationship between the CG and ICD in light of the agency theory thus it can not be classified under the advocacy paradigm.

The table below presents a summary of key differences between the above-mentioned paradigms:

Table 5.2 Research paradigm comparison.

Paradigm / Characteristics	Positivism	Interpretivism	Pragmatism	Advocacy
Starting Point	Proved Law / Tested Theory	Researcher's concerns, General Issue or Question	Could be a theory Law or general issue	Societal concern and specific group problem
Researcher's Engagement	No Engagement with the Research setting or in the minimum	Complete or high degree of engagement	Could be mix of the two previous scenarios but the researcher interaction remains less than in Interpretivism	Participatory action as the researcher will be involved with the community
Aims	Testing theory to assess its ability to offer explanation for new problem and develop generalised solution for similar situations	Answering questions and/or offer explanation for certain problem or issue or ground a new theory	Finding a solution for specific problem within specific conditions. However, the generalizability still targeted	Mostly concerned with offering a solution to a problem existing in a specific community or group.
Strategy of Inquiry	Basically Quantitative but sometimes uses other qualitative techniques for validation or instrument development	Basically Qualitative	Mixed	Qualitative and some quantitative tools may be utilized
Reasoning	Deductive	Inductive	Mixed	Mixed

This summary is based on (Creswell 2009; M.T.Sedgley n.d.; Feilzer 2009; Creswell 2013; Hussein 2009)

5.3.5 The current study paradigm

According to Lehrer (1966) the relation between epistemology and knowledge has been subject to a great deal of debate and controversy: theory can explain empirical fact only when there is a sufficient empirical evidences or empirical justifications of how that theory has been empirically deduced.

This study aims to empirically examine the effect of the CG attributes on the ICD, building on premises of agency theory which states that the principle always claims for more transparency and a higher quality of disclosures to facilitate the monitoring role over the agent (management). Therefore, this study started by reviewing the literature to determine the possible relationship between the explanatory variable (CG) and the variance in the dependent variable (ICD levels and quality). According to (Stanley 1997) information relating to business unit represents an economic reality; thus, a preestablished reality is considered when hypothesising relationships under this study.

The determination, measurements and empirical observations that leads to theory verification are the general characteristics of a positivistic approach in research which to some extent overlap with normative research paradigm as both expect the results based on the theory foundation (Hair, J. F., Celsi, M., Money 2016). However, the difference between the postive and noramtive approaches according to deegan & Unerman (2011) lays in the researcher's considerion of reality. Hence, if the researcher based his/her stance from reality based on theory then the research is positivistic, and if the researcher based his/her stance from reality according to her/his perception, then the research is informative.

Therefore, as long as this research starts by hypothese that assumes relationship between the varibales based on the theory and extant literature which informs the research methodology. Consequently, all these characteristics make this research project positivistic in nature and the following illustration summarises the previous discussion:

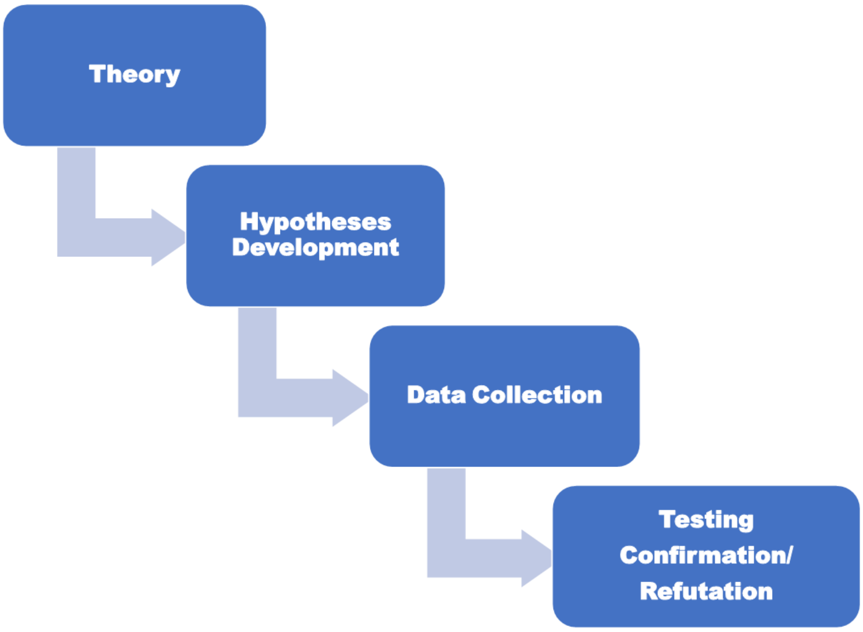

Figure 5.2 Present Research Flow

5.4 Research Methodology

Research methodology is defined as the general principles and philosophical perceptions that informe and guide the researcher through the research process from determining the research problem and setting the research questions until final reporting of the research results; passing through all the data collection and analysis research stages (Hair, J. F., Celsi, M., Money 2016; Lopes 2015; Cooper & Schindler 2014; McGregor & Murnane 2010).

This study deploys a mixed method in order to achieve its goals. The first stage of research starts by collecting data from the annual reports of the population (listed companies in ASE). Statistical tests (Panel Regression Test) will be performed to measure the effect of the independent variables (CG) on the dependent variables (IC). But, in order to get more understanding of the result of the statistical analysis the researcher may use qualitative technique (Semi-structured interviews) with a sample of financial analysts, professionals and stakeholders who normally follow the disclosure and are able to understand and differentiate various kinds of disclosures. According to Bryman and Bell (2011) triangulation[18] process can enhance reliability of the research findings. Mixing

[18] Triangulation is simply using more than one approach, methods, theories, data collection techniques etc. (Kock 2013; Hussein 2009)

methods offer a great help in the cross-checking the results from qualitative and quantitative methods. Mixing methods when first brought to social sciences by Campbell and Fiske (1959) was introduced as a strategy for results validation in the field of psychology.

5.4.1 Why mix methods

Mixed methods bring many benefits to research. This research strategy benefits from the advantages of quantitative and qualitative methods, (Jick, 1979; Modell, 2005). These benefits include but are not limited to: -

I. Extend the results and findings farther than those observable using only one method. (Sekaran. U. and Bougie 2010). It also enhances the interpretation of the findings; in addition, incorporating qualitative methods in quantitative research will facilitate the researcher's role in elaborating on the results and gaining insightful ideas from specialist to back the quantitative findings (Rebecca & Anthony, 2013)

II. Improves the validity and credibility of the results and reduce the methodological bias (Sekaran, U., And Bougie, 2010; Modell, 2005).

III. In certain cases, the research aims and questions stipulate that the researcher must implement more than a single method (Yin, 2006). For example, when the researcher tries to capture the perceived facts by audience and stakeholders in the results or if the research aims to offer explanation for human behaviour that participate in producing certain phenomenon.

IV. Mixed methodology can support the strength of the research by the concurrent deployment of multiple data sets or multiple theories multiple methods (Brown and Bringnall, 2007)

5.5 Time horizon

Studies from a time horizon point-of-view could either be Cross-sectional or Longitudinal (Cooper & Schindler 2014). This depends on the purpose of study, the research motivation and the goals the study tries to achieve. Bothe longitudinal and cross-sectional studies are observational (Sekaran. U. and Bougie, 2010). This means the researchers is engaged only in documenting the observation without any engagement in the research environment or any intent to change the environmental settings of the population. However, each type of the above-mentioned studies has its own pros and cons.

The following table summarise the advantages and disadvantages of both types of studies:

Table 5.3 Comparison between longitudinal and cross-sectional studies

	Longitudinal studies	**Cross-sectional studies**
Advantages	1. Provide more insightful findings 2. Ability to capture the trend of phenomena overtime. 3. Get ride over the CMV[19] bias.	1. Time efficient 2. Cost effective
Disadvantages	1. Time consuming 2. Costly 3. Respondent bias (Halo effect, or participant drop the experiment)	1. The results may be affected by CMV bias. 2. Fail to capture the trends of phenomena.

[19] CMV Common methods variance bias results from method failure to precisely capture the effect or the phenomena that the researcher try to measure (Rindfleisch et al. 2008)

5.6 This study

This study is longitudinal from the point view of the time horizon: it will collect data from the corporates' annual reports over an extended period of seven years. The research instrument is documenting the date of annual reports year by year; each year will be associated with the captured information where each piece of information will have its unique ID connected to the year and company.

5.7 Research strategy

Research strategy is defined as a technique or set of techniques that implemented by the researcher to achieve the research goals. According to Saunders (2003) research strategy is an action-plan implemented to help the researcher to answer his/her/their research questions in a scientific and systematic manner (Hair, J. F., Celsi, M., Money 2016) p 463. The effective strategy will help the researcher to specify the research data, the suitable instrument to collect the data and how to refine the data to fit the research purposes (Saunders, 2003). According to Badek, (2012) we have six commonly used strategies in social science research. These are:

5.7.1 Case Study

This is a close and deep descriptive examination on the research unit (an individual person, group of people, organization, group of business firms etc.,) and the researcher tries to offer comprehensive and detailed description to that specific research unit, using varying qualitative research techniques including document review, interviews, etc. Under this strategy the researchers do not prescribe what theories should inform the study or what method(s) should be utilised for data collection as this will be determined by the research problem and the research questions (Cooper, And Morgan, 2008). The advantages of case study vary including opening a new research themes in accounting and discovering new interesting areas for academic research. Furthermore, it helps in providing deep understanding of some complex phenomena (Cooper, and Morgan, 2008). However, the generalizability of the findings remains a challenge for researchers using case study techniques as the data are very specific to certain entity or group of individuals subject to inquiry: this is referred to by (Flyvbjerg 2006) as the Black-Swan problem - the data is very specific and methods and analysis are connected to a very specified context. This strategy is not fit the current study as the current study will survey a relatively large number of firms focusing on the empirical examination of the relationship between the CG and ICD based on the published data in the corporate annual reports.

5.7.2 Survey

The survey is perhaps the most popular and flexible research strategy used in the social sciences. A survey defined as an analytic research strategy that is designed to produce statistical inference about specific issue depending on data collected from a specific population or a representative sample out of that population (Fowler 2012). Surveys mostly recognise quantitative data. However, using quantitative and qualitative data is not mutually exclusive. Hence under such strategy, a researcher can utilise both type of data to achieve the research goals, collecting the relevant data from a representative sample to move forward in generalising the findings to the whole research population (Sekaran. U., and Bougie 2010). This study will use the survey strategy to collect the relevant data from the corporate annual reports in order to conduct the statistical tests to examine the relationship between the CG and ICD.

5.7.3 Interviews

For interpretivists, whose research's paradigm is purely qualitative; interviews are the most popular research strategy. Interview is a detailed discussion between the researcher and the researched individual or group. However, when it happens between the researcher and the researched group it known as focus group. Interviews can be conducted face to face, or over telephone. Moreover, the rapid advancement in telecommunication technology has hugely facilitated this strategy as it could be delivered by internet-based communications methods for example: Skype, FB Messenger or video conference call (Cooper & Schindler 2014). Interviews will be used in this study as a validation technique for the secondary data test results and to seek deeper understanding of the results indicated by the statistical tests.

5.7.4 Grounded Theory (GT)

Under this strategy, the researcher seeks to developing a new theory to explain a certain social or behavioural phenomena by asking questions: the answers are used to develop an integrated insightful theoretical model of the GT which offers an explanation to the researched phenomena (Holland 2005). Thus, the GT strategy in research will incorporate a series of highly structured methodological approaches to draw the theoretical conclusions about the subject of study or to provide a comprehensible description of the phenomenon/ phenomena being observed (Langley, 1999). As this study have no aim to ground a new theory in the field of ICD accordingly the GT is not used in this research project.

5.7.5 Action Research

This kind of research strategy is developed to enhance practitioners' practical knowledge during their course of work. For example, doctors, teachers and engineers need to do this kind of research to facilitate their roles or to develop their practice or to take informed action (Stokols 2006). Action research is not fit the design of the current research project thus it was not used.

5.7.6 Ethnomethodology

This research strategy is not popular: it is used by researcher who interested in addressing specific behavioural and social aspect for certain groups of people. For example, examining the consumption behaviour for native American: understanding this behaviour; within its social context involved qualitative description and quantitative analysis. (Trace 2016).

However, when choosing one strategy and rejecting others, researcher must make sure that the selected strategy is good fit with the underlying research objectives and will lead feasibly, effeciently, and effectively to answer the research questions (Saunders et al., 2009; Yin, 2009; Creswell, 2003).

This study is utilising two strategies in order to achieve its aims of examining the effect of the GC on the ICD quantity and quality. Also, it measures the patterns of ICD over the studied period since Jordan adopted the CG code. The first strategy is the survey. As the corporates' annual reports of the research sample will be carefully examined to identify all information relating to IC quantity and quality. Simultaneously, the captured information will be dichotomously quantified and posted into the disclosure index. In the same manner, the information relating the CG will be processed as a check-list of the CG mechanisms prepared which will document the status of each item for the researched firms as eventually the regression model will be run between the explinatory variables and the dependant variable. Moreover, in the second phase of the study interviews strategy will be implemented to dig deeper in the phenomena and to cross check the quantitative results against the perceptions of the specialist and professionals in the financial market.

5.8 Research Methods

The first phase of the study will start by collecting data relating to the IC from the corporates' annual reports as well as information pertaining to corporate governance mechanisms and structure. Therefore, the annual reports of the top 100 listed companies in the ASE will be surveyed to collect the relevant information either for explanatory variables i.e. (CG factors) or for the dependent variable i.e. ICD. Thus, the content analysis method will be the used to collect the secondary data form the annual reports for the period from 2009 until 2015 i.e. seven years. (The starting date is the year after enacting the CGC and the ending (cutoff) date is the latest availbale annual reports when the researcher decided to start data analsyis).

According to Krippendorff (2013) content analysis is a research method producing an analytic review of documents and text with the intent to make a consistent, systematic and reliable interpretation and inference from specific data in a specific context: this data is then presented in another context with a valid and reliable explanation.

Beattie & Thomson (2007) define content analysis as a research method which is mainly used by the researcher to analyse, reproduce quantitative information and categorise themes to identify the patterns of subject phenomena. Alternatively it may assess the depth and/or breadth of the information and provide a reliable and understandable reflection on that phenomena based on the researcher's perception of the reality. Another definition considers content analysis as a technique implemented by the researchers for the purpose of data collection, analysing, codifying and categorising into pre-established categories in order to identify the patterns of the information's presentation. This process should be conducted transparently, systematically, and reliably (Guthrie et al. 2004). Another definition by (Neuendorf 2011) who describes content analysis as a procedure of documents and/or records carefully examined documents with a systematic, objective, quantitative analysis of the message characteristics out of that documents.

Content analysis could be run either manually or by using one of computer aided techniques. Each one of them has its advantages and disadvantages (Sekaran. U. and Bougie 2010). For large sample numbers the automotive content analysis is recommended (Hussainey et al. 2003) Furthermore, computer aided or automotive content analysis enhances the consistency and reliability as it involves less judgment. However, judgment sometime is necessary to evaluate the piece of information and determine into which category to put it. Moreover, in certain situations the computerised content analysis software for example, Nvivo and MAXQDA need precautions and some settings applying for documents to be analysed for example pdf files are preferable as is English language its efficiency is very limited within Arabic language. In addition, the computer aided techniques of content analysis are still not able to recognise and codify the images and tables and most importantly it's not able to evaluate the tone of narrative and it is not technically capable to judge the intuitive nature of the text. Additionally, computer aided content analysis techniques are not all fully automated as they still need human intervention especially in the coding process and creating the nodes and themes. Moreover, the researcher's close monitoring is needed during the process as the system could malfucntion at any point for a range of reseaons: it therefore requires the close presence of the researcher[20].

The table below summarise the advantages and disadvantages of each one of both techniques:

Table 5.4 A comparison between manual and computerised CA.

CA method	Manual CA		Automated or Computer Aided CA
Advantages	1. Flexibility of process. 2. Human ability to recognise the tone and intuitive in the text. 3. Under manual CA researcher masters all content of the documents including the pictures and graphs.		1. It may offer higher level of consistency. 2. Time and effort effectiveness especially when the sample size is too big. 3. Computer aided processes are normally associated with higher level of reliability and less subjectivity.
Disadvantages	1. Subjectivity and avoided inherent human bias. 2. Time and effort consuming. 3. When more than one researcher involved with the content analysis process it is hard to maintain the consistency especially in cases where some judgment is needed.		1. The Computerised CA is not able to recognise the intuitive value of the text. 2. It needs a certain setting to be able to handle the text i.e. language constraints, pdf, etc., 3. Little capacity to deal with table pictures and graphs.

[20] This study did content analysis manually due to limitation relating to Arabic language processing in Nvivo, also, Nvivo inability to codify pictures, tables or images. In addition, some annual reports cannot be accessed as pdf as the only available version is image in JSC database.

5.9 Measurement And Coding

Coding remains as the bedrock of the content analysis process. Coding is an analytical procedure for rearranging information and representing it in a meaningful manner to fit the research's purpose (Sekaran. U. and Bougie 2010). (Hair, J. F., Celsi, M., Money 2016) define coding as a procedure of giving logical and meaningful numerical values or names that reduces information from a large quantity of indistinguishable text to a much smaller number of relevant and representative piece of data. The purpose of coding is to enable the researcher to simplify and focus on meaningful characteristics of the data. However, coding itself as a part of content analysis depends heavily on the objective and the ultimate goal of study or project.

The current research aims to examine the effect of the CG on the level and quality of ICD. Accordingly, a technique is required to measure the level and quality of the ICD. Extant literature suggests that the voluntary disclosure can be measured by disclosure indices (Beattie et al. 2004; Hussainey & Mouselli 2010; Li et al. 2007; Rutherford 2003; Cormier et al. 2005; Satta et al. 2015; Botosan 1997). Thus, a disclosure index has been developed to measure the level of the ICD. According to Li et al. (2008). Disclosure indices are a widely used method to study the level of voluntary disclosure. Moreover, this is considered an effective research tool as it introduces ratios that reflect the actual level of disclosure in comparison with the maximum possible level.

5.10 ICD Quantity and Quality

The ICD imply two dimensions the quantity or the level of disclosure and the quality of disclosure. These two dimensions together will represent the disclosure whole picture within the studied sample.

- In this study ICD quantity means: the volume, level or the amount of information that corporates share or provide in its annual report about its IC either in terms of narrative or numerically. This could be a general description of the IC components, categories or breakdown of the firms' intellectual assets (Beattie & Thomson 2007). The ICD quantity will be measured by using a dichotomous disclosure index (0/1) formed of 44 items each item represents a component of IC and the aggregate score of the index for each company will represent the company score in ICD quantity.

- In this study ICD quality means: the variety and richness of information about the IC items and its ability to help the information users to develop an informed decision about the firm (Beretta & Bozzolan 2008; Jensen et al. 2006). For the purpose of this study ICD quality will be captured by using a disclosure index and each company will be assigned a score from 0-4 based on the following criteria:

1. A Score of (0) if the item in the disclosure index is not mentioned in the firm's annual report.
2. A Score of (1) if the information in the annual report narrative mentioned but do not give sufficient discussion of the IC categories and items and did not introduce the firms plans to develop the IC.
3. A score of (2) will be assigned to the company that introduces general information about the IC and its categories associated with numbers, financial and non-financial information.
4. A score of (3) will be assigned to the company that discloses information about the IC its categories supported by numerical, financial and non-financial information in addition to graphs and images.
5. A score of (4) will be given to the company that discloses a combination of the all previously mentioned information; associated with information about future-plans or forward-looking information.

5.11 Construction of Disclosure Index

One important decision under content analysis methodology is the choice and development of categories: these will be based on the content or information which will be traced in the source document and then transferred to the developed research instrument i.e. the disclosure index (Haniffa & Cooke 2005). Thus, a disclosure index has been developed based on prior ICD literature e.g. (Li et al. 2008b; Beattie & Thomson 2007; Beretta & Bozzolan 2008; Cerbioni & Parbonetti 2007; Beattie et al. 2004; Beattie & Thomson 2010; Mouritsen 2003; Sveiby 1997; Petty & Guthrie 2000; Guthrie et al. 2004; Edvinsson & Sullivan 1996; Edvinsson 1997) based on these studies about 180 items of IC have been identified and allocated over the three IC sub-capitals i.e. structural capital, relational capital and human capitals. However, not all these items are relevant to all contexts.

The following criteria have been taken in consideration in developing the index:

1. A check list made with all identified IC items in the extant IC literature. This was by referring to the top ranked journals and also those journal that focus on IC and intangible assets e.g. Journal of Intellectual Capital, Journal of Knowledge Management, and The Learning Organization journal. These journals normally have been publishing the papers of the key authors in IC field e.g. Richard Pike, James Guthrie, John Dumay, Abeysekera, Edvinsson and Nick bontis.

2. The known disclosure indices have been retrieved especially those developed or adopted by extant literature for example: (Edvinsson 1997; Guthrie et al. 1999; Petty & Guthrie 2000; Guthrie & Petty 2000; Li et al. 2007; Li et al. 2008; Dumay 2014).

3. All items mentioned in literature based on the previous two rules have been summariesd and the results was the referred table number 5.5.
4. To make sure that there were not any items been neglected or overlooked a thorough key words research have been conducted over Google scholar and all major scientific databases including ScienceDirect, Emerald and EBSCOhost etc. Examples of the used key words (e.g. Intellectual capital, intangible asset, human capital, knowledge infrastructure)

The study disclosure index has been developed to fit the Jordanian context. The refined disclosure index to fits this study's context and to allow it to achieve its goals. Many steps have been taken by the researcher to make sure that the developed disclosure index is suitable to measure the intellectual capital within Jordanian companies the following criteria have been taken into consideration:

1. excluding rules that been applied in this case were the item will be considered irrelevant and not included in the index if it opposes the social and/or legal norms in the context country e.g. transformed gender equality or homosexual equality as such items in Jordan still illegal. If the item is outdated or been replaced due to technological advancement e.g. computer literacy as this has been mandatory in primary schools. Also, some overlapping items been removed e.g. adaptability and flexibility, innovation and innovation-capacity, connectivity and networking etc.
2. After developing and finalising the disclosure index it was sent for evaluation to professional and academic experts who have extensive experience in disclosure and are familiar with the Jordanian financial markets: subsequently it has been further amended based on their views which suggested elimination of items that firms can't share information about e.g. child labour, HIV/AIDS positive people engagement and ethnic minorities empowerment etc.

In practical terms the following steps have been followed to develop construct the disclosure index:

First step: a check list made with all identified IC items in literature and some of the disclosure indices have been retrieved especially those developed or adopted by extant literature for example: (Edvinsson 1997; Guthrie et al. 1999; Petty & Guthrie 2000; Guthrie & Petty 2000; Li et al. 2007; Li et al. 2008; Dumay 2014). The table below summarises the IC items mentioned in prior studies and widely accepted amongst the scholars.

Table 5.5 Summary of IC items

Structural Capital Or as referred organizational capital	**Relational Capital,** **sometime referred as external capital**	**Human Capital**
Corporate culture	Market assets	Employees' relationship
Explicit knowledge	Brands	Tacit knowledge employee's minds.
Business process capita	Customers relationships	Ability
Organizational routines	Market information	Employees' values
Management processes	Company's name	Work related knowledge
IT	Distribution channels	Vocational qualifications
innovation	Network partners.	Employee breakdown by age
Systems and Databases	New cooperation form.	Employee breakdown by seniority
Patents	relationship capital	Employee breakdown by gender
Tarde marks	Number of customers.	Employee breakdown by nationality
		Employee breakdown by department
Description of existing information technology systems	Sales breakdown by customer.	Employee breakdown by job function Employee breakdown by level of education
Software assets held or developed by the firm	Annual sales per segment or product.	Rate of employee turnover
Description of intellectual technology facilities (e.g. buildings)	Average purchase size by customer.	Employees health and safety absenteeism rate
Information technology expenses	Dependence on key customers.	competency development
Information and communication within the company	Description of customer involvement in firm's operations.	competency development programmes and activities.
Efforts related to the working environment		Education and training expenses
Working from home		Recruitment policies
Internal sharing of knowledge and information	Description of customer relations.	Job rotation opportunities. Career opportunities.
External sharing of knowledge and information	Education/training of customers.	Remuneration and incentive systems Pensions
Measure of internal processing failures	Ratio of customers to employees.	Insurance policies.
Measure of external processing failures		Statements of dependence on key personnel
Discussion of fringe benefits and company social programs	Value added per customer or segment.	Revenues to employee.
Outline of environmental approvals and statements/policies	Absolute market share (%) of the firm within its industry.	Value added to employee Human value
R&D expenses.		Expert team
Ratio of R&D expenses to sales	Relative market share (not expressed as percentage) of the firm Market share (%) breakdown by country/segment/product.	Employee productivity
R&D invested into basic research		Employee know-how
R&D invested into product design and development		Employee Expertise Diversity and opportunity
Details of future prospects regarding R&D	Repurchases by customers	Non-discrimination
Details of existing company patents	Reputation	Child labour
Number of patents and licenses etc.	Customer Knowledge	Strategy and management of human rights
Information on pending patents	Supplier Knowledge	Compensation
Description of new production technology	Licensing agreements	Employee Benefits
Statements of corporate quality performance	Customer satisfaction Business collaborations	Community Involvement Union activity
Information about strategic alliances of the firm	Market share Respect for privacy	Black Economic Empowerment Race
Objectives and reason for strategic alliances	Animal welfare Livestock and crop exotic disease controls	Gender Disadvantaged
Comments on the effects of the strategic alliances	Natural resource management and biodiversity.	Staff with HIV/AIDS Religion
Description of the network of suppliers and distributors	Favourable contracts Franchising agreements	Disability Creativity
Statements of image and brand	Negotiating capacity with financial entities	Development
Corporate culture statements	Research collaborations	Employee satisfaction
Statements about best practices	Stakeholders	Friendliness

Organisational structure of the firm Utilisation of energy, raw materials and other input goods Investment in the environment Description of community involvement Information on corporate social responsibility and objective Description of employee contracts/contractual issues Corporate culture Management philosophy Financial relations Quality Standards Copyrights Best practice	Intensity Image Environmental activities Customer loyalty Client profile Competitor names Ethical matters Market intensity Negotiation Customers trust Customers feedback No. of customers Customers segment Supply chain Business network Development new stores across regions. Delivery system. Marketing and advertising. Carry out market research. Online selling. Catalogues Promotion activities/strategies. Liaison office Network of suppliers and distributors Dependence on key customers Sales breakdown by product or business.	Identification Motivation Perceptions Sensitivity Entrepreneurial spirit Employee commitment Employee communicative activities. Employee attitude Dependence on key employees and replacement policy Proactive and reactive abilities. Changeability.
(Andreas Andrikopoulos 2010), (Singh & Mitchell Van der Zahn 2008), (Brüggen et al. 2009), (Guthrie et al. 2007), (Wagiciengo & Belal 2012), (Beattie & Thomson 2007), (Campbell & Abdul Rahman 2010), (García-Meca & Martínez 2007), (Whiting & Miller 2008), (Li et al. 2008), (CIMA 2003), (Bontis 1998), (Spender 2006), (Petty & Guthrie 2000), (Abeysekera & Guthrie 2004), Guthrie, 2001) (Abeysekera 2007)		

Second step: a sample of annual reports across all sectors of Jordanian companies (20 companies for year 2014) to check their intellectual capital disclosure practices. Based on this review the irrelevant intellectual capital items have been eliminated i.e. transformed gender equality or homosexual equality as such items in Jordan still illegal and another example is computer literacy as this has been mandatory in primary schools. Also, some overlapping items been removed e.g. adaptability and flexibility, innovation and innovation-capacity, connectivity and networking etc. It is worth mentioning that this index is developed based on thorough exploratory review that is an extensive review of the top-twenty companies from each sector in the ASE annual reports for the year ending 2014 totalling 20 “annual reports” this step aims to explore the current practices of ICD. Such methodology is widely used in the literature e.g. (Cooke 1989; García-meca et al. 2005; Bontis et al. 2006; Li 2009; Uyar & Kilic 2012).

After the relevant data is collected over the study period[21] the scores are collapsed vertically and horizontally. Thus, the firms score for one item will reflect its average score over the seven years. And the total score will reflect the average scores of the items listed in the disclosure index collapsed over two stages: first stage to produce the average quality of information of the sub-

[21] Due to the manual data collection process, the period to survey the whole sample (700) annual reports took 9 months from the researcher to finish this phase of research.

capital i.e. HC. The second stage the average of sub-capitals i.e. (HC, RC, and SC) to produce the average quality score assigned to the total quality of (ICD-Quality). This methodology present an extension to the methodology used by (Botosan, 1997; Beattie & Thomson 2007; Husin et al. 2012) and provide a genuine contribution to the methodology of measuring the ICD quality longitudinally as prior studies applied their examination to one year only.

This index score's and weights are verified by a group of investors including three institutional investors and seven individual ones. They have been asked to list the index items based on its importance and usefulness to them. In both the above mentioned cases the disclosure index was considered a very useful research instrument to capture either the levels of disclosure or the quality of information disclosed (Botosan, 1997), despite it being described as questionable from the point of view of its reliability and validity (Beattie & Thomson 2007).

Thus, to avoid subjectivity these indices were judged by a panel of academics and professional experts with detailed discussion of the index validity and reliability provided in the dedicated section later. In addition, they have been developed after an extensive literature review and after conducting an exploratory review of the current ICD practices in Jordan. As mentioned before, a representative sample of annual reports was surveyed to gain a comprehensive understanding of the disclosure practices in Jordan and Jordanian companies. Following the methodology of Abeysekera & Guthrie (2005a) and Beattie & Thomson (2007) the sentence that carry a full and meaningful piece of information will be adopted to measure the disclosed information about the intellectual capital.

The final vresion of the disclosure index is in the table below which summarises the IC items that compses the insex and a discreption of these items:

Table 5.6 The disclosure index

Structural Capital	
Corporate Strategy	This covers the vision and mission of the corporate its core values, business model and long run goals and any other information relating to this item.
Excellence	All methods, possibilities and techniques deployed by business to adhere to the best performance and achieve higher level of customer's satisfaction. attitudes towards long term success and the Practices in maintaining and improving quality standards of products and & improvement services
Certification and	Any kind of disclosure about the company if it has any national and/or

Accreditation	international accreditations, and disclosure about alignment with the any international standards (ISO, UKAS, HACCP etc.), or applying specific standard to gain trust and the how this help it to achieve its objectives. Prizes and awards
Intellectual property	this refer to all disclosures made about intangibles that include but not limited to patents, innovations, copyrights, trademarks, trade secrets, licenses, commercial rights and other related fields owned by firm and its assets which is protected by law this may include also Concessions and favourable contract (Singh & Mitchell Van der Zahn 2008; Li et al. 2008a)
Research & Development:	This refers to future-oriented, longer-term activities in business practice, which development (R&D) can achieve higher levels of knowledge and improvement in business practice, allowing the organisation to exploit competitive advantages. It includes, e.g. R&D policies, programmes, planning, progress, budgets. R & D plans projects budget and expenses dedicated for quality improvements (Merkley 2014).
Online environment	This include the services that firm provide via its website, its email, mobile applications and other technological channels. Also, the description of the services in narrative or providing statistics for such services. (Mouritsen 1998)
Systems	Any information disclosed about the interrelated elements, structures and subcomponent of the company that used by company to facilitate either producing its products or rendering services or to facilitate delivering these to its customers or helping the management to achieve the corporate’s goals.
information technology systems	A collection of, software’s, technologies and/or techniques, which combine resources to produce desired products or helping in making the quality of service better, or to solve problems, fulfil needs, or satisfy wants. It includes machines IT (e.g. computer hardware and software), IS (e.g. programs, applications, database), technical methods, and techniques. Also this includes Investments in information technology and reasons for investment in IT Description of existing IT and IT systems expenses and the MIS and utilization of systems and technologies system integration and information system security.

Management philosophy	The way leaders in the firm think about the firm and its employees' i.e. the way a firm's managed. Leaders thinking about their company and its employees. For example, management philosophy can be Kaizen[i] (continuous improvement), Total Quality management, or Empowerment, (Brooking, 1998).
Corporate culture	Organizational disclosure about its mind-set, including its values, beliefs, attitudes and understandings shared by its people and groups within an organisation, which controls the way members of the organisation interact with each other and with other stakeholders.
Policies, Procedures, And Procedures (PPP)	Any disclosures that describes the policies and procedures that approved and used to govern the operations and practices within the company and show how the company is run. Also, disclosures about its organisational norms and operations for utilizing resources, routines, and documentations which enables the company or employees to follow. Indicators are, e.g. efficiency, effectiveness, and productivity. (Li et al. 2008a)
New Products, and/or Plans for new products	Any information disseminated by company about developing a new products and a plans for new products/ new business lines.
Knowledge Management	This includes information relating to knowledge sharing any information relating to know-how-transfer, educating employees/customers/suppliers and sharing experiences with local societies (Bratianu & Orzea 2013).
Risk Management	Any information that describe the company's attitude in dealing with risks including risk management policy and risk appetite statement, risk profile, hedging techniques and the measurements of internal and external processing failure, this may include any pre-established criterias for measuring the failure, near-miss incidents and etc.
Organization structure / reporting lines	Organizations hierarchy, reporting lines, governance structure within the organization and the authorities and responsibilities allocation within the company.
flexibility	Information reflect the company's ability to cope with changes in economy, operation circumstances and how it's able to face challenges in order to turn

	the threats into opportunities. This may include information about energy alternative, or shortage of raw materials, failure of specific supplier and business continuity planning
Tacit Knowledge	This covers information about the company learning ability taking in consideration the feedback company acquired, experience build-up.
Knowledge-based infrastructures	It includes, e.g. documented materials (e.g. shared database) that a firm shares infrastructure amongst employees, facilities or centres (knowledge centres, laboratories) (Merkley 2014)
Relational capital	
Networking and Connectivity	Any information disclosed about the channels utilised by company to connect and communicate with its customers and suppliers e.g. internet, mailbox voice-mail, social media channels and professional networks. Groupware and corporate intranets, personal digital assistants, and newsletters. Also, networks of distribution, such as distribution centres. It is what a company owns and forms a very essential part of the business supply chain. (Hassan & Marston 2010; Campbell 2004)
Market presence	The geographical area that the company is serving or covering including the selling points representative office or branches locally or internationally, targeted markets and ability to satisfy all expected demands
Market share	Information about the market share statistics, competition in market growth in sales, sales per segments and per business line major customers and long term contracts with customers sales forecast etc.
Customer relationships	Information covers include principles, practices, and guidelines that an organization follows when interacting with its customers. (E.g. customer loyalty schemes, customer satisfaction survey and the initiatives taken for improvement, complaints management). Also, this covers company's channels to obtain feedback form customers such as hot-lines call centres etc. (Li et al. 2008b; Li 2009)
Customer retention:	Disclosure made about the activities company takes to

	prevent customers from switching to alternative companies.
Customer involvement	this include the strategy that identifies and develops ways to involve customers in the business and product development process, such as design, marketing, sales, customer service, etc. The degree of involvement can be as far as to make the customer a part of the product, experience, and delivery. it focuses on customer consultation on product or services development, which could also include customer and company connectivity.
Company image	Information disclosed about reputation (goodwill) and how the customers and all other stakeholders perceived the company and how they look to the company and to what extent this affect the company policies and its reactions toward this mental image (Li et al. 2008a)
Strategic alliance and Business collaboration	partnership with other companies joint effort products and/or joint venture and any joint effort in research for developing products Collaborations established with other business partners, moreover, this include relationship with subsidiaries and sister companies and/or parent companies.
Distribution channels and Intensity	Defined as appropriate mechanisms of getting products and services into the market (Brooking, 1996). It refers to various third party distribution channels e.g. distributors, agents, dealers knowledge of suppliers, relationships with them (such as suppliers reliance on key suppliers, bargaining power against suppliers, support of suppliers, and payment terms). Intensity also covered by information about company's position in the market and its ability to cover the local market and ability to reach markets abroad. (García-Meca & Martínez 2007; Whiting & Miller 2008)
Business agreements	It includes such as licensing and franchising agreements, any agreement that company think it empower its competition in the market.
Diffusion	Is the process by which a new idea or new product is accepted by the market? The rate of diffusion is the speed that the new idea spreads from one consumer to the next
Human Capital	
Number of	Information about employee's count of a firm, employee breakdown by, e.g.

employees	market (business operation or geographical segments).
Staff's breakdown	Disclosures covering qualifications and by role of employees within the firm
Employee's benefits	what benefits offered by firm to its staff including fringe benefits and other benefits e.g. education support career mobility
Recruitment policy	is there any approved policy for hiring/ firing employees in place, the qualification should be in the employee to be hired job discerption for each vacancy in the firm
Employee diversity	Diversity is defined as the division of classes among a certain population. The item refers to the mix of, e.g. ethnicity, gender, and colour, and nationality. Relevant disclosures include employee diversity policy, the mix and breakdown of employee by race, religion, and culture.
Employee education And Skills/know-how	Education of directors as well as other employees diversifications of the employees according to the level of education and certifications held by them also, practical knowledge on how to accomplish something Disclosures can be description of knowledge, know-how, expertise or skills of directors and other employees. Matrices could also be shown indicating number of employees with such skills, vocational qualifications etc. (Li et al. 2008b)
Employee work-related competences and work related experiences	The knowledge and skills that can be useful to accomplish jobs. It refers to competences e.g. current positions held outside the company by directors, professional recognition/qualification, awards won (external), and employee publications. Also information that is acquired during the job in terms of tacit, explicit and implicit knowledge including employees' previous working experiences.
Employee equality and Genderism	Disclosures cover written policy or any mechanism to ensure equal treatment of staff irrespective of social and cultural differences. Related disclosures include employee equality policy and initiatives taken for enforcement, senior management by gender, and percentage of disabled employees irrespective of social and cultural differences (Li et al., 2008).
Training	including training policy, budget and training expenses also types of training its implications on the firm's future and key employees replacement policy

	(Succession-plan)
Work environment	Firm's attitude toward offering supporting work environment discrimination free and challenging to the employees' abilities. Providing safe workplace and safety initiatives
Employee relationship	The acknowledgments and recognition of importance of employees, employee appreciation, dependence on key employees, employee satisfaction, loyalty, Health & Safety and working environment. It also includes initiatives to build and improve employee relationship, e.g. trade union activities, promotion in share ownership and employee contractual relationships
Employee attitudes and commitments	Information that reflects how employees are working and how they attached to their work. Relevant disclosures could be, e.g. behaviour employee friendliness, welcoming, hardworking, optimism, enthusiasm, and identification of individuals with company's goals
Employee motivation	Policies, initiatives and evidence of motivation of directors and other employees. It includes reward (internal) and incentives systems, e.g. employee explicit recognition, performance psychometric occupational assessment, and indicators of such as employee turnover, stability, absence, and seniority (Li et al. 2008a; Campbell 2004; Hassan & Marston 2010)
Employee capabilities	Other employee abilities apart from the above discussed, e.g. communication ability, interpersonal ability, sensitivity (e.g. thoughtful), flexibility, and management quality (Guthrie 2007)
Employee teamwork	Teamwork is the concept of people working together cooperatively. It covers information about culture of teamwork (expert teams and networks, teamwork capacity), programmes that enhance relationships between employees within/across departments[22]

[22] Full discerption of the disclosure index is listed in appendix D

Concerning the corporate governance, a check-list of the CG mechanisms is produced based on the CG mechanisms that have been adapted by the Jordanian corporates as indicated by the exploratory review and based on the corporate governance code issued by the government i.e. Jordan Securities Commission taking in consideration limitations of statistical model.

5.12 Research's Sample

The research population is formed of all companies listed in Amman stocks exchange at the end of December 2014 (265) companies. These 265 divided into 4 sectors which are namely (Banking, Insurance, services, and manufacturing). The top 100 companies have been chosen to be the study's sample as purposive sample which fulfill the condition of being listed over the study period (2009-2016). Thus, the surveyed annual reports are 700 annual reports (100X7).

The selected sample represents 78% of the market capitalization and the sectorial allocation of the sample is as the following:

Table 5.7 Sample Breakdown

Sector	Number of companies
Banking	15
Insurance	15
Services	34
Manufacturing	36
Total	100

A detailed list of the sample provided in the appendix A at the end of this thesis.

5.13 Annual reports as a source of data

Annual reports have been serving as a very important communication means for the corporates themselves and for their audiences (Plung and Montgomery, 2004). Annual reports are studied from many different points of views (Mobasher et al. 2013). Some studies have examined the annual reports as a voluntary disclosure tool (Chakroun & Hussainey 2014; Lang & Stice-Lawrence 2015; Absar 2016). Also, some studies have looked into the annual report to assess certain contents e.g. graphs and images (Davison 2014; Husin et al. 2012) and others have examine the CSR disclosures in annual reports (Schwindenhammer 2013; Lys et al. 2015; Jamil et al. 2002). Some studies are dedicated to assess the readability and the understandability of the information in annual reports (Merkley 2014; Liao et al. 2013; Smith and fofller, 1993) and the list can be very much longer. Thus, all these go to show the importance of annual reports for accounting studies and the reports' legitimacy as a source of data for studies in the accounting and financial context. According to Stanton & Stanton (2002) annual reports, in addition to being a legal document, serve as a marketing tool, communication channel, corporate strategy visualisation mechanism, and accountability means.

The importance of corporate annual reports for the stakeholders' community is well documented in literature. Moreover, corporate annual reports remain a crucial communication tool and rich source of information for different types of users due to the variety information posted in the reports. This is especially true in management analysis and discussions which normally offer information about the firms achievements, performances, plans and strategic orientations and directions (Cooke 1989). In addition, and according to Yuthas et al. (2002) surveying the views of US investors indicated that the most important portions of the annual reports are the President's Letter and the Management Discussion and analysis MD&A and these are the most important source of information for evaluation of the firm.

Annual reports narratives are the primary source of information about IC (White et al. 2010). Despite some information about companies' intangible assets which can be found on company website, its press releases and for a few companies in IC independent reports, the general practice among the corporates is to provide the information about its intangible assets through the narrative in the annual reports. Thus, we find most research conducted in the IC field relies on the annual report as a source of data e.g. (Dumay & Cai 2014; Mubaraq & Ahmed Haji 2014; Liao et al. 2013; Abdifatah Haji Ahmed & Nazli A Mohd Ghazali 2013; Ramanauskaite & Rudzioniene 2013; Haji & Ghazali 2012; Aryani & Prabowo 2011; Phusavat et al. 2011; Beattie & Thomson 2010; White et al. 2010; Brüggen et al. 2009; Sonnier et al. 2008; White et al. 2007; Vandemaele et al. 2005; Abeysekera & Guthrie 2005b; Li 2009). Hence, the feasibility of such source of data for studying the ICD is well documented among the extant literature although they vary in terms of economic conditions, regulatory frameworks, and geo-political contexts. In addition, the narrative in annual reports is a very important source of information for investors' and analysts' judgment: it offers concurrent debate about the matters that happened during the previous accounting period with details and justifications from the management and the chairman. They also provide information to facilitate the understanding of the numbers, figures and items in the financial statements, as sometimes the financial statements appear too complicated to non-specialised people so extra information will make them easier to understand (Beattie 2014).

In Jordan, this study's context, the annual report is mandatory and must be prepared and posted to the all shareholders; it should also be available for anyone who request it. According to the Jordanian corporate law and the JSC disclosure instructions a hardcopy of the annual report should be sent to the JSC and made availble to the public in the company premises within three months of the end of the financial year. Should the company fail to do this there will follow disciplinary actions from the JSC including a fine and it could even result in the the suspension of trading in the ASE. Moreover, as mentioned in part one, the basic contents of the annual report have been specified by the disclosure directives.

5.14 Follow up Interviews

As mentioned in the methodology section above, this study is using a mixed research method to achieve its goals due to the justifications mentioned previously under section (3.4.1). As specified in the research aims, the ultimate goal of the present study is to provide a deep and thorough understanding of the relationship between the CG and the level and quality of ICD. It aims to provide an insightful explanation of the existing relationship between the studied variables. This notion emphasised by Cupchik, G., (2001) who provides the ontological reasoning for implimenting both quantitative and qualitative research methods to compliment each other. According to his argument, in order for researchers to gain a comprehensive understanding or detailed explination for the relationships between the researched variables, they need to take a further step after conducting the statsitical tests on the quantatative data and identify if the relationship is statistically significant or not. This further step is incorporating qualitative research strategies to yield deeper undersanding and comprehensiveve explanation for the relations between variables and this will facilitate the generalisability of the findings. However, before we move to the description of the interviews used in this study it is worth defining the interviews and how they generally used in social research. This will include a consideration of the types and strategies associated with interviews, the need for interviews and how they are to be conducted.

5.14.1 Interview

Interviews as known to us today were developed by *Socrates* two thousand and a half years ago. he In his work with his students Socrates initiated this type of dual-dialogue between one individual who asks and another one who answers. However, the present concept of the interview utilised as data collection in the scientific research context is a two-way systematic examination between the researcher and the informant or expert. It originated to gain specific information to address one or more of research objectives. Interviews can be face to face, and also, can be conducted over the telephone, or can be executed over any one of the modern communication channels i.e. Skype, FB Messenger, etc., Also, they can be structured (guided) or unstructured or sometimes it could be mix of the two, known as semi-structured (Iacono et al. 2016). Interviews can be used as main source of data or they can be used to provide supplimentary data or further explanation for one or more of research aspects (Satyaprasad and Himalaya, 2010) Pp 99-100.

Another definition of the interview offered by Cooper and Schindler (2014) is an informed conversation between a trained researcher and individual or group of people who have certain experience, knowledge or information. In the interview the researcher (interviewer) will ask questions to elicit specific information. The respondent (interviewee(s)) will provide replies and answers to the researchers based on their real self-experience (e.g. patient in hospital) or based on knowledge developed overtime (e.g. consultant, academic).

5.14.2 Types of Interviews

Interviews vary based on many aspects: some research methodology references classify them based on the questions types (structured, unstructured, semi-strucutred) and other classifications use the interview settings (face to face interview, remote interview, computer-aided interview).

However, in one piece of research,it is quite posible for the researcher to mix all these together: for example a researcher may use structured interviews, some conducted some face to face and the remainder remotely on a real-time basis e.g. over telephone or CA interviews (Skype, Face-time, Facebook Messenger) (Iacono et al. 2016). Or it could be done on a non-real time basis (Email interviews of Chat-Boards interviews) (Iacono et al. 2016; Janghorban et al. 2014; Trier-Bieniek 2012). Below I will introduce each one of these classifications and the advantages and disadvantages of each of them:

1. Unstructured interview: in this type of interview researchers are interested in collecting as much detail as they can about the phenomena by asking open questions to elicit a detailed answer. Or as referred to sometimes – “the juicy details”. For example, when researcher want to know the rituals of certain ethnic group and are keen to know all the details, the researcher will ask general question and listen and record or take notes of all details provided by respondent(s) (Anon 2017).

2. Structured interview: in structured interviews the researchers have prepared the questions and will stick to the questions already prepared. Under this kind of interviews the researcher is interested in specific themes relevant to the study hence he/she will focus on these themes (Cooper 2013; Sekaran. U. and Bougie 2010).

2. Semi-structured interview: here the researcher decides to look for specific information but is also interested in acquiring any other relevant information the respondent may provide. In this case the interview will be a mix of structured and unstructured questions (Cooper & Schindler 2014).

5.15 The present study interviews

The present study deploys the semi-structured interview to collect primary data seeking further explanation and deeper understanding of the subject phenomena. The interviews questions are designed, based on the quantitative analysis results, to dig deeper into the factors that may affect the ICD. The sample for interview is selected based on the researcher's judgment about those individuals who can provide helpful ideas which will leverage the research contributions.

The interview's questions were sent to experts for review and to ensure that they can elicit the information needed; furthermore, it has been piloted with an expert who has both professional and academic backgrounds and based on his feedback the interview's questions were amended for the best ability to elicit the relevant information which will enrich the quantitative results

The intended sample was divided into three categories to cover all the stakeholder's spectrum. Hence, the researcher investigated the views from representatives of annual reports preparers, users and from the regulators and supervisory bodies. There are difficulties involved with running an academic interview with high profile professionals and investors: it requires patience; furthermore there is an inbuilt reluctance amongst Jordanian people to share their ideas with researchers[23] as they worried about the end use of information they will give. This is especially true when the process is recorded. Hence, with extensive follow-up; with honest reassurance form the researcher to the participants that no recording will be carried out; that names will be anonymous under all circumstances and with a guarantee that any information provided will be solely used for research purposes, the researcher successfully conducted eight interviews.

According to Hair, J. F., Celsi, M., Money (2016) the age of information technology has an impacton business research in different ways: firstly, matters matter less as the attention goes towards the intangibles and soft assets. Secondly, the distance matters less as the globe is turned into a small village and communication technology makes the relationship flow more easily . Thirdly, time matters more as in the current business environment time is the most important resource. Due to these factors and other considerations mentioned early before the present study has utilised the remote interview techniques to access the interviewees. Such kind of interviews give the researcher flexibility and facilitate the access to intended individuals without interruption to their work-time, or any of the discomfort of the formal face to face interview. In addition there is the economic advantages of saving time and resources (Hanna 2012).

The table below summarise the advantages and disadvantages of the remote interviews comparing to face to face interviews.

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[23] Most developing countries including Arab countries which run as a Polizeistaat (Police state) have poor records of human rights and freedom of speech, this unpleasant history affect people's perception regarding speaking to researchers in the presence of recorder machine.

Table 5.8 Comparison between face to face and remotely administered interviews.

Interview	Face to face	Remotely Administered
Advantages	1. Elicit more details and comprehensive answers 2. Capturing the body language of the respondent 3. The researcher can modify and clarify the questions based on the response	1. Flexibility 2. Resources saving 3. May gain more response
Disadvantages	1. Time consuming to recruit and conduct 2. Physical presence of the interviewer can put some pressure on interviewee and generate biased answers. 3. Ecological side-effects	1. The interviewer will lose the opportunity of eye contact with the interviewee. 2. Will not gain details as much as under face to face one.

5.16 The Interviewees sample design

The purpose of the interviews in this research is to offer explanatory information for the results derived from the secondary data analysis. Thus, careful selection of the interviewees is needed to make sure that the respondents will satisfy the research purposes of results validation. Different strategies are available to select the respondents out of the targeted population (reports' preparers and users) and in such circumstances probability-sampling will not help. A specific respondent with a certain level of knowledge and credentials will be required to fulfil the requirements of selecting the interviewees (Cooper & Schindler 2014; Sekaran. U. and Bougie 2010). A non-probability sample was sought to listen to well-informed individuals who can provide expert views based on their personal experience, close monitoring of the stock market or based on their engagement as executive management members, who prepare or participate in preparing the annual reports and who know the details of the narrative provided in them.

5.17 Research Tools validity and Reliability

As previously mentioned in this study a mixed methods approach was adopted for data collection. Thus, each one of these two different types of data collection tools must undergo a test for validity and reliability.

- **Content Analysis:**

The validity of the data collection tool (disclosure index) was achieved by taking certain precautions to make sure that the present disclosure index will fulfil its aim and aid the researcher by collecting the relevant data for the study. These precautions are:

1. Adopting a disclosure index from literature and customising it to the study context by removing irrelevant items or those not applicable to the research context based on preliminary review of the annual reports as mentioned in the section dedicated to the research instrument development. (item irrelevant/not applicable e.g. Child labour, Black Empowerment, Race, HIV/AIDS Positive staff etc., these items are either culturally not acceptable to discuss, or political-correctness suggests them to be inappropriate: sometimes items disclosed by western companies may touch on political or religious taboos e.g. staff sexual orientation, LGBTC rights, etc.,).

2. After developing and finalising the disclosure index it was sent for evaluation to professional and academic experts who have extensive experience in disclosure and are familiar with the Jordanian financial markets: subsequently it has been further amended based on their views.

3. A pilot study was carried out to evaluate the index's ability to achieve the intended role of capturing the data. Satisfactory results were reached in the pilot study.

Reliability: the reliability of the disclosure index, referred to as the degree of trust, demands that it will give the same results if it is replicated either by the same researcher at a different time or simply by another researcher(s). However, when we talk about reliability there are three concepts associated with the reliability: 1. Stability, 2. Reproducibility, and 3. Accuracy (Krippendorff 2013).

Stability: refers to getting the same result on the index when the coding process is carried out by the researcher on the same element in two different periods. In this research the researcher did this exercise on five companies already done in the pilot study. When recoded the results were absolutely the same.

Reproducibility: means the ability of other researcher to reach the same results if applying the same methodology in coding (Beattie et al. 2004). It is acceptable if the agreement between the two coders was above 81%. Moreover Hayes & Krippendorff, (2007) stated that agreement level above 80% will be modestly acceptable. To validate the research from this standpoint the researcher have asked another colleague (fellow PhD student) to do the coding for one company and then applied the KAPPA[24] test using Stata14 to evaluate the agreement: the results of the test showed below reflect a very good percentage.

Table 5.9 Tool consistency test

Expected Agreement	Agreement	Kappa	Std. Err.	Z	Prob>Z
96.43%	96.43%	0.0000	0.0000	0.00	0.5000

Accuracy as defined in the context of “content analyses refer as the evaluation of the researcher’s (coder) performance based on the pre-established measurements either by group of experts or comparing prior studies. (Krippendorff 2013; Milne and Adler, 1999). However, Milne and Adler (1999) stated that reliability can be achieved without the need to apply the reproducibility test if the researcher undergoes a sufficient training.

- **Ordinal Scale validity**:

Sekaran, & Bougie (2010) identified several types of validities for the scale measures. These include:

- **Construct validity**: or the concept validity which refers to the scale’s ability to measure the intended phenomena without bias. This must be supported by theory as the relationship between two or more phenomena that are measured should be supported by theory should have a valid relationship (Westen & Rosenthal 2003).
- **Content validity**: this type of validity sometimes used as synonym of face validity indicates the degree of logical construction of the scale and its relevance for measuring the phenomena. Content of the scale can be validated for undergoing assessment from professionals or experts in the field sometimes if the scale measures behavioural aspects it need to be judged by psychologists and behavioural scholars to make sure of the scale ability to capture the subject phenomena (Sekaran. U. and Bougie 2010).
- **Criterion validity**: this type of validity indicates how closely the outcomes match with the proposed hypothesis or as expected in relation to the construct validity. For

[24] The literature suggests also other measurements for inter-rater reliability e.g. Krippendorff’s alpha, Scott’s piand Leigh’s lambda (see Milne & Adler, 1999).

example, job satisfaction is directly affected by the payment or salary (Hair, J. F., Celsi, M., Money 2016).

- **Reliability**: According to Hair et al (2016) reliability can be achieved by two strategies: firstly the test and retest, and secondly through an internal-consistency reliability test. While the first requires going through the process of coding from another coder and then measuring the degree of consistency in the process between the two coders: the second strategy is measured statistically as indicated by the value of Cronbach's Alpha or the correlation between two test measuring two constructs (Hair, J. F., Celsi, M., Money 2016; Sekaran. U. and Bougie 2010) the Cronbach's alpha for the current index was 0.87 which is statically acceptable as values falling between 0.70 and 0.95 are acceptable (Hair, J. F., Celsi, M., Money 2016).

- **Interviews**: There is no formal technique to assess the interviews validity. However, extant literature suggests some precautions that researcher can take to assure interviews validity.

1. The interviews questions' development; these should be able to illuminate the respondent's reply and elicit the useful information. This could be achieved by proper validation of the questions from a panel of experts in the study field[25].

2. Choosing the right informant and knowledgeable interviewees will help in securing valid answers and saving the researchers time and resources.

3. Doing the right number of interviews. This point is very debatable in accounting research and merely there is no consensus among researchers about how many interviews is enough. The number of interviews depends in the study's nature, purpose, interviews' position in the researche - either as a main data collection tool or complementary data collection tool. However, (Dai, N., and Free, C., 2014) after reviewing 641 published papers in accounting for a period of 15 years from 2000 – 2014; have concluded that it is a subjectively judgmental decision how many interviews the researcher should do. Based on their review the accounting research studies range in interviews from one interview to 36 interviews[26].

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[25] The interviews questions have undergone a validation process by experts and have been piloted with one expert and amendments have been done to assure the validity of interview's questions.

[26] National Centre for Research Methods organised an academic event attended by 19 academics to estimate the proper number of interviews that deemed to be enough and what they have agreed on "*is that is depend*" the proceeds of that event titled with *How many qualitative interviews is enough*? You can access more detail about this on: http://eprints.ncrm.ac.uk/2273/ accessed on 16/05/2017.

5.18 Measurements and variables operationalization

CG varies according to its system: it may be (single layer or double layer) and also according to the geopolitical map (Anglo-American, Germanic or East-Asian) it can vary according to the guiding virtue (rule-based or principle-based) system(s) (Judge 2010).

CG mechanisms also vary in their efficacy, importance and feasibility. These mechanisms are developed in accordance with the economic and socio-political changes. Moreover, these mechanisms are not static overtime and across countries and their importance change according to the socio-political context. For example, in Nordic countries, the social pressures are the most important CG mechanism; here, the social norms and values are held in a supreme standing amongst business leaders and they need to obey and strictly comply with them. On the other hand, a very different socio-political context would be China: here state ownership remains the most important CG mechanism due to the level of central government interference in the economy. Finally, the importance of the CG mechanisms can depend on the theological system of countries: for example, in countries like Iran, Pakistan and Saudi Arabia Sharia-Law are the most regarded CG mechanism (Solmon, 2013; Judge, 2010). This study, due to statistical model limitations, will focus on the CG mechanisms that are mentioned in the CG code and those generally adopted by Jordanian companies based on the information gained from the annual reports. Thus, the CG mechanisms or the control variable are the following:

I- **Board size**: Board size is one of the key CG mechanisms. As the board size, will reflect the level of expertise diversity of the board, assuring certain level of representativeness of the shareholders and the firm's underlying environment (Beiner et al. 2004). This is measured as indicated in the annual reports by the total number of directors forming the board. As the literature suggested, there are two main issues associated with the board of directors size (1) coordination and communication and (2) the control function efficiency (Cerbioni & Parbonetti 2007; Eng & Mak 2003; Liang et al. 2011). The first issue is positively affected by the board size, as the larger boards are expected to allocate more time and resources to discussion of the firms' conditions and operations; similarly, in the second issue a larger board is expected to form sub-committees that specialise in monitoring the day-to-day operations, and supervising the executive management performance. However, other points of view suggest a negative effect for the large board on the efficiency of the board duties (Huther, 1997). Thus, this study will consider examining the effect of the board size on the ICD extent and quality as one of the CG mechanisms. <u>Board's size will be measuered simply by the number of the memebrs of the board as specified in the annual reports</u>.

II- **Board independence**: Jordanian CG code has differentiated between the independent board member and non-executive members. According to the Jordanian CG code independent member is: A member of the board of directors who is not tied to the company or any of its upper executive management, affiliate companies, or its external auditors by any financial interests or relationships other than his shareholding in the company that may be suspected to bring that member benefit, whether financial or incorporeal, or that may affect his/ her decisions or lead to exploitation of his/ her position with the company. The board member loses his independence in any of the following cases:

1. If he or she is, or has been, employed by the company or any of its affiliates during the last three years preceding his nomination for membership of the board of directors.
2. If any of his or her relatives are employed, or have been employed in the executive management of the company or any of its affiliates during the last three years preceding his or her nomination for membership of the board.

3. If he or she, or any of his/ her relatives has direct or indirect interest in the contracts, projects and engagements signed with the company or any of its affiliates to the value of JD 10,000 (ten thousand Jordanian Dinars) or more.

4. If the member or any of his/ her relatives is a partner of the company's auditor, or if (he or she) is or has been a partner or employee of the company's external auditor during the last three years preceding his nomination for membership of the board.

5. If the member has a control in the company of more than 10% of the company's capital.

This study will use the above-mentioned code definition of independent member despite some studies used the independent member and non-executive member as synonyms. It will measure the percentage of independent members within the board out of the total number of the board. Literature suggests that there is a positive relationship between the board independence and the level of transparency (Cheng & Courtenay 2006; Lim et al. 2007). Also, the independent members within the board are likely to recognise other stakeholder's need for information and this will positive effect on the voluntary disclosure (Patelli & Prencipe 2007; Haniffa & Cooke 2005). Moreover, the literature has suggested that independent directors serve as a reliable instrument to overcome the agency conflict between the owners and the firm's executive management. (García-

Meca & Sánchez-Ballesta 2010). This will be measured as the number of independent memebrs within the board as specified in the annual report.

III- **Role Duality**: Combining the roles of the chairman and CEO may lead to a state of authority concentration, conflict of interests and possibly position abuse either by avoiding the responsibility or by taking advantage of huge access to the information. Therefore, the separation of the two roles is recommended by most CG codes. Doing so will definitely facilitate accountability and award tangible authority to the board bringing rational debate to the board. This is particularly important in the wake of a major financial crisis that result from poor governance and/or aggressive management risk abietite (Allegrini & Greco 2013; Huafang & Jianguo 2007; Cheng & Courtenay 2006). This variable will be measured if the separation of the roles between the chairman and the CEO exists. If the CEO is not the same as the chairperson, then (1) will be assigned to the company and (0) otherwise.

IV- **Family ownership**: Currently, most economic giants in the world (Wal-Mart, Ford Motors, Samsung, Porsche, PEUGEOT SA, IKEA Group, TATA, and The Kingdome Holdings) are family businesses.[27] Likewise, in Jordan (the current study's context; 40% of Jordanian financial market capitalization is owned by families and about **75** % of the Jordanian companies are founded initially by families or started as a family business[28].

Literature is not categorical about the effect of the family ownership on voluntary disclosure and corporate transparency: some studies suggest that the presence of family ownership supports transparency (Cascino et al. 2010; Hutton 2007; Ali et al. 2007). There may also be a better quality of disclosure as the family investors have longer investment horizons. In addition, they will try to maximise their wealth by pushing up the share price in the financial market through releasing good news (Ghosh & Tang 2015). Moreover, family investors will be more likely to bear the proprietary cost. In addition, their involvement in management will lower the information asymmetry (Chen et al. 2008). Nevertheless, some studies do not share this point of view about family ownership's effect on voluntary disclosure: they claim that the existence the family ownership increases the information asymmetry and discourages transparency

[27] For more details see: http://familybusinessindex.com/#table accessed on 17/12/15.
[28] Details available on the securities depository centre: https://www.sdc.com.jo/english/index.php?report_type=3&option=com_public&Itemid=28 accessed on 12-12-15.

in general (Chau & Gray 2010; Chen et al. 2008). This occurs as family concentrated ownerships leads to a family dominated board, which allows family members to access the information from insider sources: this will lessen the importance of public disclosure channels like the annual reports and company websites (Chau & Gray 2010). This controversy concerning the effect of family ownership makes it worthwhile examining the Jordanian context. This will be measured as a percentage of the total common stocks controlled by one family(s) at the end of each year of the study period.

V- **Management Ownership**: based on the work of Jensen & Meckling (1976) the presence of managerial ownership participates to decrease the board of directors monitoring role over this executive management. Hence, literature suggest adverse relationship between the managerial ownership and the disclosed information (Li et al. 2008a; Donnelly & Mulcahy 2008). However, it is argued that the sizable managerial ownership will reduce the agency cost as a result of the manager-owner engagement.(Ahmed Haji 2015). However, the lower agency cost does not mean that the information asymmetry between the insiders and outside parties will be abolished actually it maybe worsen with this combination of management ownership which requires the appointment of independent directors within the management team to ensure proper CG (Deegan 2002). In the context of this study management ownership refers to the direct ownership by the CEO, or any equivalent individual who occupies the top management position e.g. (General Manager or the Managing Director). This will be measured as a dummy variable taking (1) if there are common stocks owned by the CEO either directly or indirectly (through his family). Alternatively, it takes (0) otherwise.

VI- **Institutional Investors ownership**: According to a survey study conducted by (OECD 2011) institutional investors have a positive role in enhancing the corporate governance and re-enforcing the good practices and empowering the board of director monitoring role over the executive management. In addition, Scott (2014) found a significant relationship between the presence of institutional investors within the ownership structure on the amount of resources invested in R&D this was especially true when information asymmetry existed as it a matter of fact that the institutional investors demand timely and regularly updated financial statements and operational reports (Khiari & Karaa 2013). Moreover, the literature suggests a positive relationship between the existence of institutional investors' ownership and the increase in voluntary disclosure (Lang & Stice-Lawrence 2015). They usually bring professionalism and well-informed directors to the board and they normally have resources and infrastructures, which are not available to the individual investors (Eaton et al. 2014). However, some researchers found a little or no effect from the presence of institutional investor's ownership on the voluntary disclosure and the quality of disclosure e.g. (Wang & Hussainey 2013). This study assumes that institutional investors have a positive role in diminishing the information asymmetry (Shhadat & Abdeljaleel, 2011). This variable will be measured as a dummy variable where it takes (1) if the institutional ownership exists or (0) otherwise.

VII- **Foreign ownership**: It is expected that the foreign investment brings many benefits to the investee companies as well as to the economy on a macro level. One feature of foreign investment in the companies' level is the bringing of expertise and knowledge transfer in addition to opening new channels for exporting companies to access new markets or opportunities. Some studies ((Albawwat et al, 2015; Alhazaimeh et al. 2014; Liang et al. 2012; Haniffa & Cooke 2005)) suggest that there is a positive effect from foreign ownership on the disclosure in two ways: firstly, the foreign investors will be demanding and will ask for more information due to the fact they will be remotely monitoring their investment and secondly, the motivation for voluntary disclosure, which is associated with foreign investment, is internally from the firms themselves: they will try to provide more and better information to signal the foreign market and draw the attention of the foreign investors towards their more visible presence. Consequently, in this study, it is expected that foreign ownership will positively affect ICD. This factor will be measured as the percentage of the total common stocks controlled by non-Jordanian[29] individuals or entities, to the total common stocks of the subject company at the end of each year of the study period.

VIII- **Corporate Governance Committee**: The Jordanian CG code encourages companies to establish strategies and assigns sufficient resources to ensure consistency and compliance with the CG code and international best practices regarding the transparency and sound internal control practices. Hence, some companies have within its board of directors a committee that is engaged with preparing the CG manual for the company itself and monitoring the adherence of the company to the CG code and the

[29] According to the ASE and SDC statistics 46% of the listed companies stocks are owned by non-Jordanian see: https://www.sdc.com.jo/english/index.php?report_type=10&option=com_public&Itemid=28 Accessed on 17/12/15.

internally developed CG manual. In this study, I will try to examine the effect of having such committee within the board on the variance of the ICD. Measurement of the Corporate Governance Committee will be as a dummy variable as it will take (1) if the committee established within the board and (0) otherwise.

IX- **Audit Committee Size:** The audit committee has a pivotal role within the control system of the company especially in enforcing the monitoring role of the board and empowering other internal control functions, like internal audit and in enhancing the level of transparency. Jordanian CGC recommended that the audit committee be formed of three members at the minimum and this was the same for The Cadbury Committee report (1992), the Smith Committee (2003) and Sarbanes-Oxley Act of 2002. The main role of the audit committee is to ensure the integrity and fairness of financial reporting and the soundness of the internal control system that will produce a financial statement that free from misstatement. It is still the audit committee's responsibility to make sure that financial statements are understandable. This allows them to make requests to the management to provide further disclosures and explain all aspect of the financial statements (E.Y. 2002). The prior literature e.g. (Samaha et al. 2015). Li et al. (2012) indicated a positive relationship between the audit committee size and the level of disclosure. This variable will be measured by the number of audit committee members as stated in the annual reports.

X- **Audit Committee Effectiveness**:The frequent meetings of the audit committee indicates that the committee is active and allocating sufficient time and effort to discuss the firm's affairs: this will have a positive implications on the internal control system in the firm (Ho & Wong 2001). The literature suggests that there is a positive relationship between the frequency of the audit committee meetings and the levels of voluntary disclosure (Li et al. 2012; Li 2009; Hidalgo et al. 2011). However, the frequent meetings is not necessarily a proper indicator for audit committee diligence and commitment as it may be an indicator of weaknesses in the internal control (Hoitash, U., et al., 2009). This will be subjected to empirical examination in this study which takes the frequency of meeting as indicator of the audit committee effectiveness following the mainstream of literature.

XI- **Audit Committee Independence**: the AC is preferably to be formed from independent members, which will give them the ability to be fairer and less biased in carrying out the role of monitoring financial reporting and of enforcing transparency. Also, this will keep the committee out of any possible influence that the executive management can exercise. According to the literature e.g. ((Samaha et al. 2015; Michelon & Parbonetti 2012; Khan 2010; Hoitash, U, Hoitash & Bedard 2009)) the independence of the audit committee significantly affects voluntary disclosure. when it comes to the context of the ICD (Li et al. 2012; García-Meca & Sánchez-Ballesta 2010) find a direct and significant effect for the independence of the audit committee on the levels of ICD. Accordingly, this study will measure the effect of the audit committee independence by the percentage of the independent non-executive members in the AC. This variable will be measured as the percentage of independent members out of the total committee size.

5.19 Control Variables

According to the prior literature, many variables are expected to have a significant effect of the ICD, building on the prior studies this study is controlling for the following variables:

I- **Firm's Size**: size is well regarded as a determinant of the voluntary disclosure and accounting policy choices. Large companies are likely to be more visible in the capital market and better known to the investors and analysts; they are also, likely to catch the attention of the information users (Abhayawansa & Guthrie 2016; Uyar & Kilic 2012; Cormier et al. 2005). Moreover, large companies are expected to be long established in business practice more familiar with the regulator requirements and this expected to have positive implications on the firm's internal control system. This variable will be the logarithm of the total assets. Furthermore, different theoretical argument proved a positive effect for the size on the voluntary disclosure; e.g. agency theory assumes higher agency cost will be incurred due to the wider information asymmetry in case of larger firms thus, it will try to disclose more information to narrow this information gap between insiders and outside parties (Jensen & Meckling 1976; Cooke 1989). In addition, signalling theory also, suggests more voluntary disclose will be given by larger firms (alnajjar and Hussainey, 2011). Political cost theory also, provide some explanation for the positive relationship between the voluntary disclosure and the firm size as the larger firms will be subject to higher level of follow and monitoring from the governmental and civil society organisations (Milne 2002; Watts & Zimmerman 1990). Thus, firms will be motivated under this political pressure to extend its disclosure to minimise its political costs (Raffournier 1995). As showed in the above discussion. The firm's size is wildly proved either theoretically and empirically to significantly affect the corporate disclosure patterns and choices. Thus, for the purpose of this study the firm's size will be incorporated as control variable and will be represented by the natural logarithm of the firm total assets[30].

II- **Profitability**: Firms' performance can be measured in different ways and by different indicators (Martin & Patterson 2009; Zhu 2000; Roos & Roos 1997). Amongst these measurements, profitability remains the most applied in the research community, especially when examining the voluntary disclosure in their studies. Profitable companies will be interested in providing a detailed discussion about their plans, investments, profitable segments and markets (Li et al. 2008). Thus, a distinguished financial performance will lead to better disclosure choices and this is expected to enhance the quantity and quality of information shared by firms (Meek et al. 1995; Ho & Wong 2001). Theoretically, signalling theory suggests that voluntary disclosure is directly and significantly affected by the firm's profitability in the case of profitable firms (Rodrigues 2005; Morris 1986). On the other hand Haniffa & Cooke (2005) suggest legitimacy theory can provide explanations for disclosure patterns in both profit and loss: the managers will disclose information to legitimise their position and performance under both conditions. Profitable firms always try to share information about their performance (Taliyang & Jusop 2011). Managers in the profitable companies definitely want to share their excellence in running the business, the good performance achieved, and their ability to reward stockholders and information users in the market (Abhayawansa & Guthrie 2016; Eddine et al. 2015; Raffournier 1995). Return on assets (ROA) will be taken as an indicator of the profitability for the subject companies.

III- **Leverage**: Financial gearing brings companies many benefits including tax-shielding, lower cost capital than equity capital and flexibility in access and repayment. Leverage's effect on corporate disclosure is debated in literature (M. Griogore, Tefan-duicu 2013). Some prior studies indicate a positive and direct effect for leverage on disclosure (Huafang & Jianguo 2007; Raffournier 1995). Some studies found negative effects on the voluntary disclosure (Eng & Mak 2003) and other studies found no effect (Nekhili et al. 2012; Cerbioni & Parbonetti 2007). However, agency theory argues that companies with higher levels of debt undergo pressure from debt holders to release more information: this is explained under the agency theory as the debt holder acting as principal (Jensen & Meckling 1976). Another argument under agency premises is introduced by Jensen (1986) who suggested that the increase in leverage will be associated with an increase of agency

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[30] Firms total assets, total liabilities, profitability, leverage and the comparable information for the last ten years relating to all the listed companies are ready prepared and available for public on the security depositary centre www.sdc.com.jo.

cost (the debit-holders here represent the principals). This cost also will include the cost of bankruptcy risk and anti-hostile takeover costs (*Hostile takeover defence*). For the purpose of this study the leverage ratio will be taken for each company as it is published by the security depository centre[31]

[31] The methodology implemented by the security depository centre for calculating the leverage ratio is basically plane leverage Total Debt / Total Equity

The below diagram summaries the research's model which shows the study's variables and propose relationship between them.

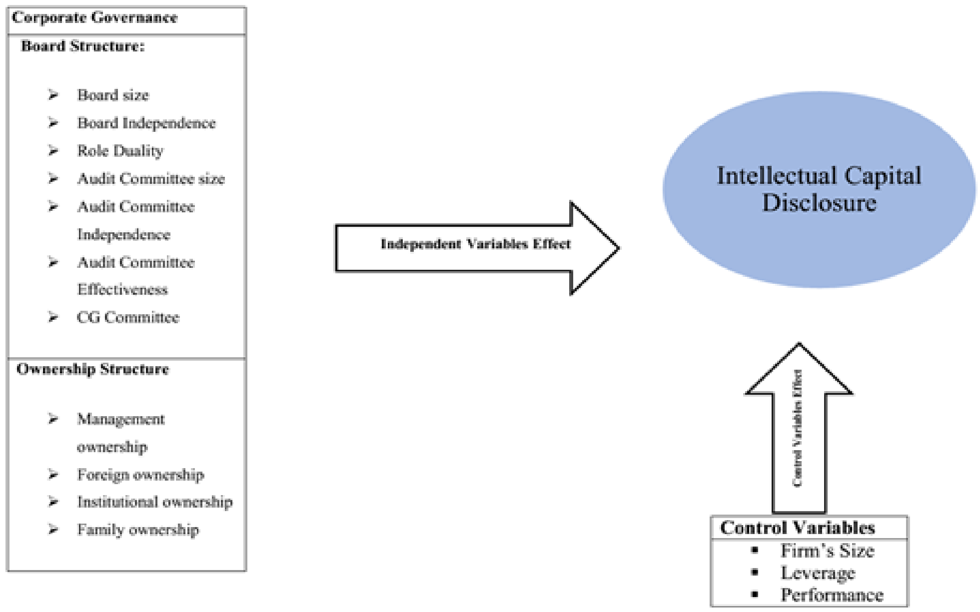


Figure 5.3 Research Model

5.20 Research Models

As in the previous section the research varibales discussed in detail an how these variables will be measured in this section the research models that incorporate these variables in order to examine the effect of the CG on the ICD quantity and quality will be shown:

The model that measure the quantity or the level of ICD

ICDL = β0+ βBrd_size *it* + βBrd_Independence *it* + βRole_Duality *it* + βFam_Ownership *it* + βForeign_Ownership *it* + βManag_Ownership *it* + βInstit_Ownership *it* + βCGC *it* + βComm_size *it* + βComm_Independence *it* + βComm_Meetings *it* + βsize *it* + βLeverage *it* + βPerformance *it* + ε

Where:

Variable nature	Variable	Definition
DEPENDENT V.	ICDL	is the ICD level which refer to the variance of quantity of IC information based on the change in CG factors.

INDEPENDENT V.	Brd_size	Board of director size (number of members)
	Brd_Independence	Board independence (number of independent members within the board
	Role_Duality	if the CEO and the chairman occupied by same person
	Fam_Ownership	if two or more members of the same family maintain a membership(s) in the board
	Foreign_Ownership	non-Jordanian owners represented in the board
	Manag_Ownership	executive management have outstanding ownership of the company's shares
	Instit_Ownership	institutional Investors' ownership
	CGC	if the company has a CG committee within its board.
	Comm_size	Audit committee size
	Comm_Independ	Independent members within the audit committee
	Comm_Meetings	frequency of audit committee meetings
CONTROL V.	Size	company size total assets reduced to the natural log.
	Leverage	total liabilities divided by the owners' equity
	Performance	company financial performance and referred as ROA

- The model that measure the quantity or the level of ICD:

ICDQ = β0+ βBrd_size *it* + βBrd_Independence *it* + βRole_Duality *it* + βFam_Ownership *it* + βForeign_Ownership *it* + βManag_Ownership *it* + βInstit_Ownership *it* + βCGC *it* + βComm_size *it* + βComm_Independence *it* + βComm_Meetings *it* + βsize *it* + βLeverage *it* + βPerformance *it* + ε

Where:

Variable nature	Variable	Definition
DEPENDENT V.	ICDQ	is the ICD Quality or the variance in the ICD that referred to the change in the CG factors
INDEPENDENT V.	Brd_size	Board of director size (number of members)
	Brd_Independence	Board independence (number of independent members within the board
	Role_Duality	if the CEO and the chairman occupied by same person
	Fam_Ownership	if two or more members of the same family maintain a membership(s) in the board
	Foreign_Ownership	non-Jordanian owners represented in the board
	Manag_Ownership	executive management have outstanding ownership of the company's shares
	Instit_Ownership	institutional Investors' ownership
	CGC	if the company has a CG committee within its board.
	Comm_size	Audit committee size
	Comm_Independ	Independent members within the audit committee
	Comm_Meetings	frequency of audit committee meetings
CONTROL V.	Size	company size total assets reduced to the natural log.
	Leverage	total liabilities divided by the owners' equity
	Performance	company financial performance and referred as ROA

5.21 Summary

This chapter has presented an overview of the research methodology, providing a summary of the research philosophy, paradigm, research method choices and justification of such choices. Moreover, this chapter has presented how the data is collected and what tool used to collect that data.

The data collection instrument development, piloting and validity and reliability have been discussed in details. Also, this chapter has elaborated on the importance of incorporating qualitative data in order to validate and explain the results of the quantitative data as this study incorporating both quantitate and qualitative data the current chapter has provided the justifications and the advantages that are brought to the study by implementing a mixed method approach.

6 Data Analysis and Discussion

6.1 Introduction

This chapter shows the process of analysing the data and presenting the statistical and qualitative techniques used by the researcher. It explains how these are used to analyse the data to statistically test the hypothesis and show how the qualitative data collected from interviews will support or explain the results of the quantitative data analysis. This chapter starts by showing the results of the descriptive analysis of the disclosure index output. Then, the patterns of ICD have been discussed to highlight the current practices and disclosure choices made by Jordanian companies: these include the visual disclosure patterns which reflects some information quality aspects. Regression models analysisis presented in detail for both the ICD levels (quantity) and quality of information.

6.2 Descriptive Analysis

As mentioned above this part of our study will focus on the patterns of ICD within the Jordanian companies. Hence, we started with the frequencies of each component of IC.

The summary of the results of the disclosure index on the sample level highlighted the score of each component of the IC

Table 6.1 Descriptive analysis

The item	Average Score for the sample	Mini Score	Percentage %	Max Score	Percentage %	Mean	Standard deviation
Structural capital	9.34	0	2.43%	18	2.86%	9.54	4.94
Relational Capital	6.70	0	2%	11	3%	6.6	2.66
Human Capital	8.3	0	1%	15	6.14%	8.30	3.91
Total IC	24.5	0	1%	44	0.57%	24.5	10.7

As indicated in table 6.1. the highest level of disclosure about IC was associated with structural capital followed by human capital: relational capital was the least disclosed. The indicated results are similar to those indicated by Ramanauskaite & Rudzioniene (2013) who conducted their study in Lithuania. However, a study conducted in Siri Lanka over companies listed in Colombo stock exchange (Abeysekera & Guthrie 2005b) found that Siri Lankan companies reported human capital as the most important sub-components of IC. This could be justified: it has been observed that Siri Lanka tries to market its qualified, skillful and low-cost employees in order to attract foreign direct investment (FDI). Interestingly, a longitudinal study over Marks and Spencer, a UK highstreets retailer by Campbell & Abdul Rahman (2010) indicated that the most disclosed component was relational capital; this can be understood within that specific context as the studied firm is essentially a retailer and the relationships with customers and providers are crucial to its success. However, the prevalence of structural capital information in ICD is confirmed by literature in different contexts e.g. China vide (Liao et al. 2013) and in Nigeria (Mubaraq & Ahmed Haji 2014).

Referring to the results indicated by this study. The most frequent score for this component of IC i.e. within structural capital was the corporate strategy. This reflects the level of awareness of the managements in the Jordanian companies of the importance of IC and the information relating to the corporate strategies and companies' plans for future. In an interview with a GM of one of the best performing companies on the index he justifies revealing the information about future plans and strategies by trying to give the audience of mainly analysts and potential investors, the relevant information for the expected growth and the expected gains from investment in the company.

Within the Jordanian context, where the financial market still can not be described as close to the efficient market, investors generally, including the institutional invesors, will try to anticipate the potential gains from their investment based on the available historical information (Hussein, Ala Albawwat, Bandar Barunilai 2015). Introducing the forward looking information in annual reports will facilitate the analysis function and will engage the stock in analysts' and brokerage houses' debate (Hassanein & Hussainey 2015). It is empirically acknowledged in the literature that IC positively affects business success, growth and long-term sustainability (Squicciarini & Voigtla 2015) so the investment in IC will give the firms the momentum and energy to compete in the market (Bratianu & Orzea 2013). Moreover, it is considered a key value driver and strategic element for the competitiveness of the companies (Lerro & Schiuma 2013). However, (Mouritsen & Roslender 2009) stated that most studies examine the IC as "one boundary". Thus, they suggested that more attention should be given to the components of IC, certain IC components or items could be different from firm to firm and from sector to sector. Hence in the next step will shed the light on the details of IC disclosure practice amongst the sectors which clarifies the picture.

Table 6.2 ICD Banking Sector

IC component	Banking Sector						
	Average	**Minimum**	**%**	**Maximum**	**%**	**Mean**	**Std. Dev.**
Structural capital	**15.97**	**13**	**11.4%**	**18**	**9.52%**	**15.97**	**1.55**
Relational Capital	**9.6**	**7**	**1.9%**	**11**	**20%**	**9.58**	**1.08**
Human Capital	**12.98**	**10**	**6.7%**	**15**	**20.9%**	**12.97**	**1.56**
Total IC	**38.5**	**31**	**4.76%**	**44**	**3.8%**	**38.5**	**3.7**

Clearly, the banking sector places itself in a leading position in IC information disclosure with the highest mean of the disclosure index and the lowest standard deviation from the mean. The indicated numbers suggest that the banking sector generally is really interested in sharing more information about its intangibles and intellectual capital and places a strong emphasis on structural capital (SC): this still remains the common case among all sectors. The second sub-component of IC was the human capital (HC). As about 20% of the examined sample has achieved 100% on the index i.e. (15/15) and this is similar to the findings of (Wee & Chua 2016) who conducted their study in Singapore. Within the SC the most frequent items were the corporate strategy, systems and IT infrastructures and future plans. Regarding HC, the number of employees and employees' breakdown in addition to staff competencies and education were all discussed in the annual report with details including the distribution of the employees according to the level of education and professional credentials. The information disseminated also include information about the future plans of hiring, training and preparing of staff to match developments in the industry or to reach new professional standards. In the interviews, the researcher probed why this happened in the banking sector. Respondents' views agreed mainly on the high demand of information by regulators especially in the sector and region in which they were active: this will make these banks subject to other foreign supervisory agencies and governmental bodies requirements. This is in addition to the international standards set by Basel Committee on Banking Supervision. The adherance to these standards are prerequisits for local banks to esablish business or banking relationships with internationally active banks and the coresspondents banks nomination process. Moreover, the Jordanian banking sector is historically well established as according to the ASE database the first listed company in the market was a bank. These results are consistent with the results of Brown et al. (2016) who studied a selected sample of the service companies in Botswana. They applied in-depth case studies over the selected companies. Their results indicated that the regional banks were the best firms in terms of IC reporting with an emphasis on the human and relational capital.

Table 6.3 ICD Insurance Sector

IC component	Insurance Sector						
	Average	**Minimum**	**%**	**Maximum**	**%**	**Mean**	**Std. Dev.**
Structural capital	**8.95**	**4**	**4.76**	**15**	**5.71**	**8.952**	**3.02**
Relational Capital	**6.9**	**3**	**4.7**	**9**	**21%**	**6.98**	**1.53**
Human Capital	**7.8**	**4**	**1.90**	**13**	**4.76%**	**7.8**	**2.8**
Total IC	**23**	**13**	**2%**	**37**	**3.81%**	**23.78**	**6.65**

As the above table indicates insurance sector comes in the second place after the banking sector which indicates a genuine interest from insurance firms to share more information about their IC. Insurance sector in Jordan is well organised and undergo a close monitoring from many governmental and nongovernmental agencies includes the (The Insurance Commission[32], Jordan Security Commission, Companies Controle Dept., The Insurance Companies Union, Consumers Protection Association etc.).

In Jordan insurance companies maintains a sound CG system as a result of the requirements of JCL and the requirements of the differnts agencies that oversight the operation of the insurance firms in the local market.

[32] This commission now works under central bank of Jordan umbrella since June 2017. Previously it was reporting to ministry of trade and industry.

Table 6.4 ICD Services Sector

IC component	Services						
	Average	**Minimum**	**%**	**Maximum**	**%**	**Mean**	**Std. Dev.**
Structural capital	**8.91**	**0**	**4.20**	**18**	**2.94**	**8.90**	**5.17**
Relational Capital	**6.2**	**1**	**8%**	**10**	**9%**	**6.2**	**2.46**
Human Capital	**7.58**	**2**	**2.94%**	**15**	**2.94%**	**7.58**	**3.98**
Total IC	**22.7**	**3**	**2.94%**	**41**	**1.68**	**22.7**	**10.29**

As the above table indicates the results of the descriptive analysis for ICD for the services sectors which to some extent very close to the insurance sector results. This can be explained from different angles as in addition to the effect of sound CG system, Jordanian economy is service based generally as more than of 75% of the GDP comes from services. Service sector in general are HC intensive e.g. hotels, hospitals, universities and other educational firms and also IT based e.g. telecommunication industry, energy, and software development firms).

Table 6.5 ICD Manufacturing Sector

IC component	Manufacturing						
	Average	Minimum	%	Maximum	%	Mean	Std. Dev.
Structural capital	7.7	0	2.78	18	1.19	7.71	4.11
Relational Capital	5.7	0	5%	10	11%	5.75	2.8
Human Capital	7.3	0	2.78	15	5.56	7.23	3.52
Total IC	21	0	2.78	43	1.19	20.69	9.73

The Manufacturing sector did not preform well in terms of IC information voluntary disclosure it ranked surprisingly fourth. Normally, the manufacturing sector is associated with intensive reliance on technology e.g. Japan, South Korea and Germany. However, there is no need for further enquiries to identify the reasons behind these results. As the manufacturing sector in Jordan is still traditional with emphasis on mining, clothes and garments, and a small portion of transformational industry. The manufacturing sector contribution to the national GDP is marginal, according to the official statistics about 16% compared to 74% come from services sectors (CBJ monthly bulletin, October, 2016). One of the interviewees who serves currently as investments analyst with CFA qualification and extensive experience in the manufacturing sector when asked about how he can explain the current situation of the sector stated that: "***industry in Jordan suffers from the lack of a government strategy to promote it, the lack of applied research and collaboration with universities to enhance innovation, unstable and high energy prices compared to the region, and a small domestic market that does not allow economies of scale"***.

6.3 Visual disclosure patterns

English idiom says: "***A picture is worth thousands of words***". Thus, visualising information in the annual reports can serve a great job for companies who want to give clear details about their business and what they have achieved and for the information users who can find the pictures, photos, figures and tables more helpful in understanding and supporting the other narrative parts of the annual reports. Jordanian companies to some extent practice the visual disclosures in their annual reports. Such disclosures include pictures and photos, tables, figures and, drawing. Such items can facilitate the understanding and give more credibility to the narrative.

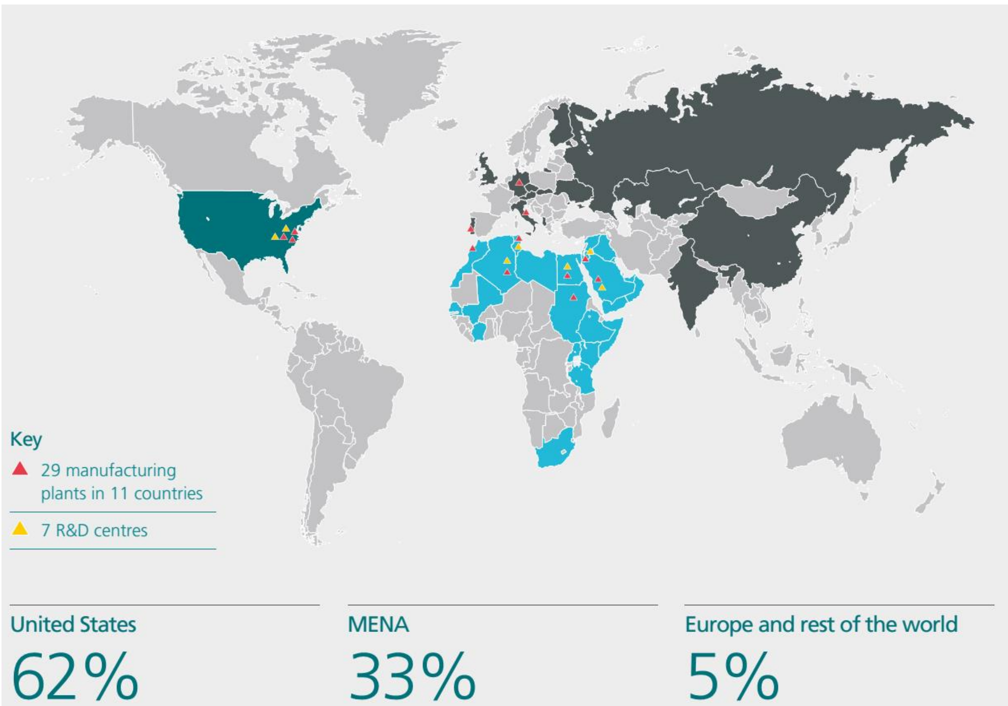
In this section, a sample of the visual disclosures will be presented even though they are already coded and quantified in the index: it is still interesting to present some of these disclosures to help in understanding the disclosure patterns and current practices with the Jordanian companies.

Picture 6.1: This picture is taken from the Royal Jordanian airlines annual reports (2014) this was presented in with a narrative about the training and human resources development part.

Picture 6.2: This picture captured form the Arab Bank group annual report (2012) was associated with a narrative about the achievements for that year.

Jordanian firms due to the limited size of the local market, struggle to get such international certifications and credentials to facilitate their entrance to regional and internatinal markets.

Picture 6.3: This picture taken from the annual report of the Jordan pharmaceutical company (2014) R&D part.



Picture 6.4: This photo captured form the HIKMA company annual report (2015) was associated with the market share narrative.

Picture 6.5: This picture is taken form the annual report of the capital bank year (2015) associated with a short narrative about the relational capital i.e. partnership with SMEs.

Picture 6.6: This photo is taken from the annual report of the Capital Bank year (2014) associated with narrative about developing a product to match the customer’s businesss’ needs. In addition some narrative about partnership with customers also was added.

This table captured from the annual reports of the Arab Bank (2015) which published in the training and human development section.

	External				E-Learning		Certifications and Business Skills		Grand Total Per Area	
	Technical		Soft							
	Courses	Trainees	Courses	Trainees	Courses	Trainees	Courses	Trainees	Courses	Trainees
	131	533	6	6	816	6844	58	200	1295	12499
	20	36	7	31	1	5	10	56	152	1818
	22	55	1	2	172	693	1	8	237	1254
	3	9	0	0	8	24	4	20	17	55
	6	46	0	0	18	51	1	16	38	328
	69	291	5	52	105	214	2	4	213	950
	11	21	5	10	42	63	0	0	58	94
	41	52	1	1	22	31	5	5	85	123
	45	59	13	14	149	263	13	26	293	541
	8	10	1	1	7	7	2	3	27	126
	356	1112	39	117	1340	8195	96	338	2415	17788

Picture 6.7: Training programs summary Arab Bank (2015).

Picture 6.8: this picture was extracted from the Jordan insurance company's annual report (2014) they published this photo as a proof of their achievements .

As a general conclusion about the visual presentation of the IC in Jordanina corporates annual report we can notice that the focus is on the structural capital items, for example: certifications and accridations, R&D, and future plans. However, the realtional and HC are represented in the visual disclosure patterns but mainly in relation to especially training and employees allocation. The present practice of the visual disclosure can be inferrred within the premises of the impression management theory as the message delivered by these items (photos, graphs, tables) are highlighting a good news about the firms and its achievements.

However, the general impression based on the thorough review of the current practice is that the visual disclosure still needs further development to add more information and to facilitate the undersanding of the financial and operational situation of the companies.

6.4 Regression Model

In this part of the current thesis the regression model results will be discussed. Meanwhile, Justification and advantages of using a panel data regression model and the assumptions that been considered before running the model will also be presented. Furthermore, a justification of choosing the fixed effect model rather than the random effect model will be included. Then the regressions models for ICD levels (quantity) and ICD quality will be shown. Finally, the hypothesis testing results will be discussed in detail.

6.4.1 Panel data

Panel data as defined by (Baltagi & Lechner 2015) as "*a cross-section or group of observations that are surveyed periodically over a given timespan and for many empirical applications, panel data are essential for the credible identification and precise estimation of causal effects"*

Advantages of Panel data:

- Panel data regression leads to more accurate interpretation of model parameters. Panel data typically have more degrees of freedom and more sample variability than cross-sectional data which may be viewed as a panel with T = 1, or time series data which is a panel with N = 1, hence improving the efficiency of econometric estimates (HSIAO 2003)
- More ability for capturing the complication of behavioural phenomena than single cross-section or time series data. Including the patterns and trends of that phenomena. (HSIAO 2003; Jeffrey M. Wooldridge 2013).
- Mitigating the effect of the omitted variables and allowing for more accurate predictions. Because panel data pooled the gathered data and that will give the model the ability to read the omitted variables form the data available (Wooldridge 2002).
- Simplifying calculation and statistical interpretation. Panel data is normally associated with two dimensions: a cross-sectional dimension and a time series dimension. Under normal circumstances it would be expected that the calculation of panel data estimator or interpretation would be more complicated than cross-sectional or time series data but when it comes to some statistical complications panel data will easily overcome the problems of nonstationary time series and measurement errors. (HSIAO 2003).

6.4.2 Regression Assumptions

With panel data regression, as any other regression models Certain assumptions must be fulfilled to derive a valid conclusion from the regression model according to (Hair, J. F., Celsi, M., Money 2016) These assumptions are:

6.4.2.1 Normality

According to Wooldridge (1995) the most important assumption for panel data regression is that the data should be normally distributed. Data are normallay distributed when they represent a continuous curve that labels all conceivable values of a variables. The normal curve is symmetrical, bell shaped, and nearly all (99%) of its values are within minus or plus 3 standard deviations from the mean There are many functions and tests offered automatically by the statistical packages that allow researchers to test data for normality. These could be the (Skewness Kurtosis test, Plotting the residuals graphically (KDensity) and if it looks bell-shaped or nearly bell-shaped that confirm normality.

Normality test: Testing data for normality can be carried out in different ways. This can be by numerically using tests like Skewness/Kurtosis test, Jaraque-Bera test or Shapiro-wilk W Test for Normal Data. Or it simply can be done using graphs (plot) methods offered by statistical programs. Below is the test of normality numerically using S/K test.

Table 6.6 Skewness/Kurtosis test

Skewness/Kurtosis tests for Normality Joint					
Variable	**Obs**	**Pr(Skewness)**	**Pr(Kurtosis)**	**adj chi2$^{(2)}$**	**Prob>chi^2**
Residuals	**700**	**0.0066**	**0.000**	**.**	**0.0000**

As indicated in the above results Skewness is 0.006 which between -0.5 and 0.5 which means that the data are symmetric or normally distributed.

Here also, another numerical test for normality i.e. Jaraque-Bera test

Table 6.7 Jaraque-Bera test

Jarque-Bera normality test	**P-value**	**Chi^2**
	31.29	1.6
Null Hypotheses Ho: normality:	**Cannot reject the null means the data are normally distributed**	

Graph Methods for testing data for normality

Using Stata, after running the regression analysis, in order to check the normality, the researcher needs to predict the residuals (observations deviation for the predicted values). After that, the "Kdensity" command is applied to produce a Kernel density plot with the normal density. The graph below shows the normality

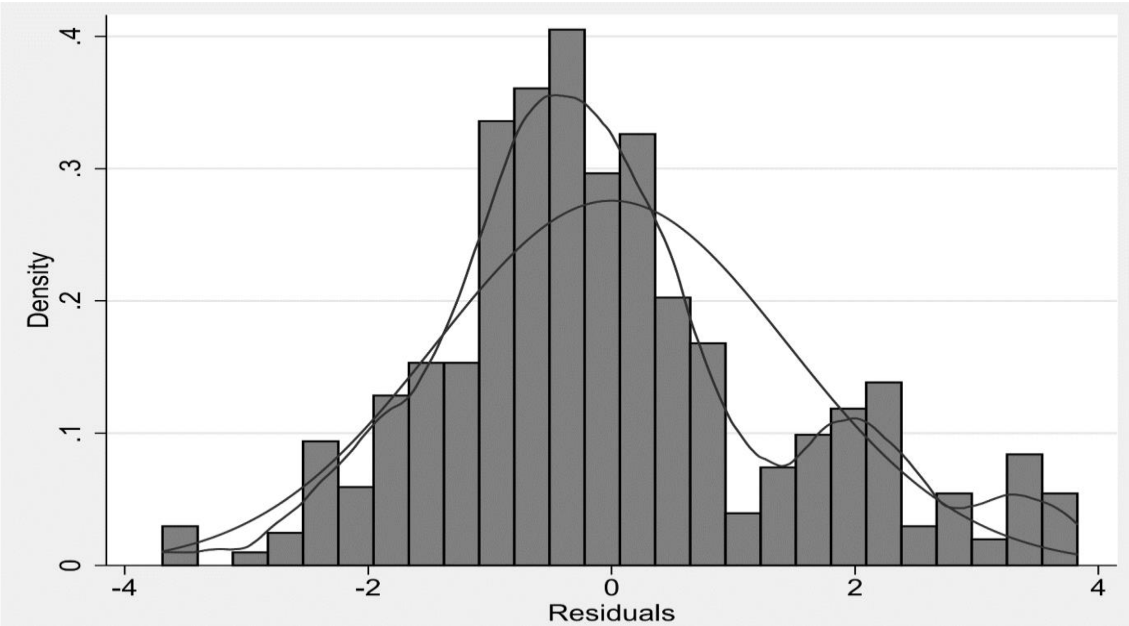


Figure 6.1 Kdensity

Both the Skewness/Kurtosis and the plot tests for Normality indicate that there is no any breach to the normality assumption in our dataset.

Box Plot Method.

The last exercise for testing the normality here is the box plot as the box will indicate the range of data:

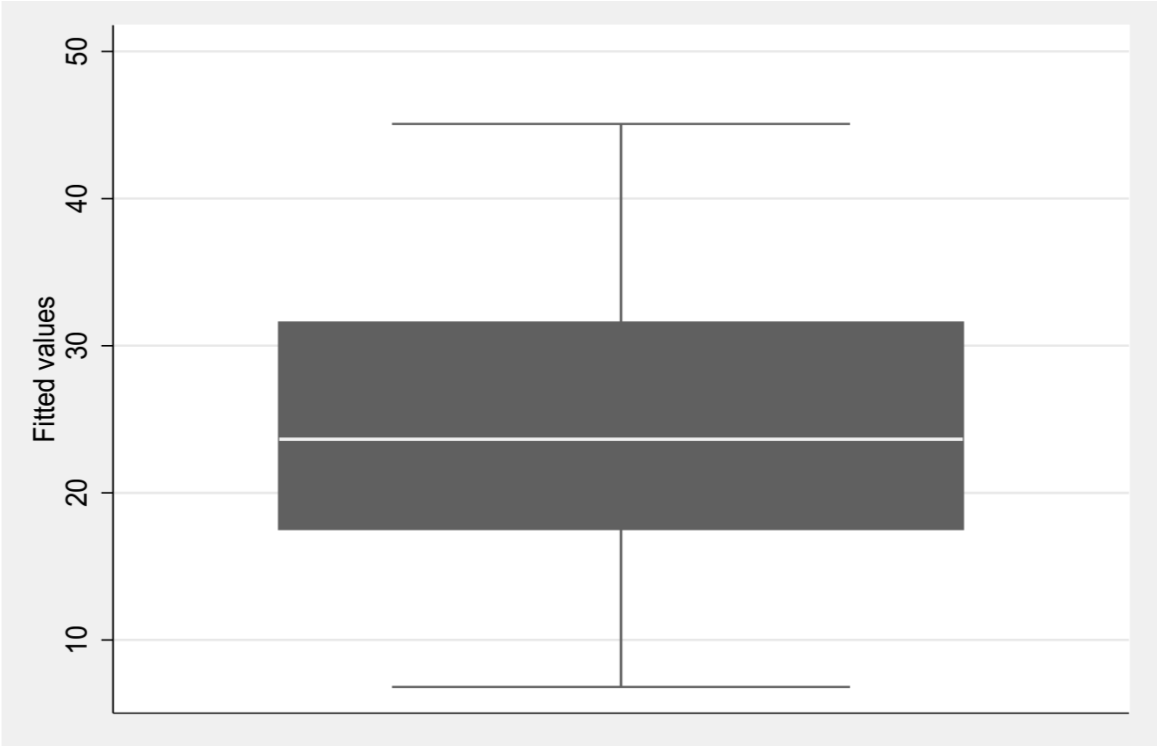


Figure 6.2 Normality test

As indicate by the test the box is not shifted to the upper quartile or toward the lower quartile this means the data are normally distributed.

6.5 Homoscedasticity

This assumption implies that the variance of observations around the regression line is the same for all values of the predictor variables. To make sure that your data are homoscedastic, the researcher needs to test for the absence of heteroskedasticity. The following test has been run to make sure that the current dataset are free of heteroskedasticity.

Table 6.8 Test for heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity		
Ho: Constant variance	Chi^2	Prob > chi^2
Variables: fitted values of ICD	0.649	0.0109

Data are free of heteroskedasticity

6.6 Multicollinearity

Multicollinearity (also known as collinearity) is a situation in which two or more independent variables in a multiple regression model are correlated: this means that one of the two variables can be linearly predicted from the others with a substantial degree of accuracy. The existence of multicollinearity between the explanatory (independent or control variables) will disqualify the resluts (Belsley 1982). Like other assumptions many tests can help the researcher to examine the variables for collinearity and these include applying the variance inflation factor (VIF) as it will be acceptable if the VIF value is less than 10 which indicates there is no serious effect on the results due from multicollinearity (Gujarati, 2003; Curto & Pinto 2011). Alternatively, Pearson's test for correlation can be applied and this also will be shown below:

Table 6.9 VIF test

Variable	VIF	1/VIF
Comm_Independ	2.05	0.487711
CGC	1.77	0.565515
Comm_Meetings	1.76	0.568607
Size	1.71	0.583613
Leverage	1.52	0.656800
Fam_Own	1.37	0.731195
Brd_size	1.28	0.781771
Foreign_Own	1.28	0.783661
Duality	1.24	0.803214
Manag_Own	1.12	0.891183
Brd_Independ	1.10	0.907560
Mean VIF	**1.47**	

However**,** it is worth mentioning that the Pearson coefficient indicates an acceptable level of correlation between the independent variables if it less than 80% (-/+) (Gujarati, 2003). Other statisticians provide more conservative thresholds for acceptable correlation as according to (Hair, J. F., Celsi, M., Money 2016) a coefficient of 60%(-/+) may indicted possible multicellularity between the independent variables. However, this will not be a concern for this study due to the following reasons:

1. The panel data is naturally rule out the multicollinearity
2. The results of VIF test indicate a very relaxing mean for tolerance.
3. The threshold indicated by Gujarati, (2003) is 80%.

The tables below show the coefficients of Spearman test for the datasets of this study. Both tables indicate a relaxing coefficient.

	ICD_Score	Brd_size	Brd_Independ	Role_Duality	Fam_Ownership	Manag_ Ownership	Foreign_ Ownership	Instit_Ownership	CGC	Comm_size	Comm_Independ	Comm_ Meetings	Size	Leverage	Performance
ICD_Score	1	0.3592	-0.0758	0.3317	0.3459	0.1635	0.3142	0.0168	0.5817	0.6094	0.7110	0.5367	0.6691	0.3590	-0.0108
Brd_size		1	0.0023	0.1291	-0.1927	-0.0396	-0.0042	0.0188	0.3138	0.2866	0.3261	0.2756	0.3633	0.1852	-0.1187
Brd_Independ			1	0.0895	0.1458	-0.1025	0.0527	-0.0069	0.0061	-0.2071	-0.1508	-0.1782	-0.0904	-0.0961	0.0655
Role_Duality				1	-0.1273	-0.2636	0.2890	-0.1011	0.3058	0.0924	0.2157	0.1139	0.2278	0.1590	-0.0563
Fam_Ownership					1	0.1495	-0.2639	-0.1142	-0.2067	-0.4231	-0.3384	-0.3664	-0.2618	-0.3587	0.2602
Manag_ Ownership						1	-0.0907	0.0321	-0.1409	-0.1706	-0.0766	-0.1119	-0.1156	-0.0448	0.0010
Foreign_ Ownership							1	0.1323	0.2843	0.2917	0.2564	0.1597	0.2401	0.1107	-0.0003
Instit_Ownership								1	-0.0288	0.1513	0.0900	0.0344	0.0533	0.0221	0.0356
CGC									1	0.3950	0.5283	0.4061	0.4993	0.4030	-0.0561
Comm_size										1	0.7082 [33]	0.7883 [34]	0.3925	0.3313	-0.0431
Comm_Independ											1	0.6059	0.4573	0.3798	0.0082
Comm_Meetings												1	0.2992	0.3612	-0.0300
Industry													-0.3212	-0.5127	0.1309
Size													1	0.4731	-.0991
Leverage														1	-0.2167
Performance															1

[33] A bit high correlation but it lays within the acceptable threshold
[34] Indicate high correlation but still within the acceptable threshold

	ICD_Quality	Brd_size	Brd_Independ	Role_Duality	Fam_Ownership	Manag_ Ownership	Foreign_ Ownership	Instit_ Ownership	CGC	Comm_ size	Comm_ Independ	Comm_ Meetin	Size	Leverage	Performance
ICD_Score	1	0.3202	0.0833	0.3180	0.2276	0.1893	0.0481	0.5962	0.4569	0.6075	0.7110	0.4353	0.5535	0.2972	-0.0239
Brd_size		1.0000	0.0023	0.1291	-0.1927	-0.0396	0.0188	0.3138	0.2866	0.3261	0.3261	0.2756	0.3633	0.1852	-0.1187
Brd_Independ			1.0000	0.0895	0.1458	-0.1025	-0.0069	0.0061	-0.2071	-0.1508	-0.1508	-0.1782	-0.0904	-0.0961	0.0655
Role_Duality				1.0000	-0.1273	-0.2636	-0.1011	0.3058	0.0924	0.2157	0.2157	0.1139	0.2278	0.1590	-0.0563
Fam_Ownership					1.0000	0.1495	-0.1142	-0.2067	-0.4231	-0.3384	-0.3384	-0.3664	-0.2618	-0.3587	0.2602
Manag_ Ownership						1.0000	0.0321	-0.1409	-0.1706	-0.0766	-0.0766	-0.1119	-0.1156	-0.0448	0.0010
Foreign_ Ownership							1.0000	-0.0288	0.1513	0.0900	0.2564	0.1597	0.2401	0.1107	-0.0003
Instit_Ownership								1.0000	0.3950	0.5283	0.0900	0.0344	0.0533	0.0221	0.0356
CGC									1.0000	0.7082[35]	0.5283	0.4061	0.4993	0.4030	-0.0561
Comm_size										1.0000	0.7082[36]	0.7883[37]	0.3925	0.3313	-0.0431
Comm_Independ											1.0000	0.6059	0.4573	0.3798	0.0082
Comm_Meetings												1.0000	0.2992	0.3612	-0.0300
Industry													-0.3212	-0.5127	0.1309
Size													1.0000	0.4731	-.0991
Leverage														1.0000	-0.2167
Performance															1.0000

[35] The correlation indicated is a bit high but acceptable
[36] Indicate high correlation but still within the acceptable level
[37] Indicate high correlation but still within the acceptable level

As already discussed the Panel data analysis is used to examine the possible effect of the CG on the ICD. Panel data analysis is used for studying a particularly targeted phenomenon within multiple spatial (entity, individual, country) regularly and periodically by observation over a specifically identified time-horizon (Yaffee 2003). However, there are two types of analytic panel data regression i.e. fixed effect and random effect.

Fixed effect model FE: is linear regression model and represents a useful tool for econometric analysis which have a constant slopes but intercepts that differ according to the cross-sectional group (spatial) (Ai et al. 2014; Wooldridge 2002).

Random effect model RE: is a panel data regression model where the error outcome variable and the heterogeneity of certain variable(s) is specific to a particular observation as the intercepts and the slopes parameters vary randomly around a common mean. (Baltagi et al. 2013; Clark et al. 2010; Wooldridge 2002)

6.7 Random or Fixed Effect Model; how to choose?

Bothe models have their proper use and certain conditions will direct the researcher before he/she decides which model to chose. However, each model has its own pros and cons and choosing one model rather than the other sould not be an arbitrary decision. Thus, in order to choose which model fit the research, the researcher needs to take into consideration the results of *Hausman test* as it is agreed in the literature that this test will determine which model will be a better fit. This test assumes the random effect model is the most efficient.

Table 6.10 Hausman IC_ScoreFE IC_ScoreRE

--------Coefficients ---------				
Variable	**(b)**	**(B)**	**(b-B)**	**sqrt(diag (V_b-V_B)**
	IC_ScoreFE	**IC_ScoreRE**	**Difference S.E.**	
Brd_size	**-.1560409**	**-.0640593**	**-.0919816**	**.0544649**
Brd_Independ	**-.0209471**	**-.0476734**	**.0267262**	**.0359499**
Duality	**.7788634**	**1.059784**	**-.2809206**	**.1631722**
Fam_Own	**-.0412693**	**-.0071541**	**-.0341152**	**.0103854**

Manag_Own	**.3428618**	**.3331109**	**.0097509**	**.**
Foreign_Own	**.0687623**	**.0376296**	**.0311327**	**.0186049**
Instit. Invest.	**4.59521**	**.2478262**	**4.347383**	**.8653851**
CGC	**2.088918**	**2.616289**	**-.5273718**	**.2087471**
Comm_size	**-1.749445**	**-1.094285**	**-.6551599**	**.1524174**
AC Independence	**22.99151**	**20.55225**	**2.439267**	**1.426433**
AC Meetings	**.1239194**	**.1056754**	**.0182439**	**.**
Size	**.0291059**	**.039025**	**-.009919**	**.0010227**
Leverage	**.0059737**	**.0049523**	**.0010214**	**.**
Performance	**.0016658**	**.0018085**	**-.0001427**	**.**

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$chi^2(14)$ = (b-B)'[(V_b-V_B) ^(-1)](b-B) = 45.56

Prob>chi2 = 0.0000

(V_b-V_B is not positive definite)

The Hausman test suggests that the fixed effect model to be adopted

High value of Chi^2 means we cannot accept the assumption that the RE model is better fit the data thus we need to use the FE model in the current research.

Brd_size: Board size, Brd_Independ: Board Independence, Duality: role duality the CEO and the board chairman is the same person, Fam_Own: Family ownership, Manag_Own: Managerial ownership, Foreign_Own: Foreign ownership, Instit. Invest. Institutional ownership. CGC establishing a GC committee within the board. Comm_size: audit committee size, AC Independence: percentage of the independent members within the audit committee, AC Meetings: frequency of audit committee meetings, Size: natural logarithm of the total assets of the firm, Leverage: percentage of the firm's debits to the owners' equity, Performance: profitability i.e. ROA.

Thus, based on the above results the FE model will be applied to test the retaliations between the explanatory variable(s) CG and of course the control variables and the dependent variables which is ICD either the level of disclosures or the quality of the disseminated information.

6.8 Regression Results and discussion

The table below presents the results of the regression test which was based on the fixed effect panel data regression model as indicted by the Hausman test. However, according to Wooldridge, J. (2013) "*fixed effects analysis is more robust than random effects analysis*". This was discussed previously in this thesis. The study is characterised as positivistic-deductive as it moves from theory to assumptions concerning the causal relationship between the dependent and explanatory variables. Thus, in the following part; the regression model will be presented and interpreted in light of the literature and by linking the current study's results to the existing theories. Double-barrel dependent variables (ICD level and quality) will be sought to explained by eleven independent variables and three control variables namely (Leverage, size, and performance).

The independent variables which represents CG parameters in three major groups for easy explanation are:

1. Board of Directors Structure (board size, board independence, role duality)
2. Ownership structure (management ownership, family ownership, foreign ownership, and Institutional ownership)
3. Audit committee characteristics: (audit committee size, independence, and effectiveness).
4. CG committee within the board.

Regression model equation:

$$ICD = \beta 0 + \beta Brd\_size_{it} + \beta Brd\_Independence_{it} + \beta Role\_Duality_{it} + \beta Fam\_Ownership_{it} + \beta Foreign\_Ownership_{it} + \beta Manag\_Ownership_{it} + \beta Instit\_Ownership_{it} + \beta CGC_{it} + \beta Comm\_size_{it} + \beta Comm\_Independence_{it} + \beta Comm\_Meetings_{it} + \beta size_{it} + \beta Leverage_{it} + \beta Performance_{it} + \varepsilon$$

Where:

ICD: is the variance of quantity and quality of IC information referred to the change in CG factors.

Brd_size: Board of director size (number of members)

Brd_Independence: Board independence (number of independent members within the board.

Role_Duality: if the CEO and the chairman occupied by same person.

Fam_Ownership: if two or more members of the same family maintain a membership(s) in the board.

Foreign_Ownership: non-Jordanian owners represented in the board.

Manag_Ownership: Management ownership if the executive management have outstanding ownership of the company's shares.

Instit_Ownership: institutional ownership

CGC: if the company has a CG committee within its board.

Comm_size: Audit committee size

Comm_Independ: Independent members within the audit committee.

Comm_Meetings: frequency of audit committee meetings.

Size: company size total assets reduced to the natural log.

Leverage: total liabilities divided by the owners' equity.

Performance: company financial performance and referred as ROA.

E: error term.

Table 6.11 Regression model for ICD level.

ICD_Score	Coef.	Std.Err.	z	P>z	[95% Conf.	Interval]
Brd_size	-.1560409	.1382533	-1.13	0.260	-.4275731	.1154914
Brd_Independ	-.0209471	-.0954008	-0.22	0.826	-.2083163	.166422
Role_Duality	.7788634	.5076116	1.53	0.125	-.2180961	1.775823
Fam_Ownership	-.0412693	.0151497	-2.72	0.007	-.0710236	- .011515
Manag_ Ownership	.3428618	.1138616	3.01	0.003	.1192352	.5664883
Foreign_ Ownership	.0687623	.026228	2.62	0.009	.01725	.1202746
Instit_Ownership	4.59521	.9001377	5.11	0.000	2.827321	6.363099
CGC	2.088918	.7327762	2.85	0.005	.6497302	3.528105
Comm_size	-1.749445	.3455267	-5.06	0.000	-2.428067	-1.070823
Comm_Independ	22.99151	2.502323	9.19	0.000	18.0769	27.90613
Comm_Meetings	.1239194	.0602616	2.06	0.040	.0055644	.2422744
Size	.0291059	.0051855	5.61	0.000	.0189214	.0392905
Leverage	.0059737	.0032959	1.81	0.070	-.0004994	.0124468
Performance	.0016658	.0007605	2.19	0.029	.0001722	.0031594
_cons	12.86382	1.715384	7.50	0.000	9.494768	16.23287
sigma_u	**13.608483**					
sigma_e	**1.2321211**					

F-test that all u_i=0: F(99, 586) = 148.09 Prob > F = 0.0000 Fixed-effects (within) regression Number of obs = 700

Group variable: ID Number of groups = 100

R-sq: Obs per group:

within = 0.2891 min = 7

between = 0.1663avg = 7.0

overall = 0.1661 max = 7

F (14,586) = 17.02

corr (u_i, Xb) = -0.6978 Prob > F= 0.0000

ICD_Score: Represents the dependent variable which stands for the total aggregate score of the firm's ICD on the disclosure index. **Brd_size:** Represents the board size which is the number of the board members. **Brd_Independ:** Represents the number of independent members within the board. **Role_Duality:** Represents the role duality if the chairman is the same the CEO this was represented by a dummy variable if the chairman and CEO position are occupied by different persons takes 1 or 0 otherwise. **Fam_Ownership**: this represents the percentage of the shares owned or controlled by the same family out of the outstanding shares capital. **Manag_Ownership:** this represents the existence of the executive top management ownership of the firm's capital. The JCGC requests the ownership of the key management personnel to be disclosed in the annual report this was indicated in the model by dummy variable and takes 1 if the management do hold ownership of the firm or 0 otherwise.

Foreign_ Ownership: Represents the percentage of the shares directly or indirectly owned by foreign investors (percentage out of the outstanding shares capital) **Instit_Ownership:** Represents the shares owned by institutional investors. **CGC:** Represents the Corporate Governance committee if established within the board take 1 and if not takes 0 (the JCGC suggests that the board to establish CGC within the board and it is mandatory for the banks) **Comm_size:** represents the size of the audit committee this is presented as the number of the members of the committee (the Corporate Governance act mandate that the Audit committee to be formed of minimum three nonexecutive members. **Comm_Independ:** represents the percentage of the independent members within the Audit Committee out of the total committee members. **Comm_Meetings:** Represents the audit committee effectiveness indicated by the frequency of meetings held during the year. **Size**: Represents the firms size indicated by the natural log of the firm's total assets. **Leverage**: Represents the firm's reliance on debt

in financing its assets. **Performance**: indicated by the firm's profitability (ROA) Leverage and performance are provided by the SDC database[38].

Resources dependency theory suggests a positive role for a large board size on the effectiveness of the board in carrying out the supervisory role over the executive management. Nonetheless, as indicated the regression results failed to prove any significant relationship between the board size and ICD level. However, there is no consensus in the literature about the role of the board size either in CG, in enhancing the internal control function in general or in having a positive reflection on the transparency specifically (Samaha et al. 2015). Some studies who found a positive and significant role for the board size in enhancing the level of transparency refer that to the effects of size which bring diversity, variety in expertise and variety of mindsets: all of which can bring a richness of experiances and effectiveness to the board e.g. (Linsley et al, 2012; Elzahar and Hussainey, 2012; Abraham and Cox, 2007).

Thus, and when it comes to ICD levels as voluntarily information disseminated by firm and the role board size on it again there is no consensus in the literature. As, for example, Zahra Moeinfar, NAsrollah Amouzesh (2011) who conducted their study in a developing country (Iran), found the board size has a positive and significant effect on the ICD. However, (Donnelly & Mulcahy,2008) found that the board size negatively affects voluntary disclosure generally. The same results were reported by Satta et al. (2015) within the context of Italian medium-sized companies: they did not find any significant relationship between board size and voluntary disclosure.

The present study's findings indicate that there is no significant effect for the board size on ICD which is consistent with the results reached by Cheng & Courtenay)2006) in a Singaporean context and Falikhatun et al. (2011) in Indonesia. A possible explanation to this situation is that the increase in the number of the members of the board[39] is not associated with brining in expertise. Especially as indicated by the interviews, as some interviewees indicated that the lobbying and connections between the members themselves and some members and the executive management can hinder the board in carrying out its role properly: that is in monitoring the executive management. However, one interviewee suggested the following ***"maybe the larger board is likely to have diverse expertise and***

[38] Security Depository centre offers a sort of statistical and analytical information that facilitate researchers' analysis and could be accessed through their website: www.cds.com.jo

[39] The corporate Act suggest the size of the board to be between three and 13. The CG code suggests that the size of the board to be between 5 and 13)

dedicated members however, this not always works as sometimes larger board brings useless debate and conflict of agendas to the board table". That is similar to the results indicated by Nekhili, M., (2016) who conducted their study in France: they have concluded that no significant effect from board size on the level of R&D voluntary disclosure.

Agency theory suggests that an increase in the number of independent members within the board of directors will positively increase the effectiveness of the board role in monitoring the executive management (Donnelly & Mulcahy 2008; Ben-Amar & Zeghal 2011; Pepper & Gore 2012).

Accordingly, the JCGC has requested independent members to be appointed in the board and it recommends that they should be a third of the board members, stating the following:

"Principles of good corporate governance require that board members be elected by the company's general assembly in a secret ballot, by means of cumulative voting system, provided that at least one third of the board members are independent members". However, the code remains silent about the mechanisms of nominating those independent members. This allows the door to be opened by the block holders to exercise their influence and nominate their allies. Furthermore, because of the "Cumulative voting" methodology in selecting the board members those who possess more shares can impose their will in voting.

The regression model results indicated in the above table failed to find any significant effect for board independence on ICD levels, which confirms the results of Falikhatun et al. (2011) and is consistsent with Ho & Wong (2001) in their study in Hong Kong failed to find any relationship between board independence and voluntary disclosure. This is in contrast with Ben-Amar & Zeghal (2011) who concluded that there is a direct significant effect of board independence on transparency and the level of information voluntary disclosed. Likewise, Li et al. (2008) found that board independence significantly and positively affects the. However, Appuhami & Bhuyan (2015) confirmed in their study that there is no relationship between the number of independent members and IC, while Eng & (Mak 2003) revealed that there is a negative effect from increasing the number of independent members within the board on ICD levels. The possible explanation for these results could relate to the lack of legal enforcement: according to García-Meca & Sánchez-Ballesta (2010) in their meta-analysis review of the relationship between corporate governance and ICD. They have suggested that the independent board members can play a positive role in enhancing the transparency level and of course ICD however, only in the countries that have established investor protection. The investor protection in Jordan is still not at the level required by the investors themselves. As one of the interviewees has stated "…. ***On the ground, not effective due to the absence of the proper evaluation mechanism for the independent member. Sometimes the other members try to overwhelm the role of the independent member in voting***" Thus, the ideal of appointing some independent members within the board is being marginalised by the lobbyists within the board or by the collusions between the executive management and other members within the board: these relationships are still a common practice within Jordanian (Ajlouni 2017). Another explanation for the failing to prove any positive role for the independent members may relate to the socio-political atmosphere in Jordan as according to (Alweshah 2009) the political and social connection from the controlling shareholders will play a significant part in hindering the expected role of the independent members in enhancing the CG function within the firm and the consequently in positively impacting on transparency levels.

Thus, the independent members' role in ICD will remain debatable due to the absence of consensus about the role of independent members. However, the indicated results failed to prove any role for the independent members in ICD levels. This further supports the view that in Jordan the common practice when selecting board members is to vote based on connections: this undermines the designated role for the independent members within the board and marginalise their role in CG especially in Jordan where the rights of the minority of the shareholders are still not perfectly enforced.

Role duality (chairperson of the board being the CEO) is subject to ongoing debate in terms of its effect on the voluntary disclosure. From the agency theory perspective, it is expected that the segregation of duties will lead to better control function for the board; there will be greater demand for information and a higher level of transparency. Moreover role duality will affect the independence of the board as a whole which hinders the governance role of board (Cheng & Courtenay 2006). However, under stewardship theory's premises role duality will lead to more efficient leadership, and a streamlined decision making process (Abeysekera 2010). In addition to the genuine intention for managers to be stewards rather than being opportunistic and self-interested, the assumption of a conflict of interest does not exist under stewardship theory. Rather, it is the manager's passion to do a good job (Donaldson & Davis 1991). The results indicated by the above table failed to prove any significant relationship between the CEO role and chairperson role separation and ICD. The results are consistent with the results reached by Muttakin et al. (2015;) (Hidalgo et al.) 2011; (Li et al.) 2008) which suggests that this is the case either in developed and developing countries as well. Samaha et al. (2015) elaborated on this issue in their meta-analysis study and they concluded that voluntary disclosure will increase the proprietary cost which is something the CEO will try to avoid to increase short-term income and their own benefits . On a wider level Ho & Wong (2001) studied voluntary disclosure generally and likewise, they failed to find any significant effect for role duality on voluntary disclosures.

Ownership concentration is expected to abolish transparency; the concentration may be manifested in the form of block holders or family ownerships etc. (Chau & Gray 2010; Chen et al. 2008). Among these types of concentrations this study focuses on family ownerships because of its materiality to the capital market. Family owned businesses dominate all other types of ownerships and represent approximately 85% of all firms worldwide. They offer jobs for 80% of the U.S. workforce, and they produce more than half the gross national product (Ghosh & Tang 2015). Jordan is not an exception to this rule: according to the ASE yearly statistical bulletin (2017) more than 70% of the Jordanian listed companies are family businesses, started as family businesses or are controlled directly or indirectly by family networks.

The results indicated by the above table show that family ownership has a significant negative effect on ICD . This finding confirms the results of Nekhili et al. (2012): they found that family ownership within French companies results in a negative effect on voluntary disclosure. Moreover, Abdifatah Haji Ahmed & Nazli A Mohd Ghazali (2013) found that the presence of family domination in the board of director's membership will impact ICD negatively. The same results were reached in the Malaysian context by Taliyang et al. (2011). Muttakin et al., 2015) found the same effect in their study of the listed companies in Bangladesh. As showed previously, it is agreed among the prior studies that family ownership will negatively impact the CG and consequently reduce transparency and of course the voluntary disclosure of intellectual capital.

This can understood through the perspective of agency theory premises as ownership concentration will worsen the information asymmetry due to the natural "vested interests" of families running business to increase their dominance and gain more returns on their investments (Chen et al., 2000). Moreover, Chen et al., (2000) indicated in their study of Hong Kong that independent directors in the family controlled businesses are less efficient in carrying out their roles. In firms with closely held ownership (like family substantial ownership) the board members representing these families will be able to get the needed information about IC and relating information through informal channels. Hence, less attention will be given to the formal traditional disclosure mediums like the annual reports (Ahmed Haji 2015). One of the interviewees has presented a very interesting point stating that "**this maybe an obstacle for the transparency due to the nepotism, family lobbying and long-arm to dominate the board and the firm, especially if a collusion exists with the executive management**". Thus, considering the cultural and socio-political aspect of Arab and Jordanian society the family dominance of ownership can affect management independence and the board's efficacy in perfecting CG – this being referred by the interviewee as fertile soil for "nepotism" and connections. This is genuinely against CG principles.

According to agency theory, management ownership separation is a bedrock for transparent decision making within firms (Fama & Jensen 1983). They also (Fama and Jensen) introduced the concept of *mutual monitoring* where the higher-level managers and second level managers are monitoring each others' performance the organisation itself is referred to as a set of contracts between the owners, managers, customers...etc. and these contracts specify the *"rules of the game"* between these engaged parties. The study states: "*Control of agency problems in the decision process is important when the decision managers who initiate and implement important decisions are not the major residual claimants and therefore do not bear a major share of the wealth effects of their decisions*". However, Jensen and Meckling, (1973) suggested that agency cost will be reduced if the managers hold a substantial ownership or, as they define this situation, there is *interest's alignment* between the managers, the other shareholder and stakeholders. This was also, empirically confirmed by Sing and Davidson, (2003). They found that managerial ownerships will reduce the agency cost proxied by the operating income. These positive consequences on the management and in reducing the agency cost are connected to a positive role for the management ownership on the informativeness (the quality of disclosures) made by the firms (Warfield et al., 1995). Thus, when the mangers are sharesholders they are not the major residual claimants. So, they are interested in signalling good news about IC to affect the share price in the market and to maximise their own capital gains. This was specifically mentioned by Fama and Jensen,(1983) by reflecting on *Human Capital* as the disclosure of good news will provide a good mental image about the managers as a source of wealth or success to the organisation: according to the study's assumption the mangers will be priced in the ***agent markets*** based on their performance.

The current study's results provide empirical evidence on the positive and significant relationship between the mangers ownership and the level of ICD. This is consistent with Fama and Jensen, (1983) and confirms also the assumptions of stewardship theory: it introduces the managers as stewards not self-interest oriented actors. The position is that some studies that indicated a significant negative relationship between the management ownership and ICD e.g. (Satta et al. 2015; Li et al. 2008), and others failed to prove any relationship between the managerial ownership and ICD e.g. (Eng & Mak 2003). Stewardship theory is overlappign with impression management thoery which also, provide explination for voluntary disclsoure as managers desire to affect the perceptions of the information users either by highlighting the good news or by hidign the bad news (Brennan et al. 2009; Rutherford 2003)

The relationship between managerial ownership and voluntary disclosure generally is very complex as it also affected by many other interrelated factors including the level of IC, industry, and firms' performance which is closely connected to management performance etc. (Cui & Mak 2002) and of course the other CG parameters (Baek et al. 2009).

Institutional investors' ownership as one of the CG mechanisms expected to bring efficient monitoring to financial and operational performance to those companies and of course an efficient CG system will lead to higher level of transparency (El-Diftar et al. 2017). In this study, we hypothesise a positive relationship between the presence of the institutional investors and the level of ICD. The regression results indicated that firms that have institutional investors among their shareholders tend to provide better ICD. These results confirm the results indicated by El-gazzar, (1998) who found that institutional investors significantly and positively affect voluntary disclosures. Considering the fact that institutional investors are not a homogeneous groups in terms of size, sophistication, goals of the investment and their investment strategy, this will lead to variation in their impact on CG and their monitoring role (Eaton et al. 2014). Some studies in literature e.g. (Huafang & Jianguo 2007) indicated a negative relationship between institutional investors and voluntary disclosure. Likewise, Schadewitz & Blevins (1998) documented a negative effect for institutional investor and voluntary disclosure. However, (Donnelly & Mulcahy 2008) have indicated no relationship between institutional investors ownership and general voluntary disclosure.

In Jordan where the institutional investors are either banks, investment management companies or pension funds, they play a good role in monitoring and observing CG which is reflected in their role in the promoting voluntary disclosure, including voluntary ICD; this could be attributed to their accountability and the monitoring from other stakeholders they undergo. For example, if we consider banks as institutional investors, in their investment decisions they will be subject to questions from the bank's board of directors as well as the central bank. Thus, due to this complex supervisory system that institutional investors regularly undergo, they will always adhere to a pre-established and approved investment strategy, due professional care and will as far as possible make informed decisions. Thus, to facilitate this role, they will demand more information and a higher level of disclosure form the investee companies so they can prove to all supervisory agencies that they have conducted their investment decisions in accordance with the best professional standards. Such explanation is consistient with the views of Yang et al. (2014) who found that institutional ownership was associated with releasing higher levels of information and making earlier preannouncements and information signals which reduces information asymmetry resulting from new products.

Ownership diffusion either in terms of the number of shareholders or in terms of geographical location will increase the agency cost because of high risk estimation and widening the information asymmetry. Thus, under the premises of agency theory, scattered ownership will lead to higher demand on information, which will place more pressure on the management for greater disclosure than from the those who are informationally less disadvantaged. The present research finds a positive and significant relationship between foreign ownership and the level of the ICD. These results are consistent with results from the study conducted by Haniffa & Cooke (2005) who found a direct relationship between foreign ownership and corporate social responsibility disclosure. Similarly, Liang et al. (2012) found that foreign investors enhance the governance status in Taiwanese companies and this reflects on better transparency and disclosure levels.

The positive association between ICD and the presence of foreign investor's ownership have many possible explanations in the literature: according to Jiang & Kim (2004) who conducted their study in Japan, foreign investors will avoid companies with a wide information asymmetry and will target those with rich available information about financial and operational situations. Another point of view explains the phenomenon based on a developing countries' study by Bokpin et al. (2015) . the study indicated that, local firms in developing countries disclose more inforamtion to satisfy foreign investors in response to their demands to mitigate information gap between them and the local investors.

Consulting the views of our interviewees, we received the following explanations for the Jordanian case where the foreign investors will support CG function which leads to better disclosure habits including better voluntary disclosure about IC.

"I think they have a positive effect as when the foreign investment be substantial they delegate a sophisticated member to the board and I know some cases they also brought a highly-qualified management team those who exited to reflect their expertise and knowledge and their own style of management on the local firms"

Another respondent suggested that information asymmetry will widen in the case of foreign investors and this will put more pressure on the firms' management to disclose more information especially around IC stating that: "**As foreigners are geographically away from the firms they invest in; this increases information asymmetries and makes managerial monitoring more difficult. So foreigners may add more pressure on management to increase corporate transparency**".

Audit Committee Charcteristics

Audit committee (AC) is one of the very important CG mechanisms that affect voluntary disclosure generally and ICD specifically. According to disclosure theories the relationship is expected to be positive (Wang & Hussainey 2013; Allegrini & Greco 2013; Wang et al. 2013). However, the empirical results are not conclusive about the direction of the relationship between the audit committee and voluntary disclosure. Moreover, the literature suggests many factors which can affect the audit committee's performance in fulfilling its role in enhancing the internal control system and in encouraging transparency. This is because the audit committee's monitoring role will be subject to its size, independence, expertise and experience, as well as having access to sufficient resources to hold meetings to discuss all matters relating to the firms' financials and internal control system (Li et al. 2012; Ahmed Haji 2015).

Regression test results indicated in the above table no. (6.8.) have suggested a negative relationship between the audit committee's size and ICD. These results confirm the results indicated by Wang & Hussainey(2013) who found that AC size negatively affects the level of voluntary disclosure. This provides further evidence that the larger audit committees would not participate in better disclosure practices extending the results of Ahmed Haji 2015; Mangena & Pike (2005) which also failed to prove a positive relationship between the audit committee size and the level and quality of disclosure. The first study examined the effect of audit committee size on ICD in Malaysia and the second examined the relationship between audit committee size and interim financial disclosure. The findings are also consistent with Li et al. (2012) who fail to find any significant effect for the size of the AC on ICD. A possible explanation of this results could be the lack of proper enforcement for investors protection of regulations in Jordan as suggested by Samaha et al. (2015) who noted a positive role for the audit committee on voluntary disclosure – this was contingent on the availability of proper investors' protection regulations. Moreover, larger audit committee can bring dysfunctionality to the decision-making process within the committee which will affect its monitoring role negatively as suggested by Ahmed Haji (2015); it may even lead to "*process losses*" and responsibilities diffusion[40] (Mangena and Pike, 2005).

Audit committee effectiveness in carrying out its monitoring role proxied by the frequency of its meetings is expected to positively affect its role in monitoring and supporting the internal control system and should lead to a better governance position for the company by assuring executive management discipline and reducing agency cost and information asymmetry (Li et al. 2012; Li et al. 2008). As indicated in the above table, the results show a positive significant effect for the frequency of the audit committee meetings on ICD. These are consistent with the results of Ahmed Haji (2015;) and Li et al. (2012) who also found that more frequent meetings are associated with a higher level of ICD. These results support agency theory arguments as they underline that the effective monitoring role of the audit committee as depicted by frequent meetings will result in a higher level of voluntary disclosure: this is an indication of the better transparency which manifests good CG.

The independence of the audit committee's effect on ICD is significantly positive as the above table shows. According to agency theory premises, the more independent members in the committee the

[40] Responsibilities diffusion is a concept borrowed from social-psychology literature which defined according to encyclopaedia of psychology as "***term in social psychology first introduced in early 1960s, perhaps Wallach, Kogan, and Bem (1964). It refers to the idea that, in some contexts, individuals within a group are less (or report feeling less) responsible for actions that occur than if they had done the same action outside the group by themselves. In broad terms, there are fewer consequences to any one person in a group from what that group does than if an individual person had done the action alone***"

more effective monitoring role we have Allegrini & Greco (2013) and Cerbioni & Parbonetti(2007). The present study results confirm the prior studies, as the independent non-executive members within the audit committee will be more diligent in reviewing the financial and non-financial activities of the firm which also includes ICD (Ahmed Haji 2015). Hence, as outsiders, the demand for information will be higher and the quantity and quality of information they need for sound judgement will be greater than required by insider directors; this will be especially so when undertaking large investment in intangible assets as according to Li et al.(2012) information asymmetry will be more acute in such firms as the IFRS will not have dealt with intellectual capital reporting.

Establishing CG Committee within the board of directors was recommended by the JCGC and it is mandatory for banks and insurance companies. According to the CG code this committee will be formed with at least from two independent non-executive members chaired by the chairperson of the board. The role of this committee, according to the code, is to develop CG policy for the firm and to make sure that the board of directors put in place all resources and efforts to carry out its duties effectively and efficiently. However, its functions do not overlap with the nomination and remuneration committee which engages with the performance evaluation of the board. Rather the CG committee shall direct and examine the preparation and review of the internal corporate governance code and monitor its implementation. This includes reviewing the procedures and policies that are intended to improve the governance system in the firm and make sure it is up-to-date and supporting the holistic objectives of the CG code. This study hypothesises a positive relationship between the presence of a CG committee and ICD. The indicated results in the above table show a significant positive effect of the CG committee on the level of ICD: the presence of such committee will offer additional leverage for empowerment of the CG system within the firm and assure higher levels of monitoring on the firm's performance. The strength of CG system will directly affect the level of transparency and voluntary disclosure which will have some positive reflections on ICD. As this parameter was not empirically examined before, the study has sought further explanation. During the interviews one interesting point of view was provided by one of the experts who stated that "**I think such committee if properly implemented will bring a higher level of transparency to the firms. Because speciality in governance issues will allow the member of the committee to take their time and allocate sufficient effort to review the governance structure and identify any loopholes to tackle them and to enhance the internal control system and I think will lead to more transparency and the ICD will be positively affected accordingly**".

6.9 The ICD Quality

It is agreed in financial accounting literature that one of the most important roles of the board of directors is to supervise the quality of information that the firm disseminates (Holtz & Sarlo Neto 2014). The present study in addition to its objective for examining the effect of CG on ICD level or extent aims to examine the effect of the same CG parameters on the quality of information disclosed about the intellectual capital .

6.9.1 Data Description

The table below summarises the descriptive statistics for the ICD quality on the component level and on the average total IC level.

Table 6.12 Descriptive analysis of the ICD quality

ITEM	Obs.	Mean	Std. Dev.	Min.	Max.
SC	700	1.779	1.036	0	4
RC	700	1.766	1.046	0	4
HC	700	1.773	1.038	0	4
Total IC Quality	700	3.722	2.162	0	8.4

SC: Structural Capital, RC: Relational Capital, HC: Human Capital,

Frequencies

ICD_Quality	Freq.	Percent	Cum.
0.00	7	1.00	1.00
0.10	2	0.29	1.29
1.10	9	1.29	2.57

2.00	3	0.43	3.00
2.10	355	50.71	53.71
3.10	8	1.14	54.86
3.20	16	2.29	57.14
4.10	7	1.00	58.14
4.20	100	14.29	72.43
4.30	7	1.00	73.43
5.20	6	0.86	74.29
5.30	6	0.86	75.14
6.20	6	0.86	76.00
6.30	93	13.29	89.29
6.40	5	0.71	90.00
7.30	6	0.86	90.86
7.40	10	1.43	92.29
8.20	2	0.29	92.57
8.30	4	0.57	93.14
8.40	48	6.86	100.00
Total	700	100.00	

The indicated figures in the above tables give us an impression that the ICD quality can not be described as very good as more than 53% of the sample have a score of less than (2.1/10).

6.9.2 Regression Model

As the previously indicated, before running the regression model, a study must choose either the fixed model or the random model: this choice will be determined based on the outcomes of Hausman test as the below table indicates:

Table 6.13 Hausman Test

Hausman Test				
	Coefficient Fe	**Coefficient Re**	**Difference**	**Sqrt (diag(V_b-V_B)) S.E.**
Board_size	.0196563	.0051464	-.0248027	.0285859
Board_Indepen	.0089501	-.0219356	.0129855	.0195095
Role_Duality	.0135246	.1508986	-.137374	.0879543
Family_Own	.0099013	.0071891	-.0170905	.0042679
Manag_Own	.0305283	-.0410614	.0105331	.
Foreign_Own	.0069914	.0020839	.0049075	.0081874
Institutional_Own	2.432364	.0315698	2.400794	.329759
CGC	.1001158	.4621849	-.5623007	.1310343
Comm_size	.5936369	-.3137765	-.2798604	.0777064
Comm_Independ	5.770319	4.496281	1.274038	.6878729
Comm_Meetings	.0121292	.0095817	.0025475	.
Size	.0047583	.0084711	-.0037129	.0006618
Leverage	.0021888	.0017772	.0004116	.
Performance	.000435	.0004368	-1.79e06	.

Test: Ho: difference in coefficients not systematic

chi2(14) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 89.82

Prob> chi2 = 0.0000

(V_b-V_B is not positive definite)

Based on the results of Hausman test the FE Model will be implemented

Fixed-effects (within) regression Number of obs = 700

Group variable: ID Number of groups = 100

R-sq: Obs per group:

within = 0.1806 min = 7

between = 0.0064 avg = 7.0

overall = 0.0066 max = 7

F (14,586) = 9.23 Corr (u_i, Xb) = -0.9427 Prob > F = 0.0000

Table 6.14 Regression model for the ICD quality.

ICD_Quality	**Coef.**	**Std.**	**Err.**	**z**	**P>z [95% Conf. Interval]**	
Board_size	.0196563	.0515719	-0.38	0.703	-.1209446	.0816321
Board_Indepen	.0089501	.0355869	-0.25	0.802	-.0788435	.0609433
Role_Duality	.0135246	.1893518	0.07	0.943	-.3583663	.3854155
Family_Own	.0099013	.0056512	-1.75	0.080	-.0210004	.0011978
Manag_Own	.0305283	.0424732	-0.72	0.473	-.1139466	.05289
Foreign_Own	.0069914	.0097837	0.71	0.475	-.012224	.0262068

Institutional_Own	2.432364	.3357739	7.24	0.000	1.772897	3.091831
CGC	.1001158	.2733439	-0.37	0.714	-.6369688	.4367372
Comm_size	.5936369	.1288901	-4.61	0.000	-.8467797	-.340494
Comm_Independ	5.770319	.933429	6.18	0.000	3.937045	7.603592
Comm_Meetings	.0121292	.0224791	0.54	0.590	-.0320202	.0562786
Size	.0047583	.0019343	2.46	0.014	.0009592	.0085573
Leverage	.0021888	.0012294	1.78	0.076	-.0002258	.0046035
Performance	.000435	.0002837	1.53	0.126	-.0001221	.0009921
_cons	.2997587	.6398813	0.47	0.640	-.9569814	1.556499
sigma_u sigma_e rho	**6.3612676** **.45961204** **.99480681 (fraction of variance due to u_i)**					
F test that all u_i=0: F(99, 586) = 64.02 Prob > F = 0.0000						

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ICD_Quality

chi2 = 41.03 Prob > chi2 = 0.0000

Testing for Heteroskedasticity indicated that the data are heteroskedastic. Thus, as the results failed to reject the null hypotheses means the data are heteroskedastic. Hence I need to do robust regression to rule out the problem of heteroskedastic or the absence of homoscedasticity[41] Robust Fixed Model.

[41] Econometrics literature e.g. (Jeffrey M. Wooldridge 2013) and (Richard Williams, 2015) suggested applying Error standard robust test to rule out the problem associated with heteroskedastic data. Richard Williams

Table 6.15 Robust regression model for ICD quality.

ICD_Quality	Coef.	Robust Std. Err.	T	P>|t|	[95% Conf.	Interval]
Board_size	.1560409	.2212093	-0.71	0.482	-.5949681	.2828863
Board_Indepen	.0209471	.028531	-0.73	0.465	-.0775587	.0356645
Role_Duality	.7788634	1.421283	0.55	0.585	-2.041271	3.598998
Family_Own	.0412693	.0425434	-0.97	0.334	-.1256846	.043146
Manag_Own	.3428618	.0922188	3.72	0.000	.1598796	.5258439
Foreign_Own	.0687623	.0391117	1.76	0.082	-.0088437	.1463684
Institutional_Own	4.59521	2.807254	1.64	0.105	-.9749905	10.16541
CGC	2.088918	.5651333	3.70	0.000	.9675707	3.210265
Comm_size	-1.749445	.836837	-2.09	0.039	-3.409911	-.0889789
Comm_Independ	22.99151	6.00615	3.83	0.000	11.07401	34.90902
Comm_Meetings	.1239194	.0388712	3.19	0.002	.0467905	.2010483
Size	.0291059	.0071257	4.08	0.000	.0149671	.0432448
Leverage	.0059737	.0029018	2.06	0.042	.0002159	.0117315
Performance	.0016658	.000811	2.05	0.043	.0000566	.003275
_cons	12.86382	3.785091	3.40	0.001	5.353376	20.37426
Fixed-effects (within) regression	**Number of obs =**	**700**				
Group variable: ID	**Number of groups =**	**100**				
R-sq:	**Obs per group:**					

research note available on University of Rotter Dam website at https://www3.nd.edu/~rwilliam/stats2/l25.pdf accessed 20/5/2017.

within = 0.2891	**min =**	**7**
between = 0.1663	**avg =**	**7.0**
overall = 0.1661	**max =**	**7**
	F (14,99) =	**8.17**
corr (u_i, Xb) = -0.6978	**Prob > F =**	**0.0000**

(Std. Err. adjusted for 100 clusters in ID)

ICD_Quality: Represents the dependent variable which stands for average score of the firm's ICD on the disclosure index. **Brd_size:** Represents the board size which is the number of the board members. **Brd_Independ:** Represents the number of independent members within the board. **Role_Duality:** Represents the role duality if the chairman is the same the CEO this was represented by a dummy variable as if the chairman and CEO position are occupied by different persons takes 1 or 0 otherwise. **Fam_Ownership**: this represents the percentage of the shares owned or controlled by the same family out of the outstanding shares capital. **Manag_Ownership:** this represents the existence of the executive top management ownership of the firm's capital. The JCGC requests the ownership of the key management personnel to be disclosed in the annual report this was indicate in the model by dummy variable and takes 1 if the management do hold ownership of the firm or 0 otherwise.

Foreign_ Ownership: Represents the percentage of the shares owned directly or indirectly by foreign investors (percentage out of the outstanding shares capital) **Instit_Ownership:** Represents. **CGC:** Presents the Corporate Governance committee if established within the board take 1 and if not takes 0 (the JCGC suggests that the board to establish CGC within the board and it is mandatory for the banks) **Comm_size:** represents the size of the audit committee this presented as the number of the members of the committee (the Corporate Governance act mandate that the Audit committee to be formed of minimum three nonexecutive members. **Comm_Independ:** represents the percentage of the independent members within the Audit Committee out of the total committee members. **Comm_Meetings:** Represents the audit committee effectiveness indicated by the frequency of meetings held during the year. **Size**: Represents the firms size indicated by the natural log of the firm's total assets. **Leverage**: Represents the firm's reliance of debit in financing its assets. **Performance**: indicated by the firm's profitability (ROA) Leverage and performance are provided by the SDC database.

The results failed to prove any relationship between board size and the quality of ICD. However, on this issue the literature is inconsistent: some studies found board size negatively affected the quality of disclosure. One such study by Holtz & Sarlo Neto (2014) found that the board size negatively affects the quality information disclosed by Brazilian listed companies. Likewise, Cerbioni & Parbonetti (2007) also found a negative effect for the board size on the "*good news*" about structural capital in a comparative study among the European biotechnological companies. The present study findings are consistent with a large strand of literature that failed to find any significant relationship between disclosure quality and board size. However, Zhang et al., (2007) found that smaller sized boards are more able to carry out duties more effectively in enhancing the internal control system and supporting the governance process.

According to agency theory arguments, independent members within the board are expected to facilitate the transparency and enhance both the disclosure levels and the quality of information. However, the indicated results failed to prove any significant relationships between the board independence and ICD. Certainly,the literature was not conclusive regarding the effect of board independence on voluntary disclosure in general. Some studies have provided evidence of a positive effect for board independence on the quality of disclosure e.g. (Britto et al. 2014; Cerbioni & Parbonetti 2007) found that board independence can positively affect the quantity of IC information disclosed by companies but not the quality. Likewise, Lim et al. (2007) found that there is a significant relationship between board independence and forward looking information as a proxy for good quality information. On the other hand Forker (1992) found that the increase in independent members in the board associates with better quality of information disclosed in the annual reports. However, this was about general disclosure but not specifically ICD.

According to agency theory the separation of management and monitoring roles will lead to better transparency and better information dissemination. Despite these argument's wide acceptance, the present study failed to prove any significant effect for role duality on ICD. These results confirming the results of (Moumen et al. 2015) who failed to prove any significant effect for the CEO/Chairman roles separation on the quality of risk information disclosed by listed companies in MENA. Finally, (Cerbioni & Parbonetti 2007) found that the role duality is negatively affecting the ICD quality.

Family ownership is expected to widen the information asymmetry when it is sizeable and associated with engagement of a managing role within the firm. Hence, the expected relationship was to be negative and the present study indicates that family ownership has no significant effect on the ICD quality. Although, Ghosh & Tang (2015) and Ali et al. (2007) found that family controlled listed companies in the USA were associated with better quality financial reporting. However, this might not be the case in non-financial voluntary disclosure. As Nekhili et al. (2012) found in their study in the French context, family ownership is associated with a negative effect on the quality and extent of R&D information disclosed by companies. This also was the conclusion of a study by Chen et al. (2008) who found that family ownership could be hinder the voluntary disclosure.

According to agency theory, managerial ownership is expected to have a negative effect on voluntary disclosure. As according to the agency theory premises which argues that: because of the opportunistic behaviour of the managers, moreover, agency theory assumes that managers will try to maximise their own interests at the cost of other stakeholders (Morris 1986; Fox & Hamilton 1994). On the contrary; the stewardship theory argues that the managers will act for the well being of the firm and its stakeholders because they are self-motivated to be stewards rather than opportunistic and self-interested (Donaldson & Davis 1991; Fox & Hamilton 1994).

The current study finds that managerial ownership significantly and positively affects the quality of ICD. These results confirm Khiari & Karaa (2013) who found that management ownership is positively affects the quantity and quality of ICD. Likewise and in the same context (France) Carlos, et al (2013) also found that the management ownership positively affecting the quality and quantity of the voluntary disclosure.

Institutional investors' ownership is expected to represent a leverage for CG system and accordingly transparency (Jensen & Meckling 1976). However, this study fails to find any significant relationship between the presence of institutional investors' ownership and the quality of ICD. This probably can be referred to the institutional investros ability to access information relating to IC through other channels. Nevertheless, Nekhili et al. (2012) found that institutional investor's ownership hinders the quality and quantity of information relating to intellectual capital (Research and Development) as they sometimes according to Nekhili, et al., (2012) may encourage the managers to withhold information. Satta et al. 92015) indicated in their study that there is no significant relationship between the institutional ownership and the quality of disclosure.

Sound CG system will lead to higher standards of owner's protection (Dyck, 2001). foreign ownership holders, due to their remote location, will demand higher and better level of information to facilitate the purpose of monitoring their ownerships abroad (Jiang & Kim 2004): this will enhance the role of internal CG mechanisms (Boubakri et al. 2005).

The present study failed to prove any significant effect for foreign ownerships on ICD quality. This can be referred to the policy differences as the positive role for the foreign investors will be contingent on the level of investors protection legislations. This is the first time that the effect of foreign ownership on the ICD quality has been examined (according to the researcher's best knowledge). Similar results were indicated by Cormier et al.(2005) who studied the effect of foreign ownership on the quality of environmental reporting in Germany and failed to find any significant relationship from the presence of foreign ownership on the quality of environmental corporate reporting in the annual reports.

The results also indicate a significant relationship between the independence of the audit committee and the quality of intellectual capital disclosure. This is consistent with the assumptions of agency theory. These results also confirm the results indicated by Li et al. (2012) who found that the independent audit committee positively affects the quality of information about human capital reported in the corporate annual reports. Moreover, these results confirm the results indicated by

(Cerbioni & Parbonetti 2007) who found a significant positive effect for the independent non-executive members in the audit committee and the quality of information relating to internal capital.

The audit Committee's frequency of meetings as a proxy of audit committee effectiveness is expected to positively affect the intellectual capital disclosure quality. It is proved in the literature the more frequent meetings for the audit committee will lead to a better supervisory role and better CG practices, which in turn are expected to enhance the transparency and improve the quality of information (Karamanou and Vafeas, 2005). The current study's empirical results indicate a positive and significant effect for the frequency of audit committee meetings on the quality of ICD. These results confirm results indicated by Li et al. (2012) who found that the frequency of meeting is positively associated with the level of ICD but that this does not necessary reflect a good quality of the information. Nooraisah (2012) however, failed to prove any effect for AC effectiveness on the quality of voluntary general disclosure. Nonetheless, the indicated results support the premises of agency theory suggesting that more time and effort is allocated to carrying on the monitoring role of audit committee over the executive management. This will include demanding more and varied information especially for IC.

The audit committee's size is an important determinant of the committee's ability to fulfil its duties. The recommended size has a minimum of three independent non-executive members. However, a larger committee is expected to bring more expertise and to allocate more resources for reviewing firms day to day activities which should bridge information asymmetry (Li et al. 2012). The current study results have indicated a significant negative relationship between ICD quality and audit committee size. These results contradict the results indicated by Li et al. (2012): the context may explain this difference, imposing cultural and political differences between the Jordanian and the UK business and legal environment. Legal enforcement in Jordna is less rigorous than in UK. Thus may also be the case with the larger board size- a larger audit committee may bring inconsistency and disputes to the committee more than bringing expertise to the committee.

Establishing a CG Committee within the board of directors has previously indicated a positive effect on the level of ICD and our results also, indicate a positive and significant relationship between such a committee and the quality of ICD. This indicates that the committee plays a signifcant role in enhancing transparency on both sides and improving equality of access to a higher level of information. This committee, which is recommended by the code, ensures that the board is acting according to the CG code and has in place all necessary policies and procedures that facilitate the supervisory role of the board and encourages the highest level of compliance with the code; this will have a direct implication on the quality of disclosure as well as the quantity of disclosures

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6.10 The Control Variables

The present study has controlled for the firm size, performance (ROA), and leverage as well as industry type: the latter was eliminated from the model due to multicollinearity as the industry factor is time invariant and mathematically cannot be measured in the fixed effect model. The results of testing the control variables are vindicating the prior studies in the field as expected.

The empirical evidences supports the arguments that the size and profitability significantly affect ICD levels but not leverage, which is consistent with the findings of García-meca et al. (2005) who also failed to find a significant relationship between leverage and ICD.

Our results are consistent with prior literature (Absar 2016; Ahmed Haji 2015; De Silva et al. 2014; Allegrini & Greco 2013; Abeysekera 2012; Abeysekera 2010; Abeysekera & Guthrie 2005b). However, regarding the failure to find any significant relationship between leverage and ICD levels, despite it being found to significantly affect the quality of information, may be a result of creditors asking for certain kind of information which may be supplied in copious quantities but not necessarily associated with an appropriate quality (Abhayawansa & Guthrie 2016). Nonetheless, Beattie & Thomson (2010) stated that leverage can positively affect the level of ICD in the large companies.

Moreover, all the three variables were found to significantly affect the quality of ICD[42]. Despite empirical evidence about the relationship between ICD quality and such variables being rare. Some prior studies have examine the determinant of the quality of voluntary disclosure including CSR (Milne 2002; Khan 2010; Td et al. 2014) and others have examined the determinants of voluntary non-financial reporting quality (Torchia & Calabrò 2016; Wang et al. 2013; Alcaniz et al. 2011; Wang & Hussainey 2013; Goswami & Lodhia 2014; Michelon & Parbonetti 2012) Most theoretical frameworks for voluntary disclosure e.g. agency theory, signalling theory, capital market theory, and cost- benefit theory suggest a positive relationship between the firm's size and voluntary disclosure whichwould hold true in the case of ICD (Hussainey et al. 2003; Haniffa & Cooke 2005; Cooke 1989; Jensen et al. 2006) Moreover, leverage puts the firms under the close monitoring of the debit holders who demand a high-quality information to keep assessing the borrowers ability to make repayment and in certain situation, before extending the credit facilities, to assessing their credit decisions which is consistent with the arguments of signalling theory, cost of capital theory and agency theory (Healy & Palepu 2001; Cooke 1989).

[42] Size is significant at 10% and performance and leverage significant at 5%.

Profitable companies always will provide voluntarily disclosure about all aspects of achievements to signal the market and facilitate its opportunities for further growth (Drees & Heugens 2013; Carlos P., Sabri B. 2013; Vergauwen & Alem 2005; Madhani 2016).

On the other hand, un-profitable firms also found to give good quality information with rich discussions and more information about future plans and prospects to build confidence and facilitate analysts (Wang & Hussainey 2013; Bamber et al. 2009): the same point of view also supported by Schleicher et al. (2007).

6.11 Endogeneity

Endogeneity exists when one or more of the explanatory variables are correlated with the error term; this can happen because of omitted variables, simultaneity when two variables are affecting each other simultaneously, or as a result of dynamic endogeneity when the variable is affected by a previous value form (Ai & Meng 2015; Semykina & Wooldridge 2010).

Accounting literature suggest that studies which implement CG mechanisms as explanatory variables may suffer endogeneity especially between the CG items and performance (Moumen et al. 2015; Schultz et al. 2010).

Econometrics literature offers some strategies to tackle the problem of endogeneity in the regression models that rely on the OLS formulas. These include utilising instrumental variables, 2SLS, GLS and GMM. However, under the panel regression model the only option available is the GMM (Abdallah et al. 2015). The general rule of thumb; "the GMM *relies on instruments that are in the form of lagged levels of the dependent and the independent variables (for the equations in first differences) and lagged differences (for the equations in levels"* (Abdallah et al. 2015). However, this practice is not valid anymore and according to (Wooldridge 2016) instrumental variables should not be included in the regression model when the model has endogenous explanatory variables as they can have negative consequences rather than adding value.

Considering the controversy associated with endogeneity and its effect on the validity of the regression model and also the absence of reliable an econometric approved solution, researchers need to take alternative steps to either make sure that all variables are exogenous or to add more robustness to the regression model so that it will maintain the credibility of the regression model outcomes.

Under the fixed effect panel data regression model the unobservable or omitted variables endogeneity is naturally ruled out, especially when the data are strongly balanced (Semykina & Wooldridge 2010). Another step which reassure the exogeneity of the explanatory variables are the results of the heteroskedasticity as, if the independent variables are free of any harmful autocorrelation this supports the independent variables exogeneity. Finally, the results of the Durbin-Wu-Hausman test have been used to check for the presence of endogeneity. Durbin-Wu-Hausman tests the null hypothesis that the residual values of the endogenous variables are jointly equal to zero. If this test shows a significance level of (**F**)-statistic, the null hypothesis is rejected and this means that an endogeneity problem is present. Accordingly, the result of Durbin-Wu-Hausman test indicates that the causality effect is not a problem.

6.12 Summary

This chapter presents the data analysis and strategies and techniques used by the researcher to analyse the data. As this study uses both qualitative and quantities methods, a detail discussion of data analysis has been presented, including descriptive statistics to highlight the patterns and the disclosure choices made by the Jordanian companies to present their intangible assets and other IC items in their annual reports. the regression models also presented the results of assumed relationship between the dependent and independent variables. The statistical analysis results are discussed in detail in light of the prior studies results as well as the justifications of the current study's results also presented based theory and literature and the expert views extracted from interviews.

The analysis has produced many interesting results which can help information users, policy makers, and the companies management in dealing with IC.

Disclosure amongst Jordanian companies differs by economic sector: the descriptive analysis shows the banking sector has higher scores based and better quality on the disclosure index. Jordanian companies share more information about their structural capital and specifically about the corporate strategy, systems and IT infrastructures and future's plans.

Regarding the regression models results. There were statistically significant effect for family ownership, foreign ownership, institutional ownership, audit committee characteristics and having CG committee within the board on ICD levels or quality of the information. Moreover, institutional ownership, audit committee size and independence were found significantly affect the variance of ICD quality.

7 Conclusion, implication and suggested future research venues

7.1 Introduction

Due to the paramount importance of IC in value creation and in enhancing corporate performance, transparency around IC and how these resources are managed are also is very important. To maintain an acceptable level of transparency, a sound CG system should be in place to make sure that all relevant information is available on a timely basis for all stakeholders. Thus, this study has empirically tested the relationship between CG and ICD - either the level of disclosure or the quality of information. Hence, after explaining the research phases, the current chapter provides a brief overview of the entire thesis. It presents a summary of the research's approach, and methodology. Also, it offers a summarised picture of the study's aims and motivations, the main findings, contribution to knowledge, implications for policymakers, limitations and suggested avenues for future research. This chapter is organised as follows: the second section summarises the research approach and revisits the research methodology. The third section summarises the research findings and presents the answers for the research questions. The fourth section summarises the present research contribution to knowledge, practice and policy makers. In the fifth section the implications encountered by the researcher in this study have been discussed, and finally on the sixth section the limitations and the possible avenues for future research have been presented.

7.2 Summary of the research approach and methodology

This PhD project has deployed a positivistic philosophical stance to examine the relationship between CG as an independent variable and ICD (quantity and quality) as a dependent variable, controlling for firm size, financial performance, leverage and industry. The industry variable has been removed due to the statistical limitation of incorporating a time-invariant variable in the panel data fixed effect model. Moreover, as this study is built on the premises of agency theory which suggests that more transparency and higher quality disclosures will facilitate the monitoring role over the agent (management). Therefore, this study started by reviewing the literature to determine the possible relationship between the explanatory variable and the variance in the dependent variable (ICD levels and quality). The determination, measurements and empirical observations that leads to theory verification are the general characteristics of positivistic approach in research (Stanley 1997). From a time horizon point of view, this study is a longitudinal study as it covers a time window of seven years, between years 2009, the year of enforcement of the CG code, until the cut off date 2015. That allows the current study to examine the pattern of ICD over the period of study offering deeper understanding of the ICD phenomenon and avoiding the shortfalls of prior studies which mostly were cross-sectional studies.

This study has utilised a mixed method to achieve its goals. The first stage of research started by collecting data from the annual reports of the population (the top 100 companies of the listed companies in ASE). Statistical tests (Panel Regression Test) were performed to measure the effect of the independent variables (CG) on the dependent variables (IC). But, in order to gain more understanding of the result of the statistical analysis the researcher used qualitative technique (Semi-structured interviews) with a sample of financial analysts, professionals and stakeholders who normally follow the disclosure and able to understand and differentiate different kinds of disclosures.

The study was conducted in phases. The first phase was the development of the research instrument and piloting. The piloting study was primarily intended to evaluate the research instrument's feasibility and its ability to collect the secondary data from the corporates' annual reports. This process of collecting data from source documents i.e. annual reports, books, magazines, speeches, newspapers and or scripts is referred to as content analysis (Krippendorff 2013; Beattie et al. 2004).

7.3 Research aims and questions

This study aims to examine the effects of the corporate governance on ICD on both the quantity of information as well as the quality of them. Accordingly, a survey has been carried out on the corporates annual reports of the Jordanian listed companies to collect the data relating to the board of directors and governance mechanisms adopted by them and the quantity and quality of disclosure about the IC items based on a specially developed research tool i.e. the disclosure index. Therefore, the research objectives are summarised by the following points: -

- Extending the understanding of IC and ICD by Identifying the patterns and practices of ICD among the Jordanian listed companies within the study period.
- Analysing the effect of the corporate governance mechanisms on ICD and identifying the governance aspects that significantly affecting ICD either positively or negatively.
- Developing a model for the relationship between corporate governance and ICD based on circumstances of the Jordanian and Arab region

Thus, the current study accepts responsibility for answering the following two questions:

1. What are the patterns and the current practices of reporting the IC in Jordanian listed companies

2. To what extent do these corporate governance's mechanisms affect the ICD within the Jordanian listed companies; and what is the direction of the relationship between them?

7.4 Summary of the findings

7.4.1 Findings

The answer for the first research question was discussed in detail in the second part of chapter six where a sample of the visual disclosure patterns and descriptive statistics provided a clear view of the current practices and the state of ICD in the Jordanian market. The visual disclosure of IC items which includes images, tables, graphs and figures in annual reports focuses on structural capital items, e.g. certifications accreditations, R&D, and future plans. Still, the realtional and HC are represented in the visual disclosure patterns but with the focus of training and employees allocation to training which is summarised in the table with comparative data also, over the period of the study. At a glance it can be seen that the Jordanian companies were not the same in engaging in ICD. The best economic sector (in terms of ICD) was the banking, sector followed by the insurance sector, then the service sector and finally the manufacturing sector.

Jordanian Companies focus on structural capital followed by human capital and finally relational capital according to the aggregate score on the ICD index. The most frequent score for this component of IC i.e. structural capital was the corporate strategy. This reflects the level of awareness of the managements in the Jordanian companies of the importance of IC and the information relating to the corporate strategies and companies' plans for future.

Moreover, as described before, within SC the most frequent items were corporate strategy, systems and IT infrastructures and future plans. Regarding HC, the number of the employees and employees' breakdown, in addition to staff competencies and education were all discussed in the annual report with details including the distribution of the employees according to the level of education and professional qualifications. The information disseminated also included information about the future plans of hiring, training and preparing of the staff to match the developments in the industry or to meet new professional standards. This referred mainly to the high demand of information by regulators, especially that the banking sector is active in the region and this will make these banks subject to another foreign supervisory agencies and governmental bodies requirements; this is in addition to the international standards set by the Basel Committee on Banking Supervision. Moreover, the Jordanian banking sector is historically well established as according to the ASE database, the first listed company in the market was a bank. These results are consistent with the results of Brown et al. (2016) who conducted their study on a selected sample of service companies in Botswana. They applied in-depth case studies over the selected companies and their results indicated that the regional banks were the best in terms of IC reporting with emphasis on the human capital and relational capital.

To answer the second question of this PhD thesis. Panel data fixed effect regression model has been run to examine the effect of CG mechanisms (Board structure, ownership structure and the characteristics of the audit committee) on the ICD quantity and quality.

- Board of Directors Structure (board size, board independence, role duality)
- Ownership structure (Management Ownership, Family ownership, Foreign Ownership, and Institutional ownership)
- Audit Committee Characteristics: (Audit committee size, independence, and effectiveness).

The regression models results indicated that board size, board independence and role duality have no effect on ICD quality and quantity. Regarding the board size, the present study results confirm the relsuts of Cheng & Courtenay (2006), as in such cases more memebrs in the board will not be able to add value to the transparency or motiviate voluntary disclosures. This referrs to the ability of some memebrs to dominate others and the lack of law enforcement in developing countries. The same study also failed to find any significant effect for the board size on the quality of IC information. This confirms the resluts indicated by Holtz & Sarlo Neto (2014).

This sutdy failed to prove any positive relationship concerning the effect of board independence on ICD which is consistent with the results indicated by Falikhatun et al.(2011), who examined the lobbying and connections between the board memebers which marginalise the role of independent memebers. That was the same with the size of the audit committee where again the results indicated a negative effect for the audit committee size on ICD and this conclusion confirms Wang & Hussainey (2013) which suggests that it is a false assumption that bigger size brings effectivness and a diversity of experience. Regarding the effect of the board independece, this study conforms Lim et al. (2007) as the empirical resluts failed to prove any significant relationship between board independence and the quality of ICD. These results are consistent with the results indicated by Moumen et al. (2015) in failing to find any signifciant relationship between the board independence and the risk disclosure.

In addition, based on the regression model resluts the separation of the CEO and Chairperson roles was found to have no significant effect on ICD on both the level of disclosure and its qaulity. Which is consistent with results indicated by Muttakin et al. (2015).

Moreover, family ownership has negative effect on the level (quantity) of ICD but has no effect on the quality of information. As the family ownership makes the members of the controlling families entitled to access information from other resources rather than the annual reports. The results are consistent with the resluts indicated by (Nekhili et al. 2012).

Our empirical results for the effect of management ownership indicate a significant positive effect for the management ownership on ICD. This is in line with the view point that states that the managers in case they are a shareholders will not be residula claimants. This means they will do their best to bring benefits to the owners of the firms and for themselves. When foreign invesors hold ownership in local firms they will be affected more by information asymmetry. This will lead them to press for more better quality information due to their remotness. This in one way or another, will enhance transparency.

Moreover, the present study results indicate that the institutional investors' ownership, affect ICD levels positively. This conclsion supports El-gazzar (1989) who found that generally institutional investors ownership is. associated with better voluntary disclosure choices in USA. However, the results also, failed to indicate any significant effect of the institutional investors ownership on the quality of the ICD which is consistent with Satta et al (2015): an explanation for this may lie in the fact that the insistutional investors will ask for infomration about finanical and operational issues more than focusing on ICD information.

As mentioned early, audit committee size has a negative effect on both the level and the quality of ICD. This may be attributed to the fact that more members in the committee will encourage disputes and increase the opportunities for disagreement often referred to as the "*paradox of plenty*"[43] Conversely, audit committee independence and audit committee effectiveness positively affect quality and quantity. These resluts are confirm the findings of Ahmed Haji 2015; Li et al. (2012).

Having a CG committee within the board was empirically found to positivley affect ICD on both sides: the level of disclosure and the quality of it. The role of the CG committee is described in the CG code as an independent committee within the board that should review and develop the firm's CG manual and take all necessary steps to make sure that the company adopts a sound and robust CG system. Adhering to this role will particiapte postiviely in motivating the board to match the

[43] This terminology I borrowed from political economy literature which was first introduced by Hussain Mahdavy, in his article published in 1970, titled The Patterns and the Problems of the Economic Development in the Rentire States; the case of Iran. In his argument he assumes that plenty of resources in some developing countries allows the ruling elite to block the adancement of democarcy and instead empowers their autocratic rulership. The full version of Dr. Mahdavy article can be accessed on line via: http://www-personal.umich.edu/~twod/oil-s2010/rents/Mahdavy.pdf

expectations of the shareholders and will give the board the momentum to carry on an active supervisory role.

The table below summarises the research variables and how they affect the ICD.

Table 7.1 The Relation Between Study's Variables

Varibale	ICD Quantitiy		ICD Quality	
	Relationship	The sing of relation	Relationship	The sing of relation
Board Size	NO	N/A	NO	N/A
Board Independence	NO	N/A	NO	N/A
Role Dulaity	NO	N/A	NO	N/A
Family Ownership	YES	Negative (-)	NO	N/A
Mangement Ownership	YES	Positive (+)	YES	Positive (+)
Foreign Investros Ownership	YES	Positive (+)	NO	N/A
Institutional Investros Ownership	YES	Positive (+)	NO	N/A
Audit Comittee Size	YES	Negative (-)	YES	Negative (-)
Audit Comittee Independence	YES	Positive (+)	YES	Positive (+)
Audit Comittee meetigns	YES	Positive (+)	YES	Positive (+)
Corporte Governacne Committee	YES	Positive (+)	YES	Positive (+)
Size	YES	Positive (+)	YES	Positive (+)
Leverage	YES	Positive (+)	YES	Positive (+)
Performance (ROA)	YES	Positive (+)	YES	Positive (+)

7.5 Contribution to knowledge and implications for policymakers

7.5.1 Contribution to literature

This study offered some new evidences for the effect of CG on ICD levels and quality. These evidences are from a virgin context which has been overlooked by the research community until this study filled the existing gap in the literature: most prior studies were conducted either in Nordic countries or Anglo-phonic countries: developing countries have been neglected by scholars. Thus, this study, by presenting evidences from Jordan and based on Jordanian listed companies, which share many characteristics with other Arab and other MENA countries is considered a genuine contribution to the knowledge and an extension to IC literature. Moreover, this study is longitudinal which helps to offer a deeper understanding of the ICD phenomenon. In addition, the sample size is larger than any prior study covering all economic sectors which also extends the body of knowledge and provide new and comprehensive explanations for the variance in ICD levels and quality. Moreover, according to the researcher's best knowledge, this study has explored for the first time the effect of establishing CG committee on the ICD which indicates a positive effect of such committee on the quantity and quality of IC information in annual report. To sum up, the present study's contribution to literture can be summarised in the following points:

- The present study provides disclosure's literature, in Jordan, MENA region and developing countries generally, with a validated research instrument (disclosure index) to capture, in a relatively comprehensive way, IC main categories and items. This represents a great value added to the research community and knowledge itself too.
- The present study has empirically demonstrated that the examined explanatory variables are varying in their effect on ICD. Possible explanations for this variation also have been provided based on the institutional and regulatory circumstances in Jordan.
- Locally, this study provides two contributions to the research community in Jordan:
    - The present study offers researchers in ICD field with a comprehensive database about Jordanian listed firms with a detailed information about IC and ICD the main items that Jordanian firms disclose and the categories that they focus on. This database remains valid for future research and assessment of the IC status quo in Jordan.

    - The explanatory variables (corporate governance variables) have never been grouped together and examined as determinants of ICD in prior literature in Jordan. The current study according to the researcher's best knowledge is the first in Jordan and the in region (MENA) that has provided empirical evidence, which supports the effects of these factors on level and quality of ICD.

  - This study (to the researcher's best knowledge) is the first study to consider the quality of ICD in the MENA region and specifically in Jordan and it is the first study to take in consideration the visual ICD patterns and quantifies it in a state of the art manner.

- Internationally, the current study has introduced new explanatory determinant that have never been tested before in ICD field. Principally, the presence of corporate governance committee within the board. This variable proves a significant effect on ICD quantity and quality.

7.5.2 Contribution to theory

This study has provided a genuine contribution to theory by introducing a new comprehensive theoretical framework for studying ICD. As indicated in the theoretical framework chapter, there are many overlapping theories in the arena of voluntary disclosure. Empirical evidence can identify which can be effectively applied to certain situations and which can be ignored. Thus, the indicated results contribute to three theories that can be implemented to understand ICD. The first theory is agency theory, based on the results the shareholders: shareholders and the debit-holders play a crucial role in motivating companies to disclose higher level and better quality of information about its IC and intangibles generally. Moreover, this study provides new evidence which contributes to stewardship theory and impression management theory as managers will be keen on sharing the information that reflects their pioneership, stewardship and leadership as the managers in certain occasion will be derived by demotivation to appear as a good citizens and successful leaders for their institutions. Meaniwhile, managers are interested in providing information that impresses the audiences either by draw their attention to the good news which could be related to growth, achieving the targets etc. Or providing information that disrtact the audience from recognising the bad news e.g. failour to meet the targets, losses, etc. The diagram below summarises the suggested theoretical framework as indicated by empirical results:

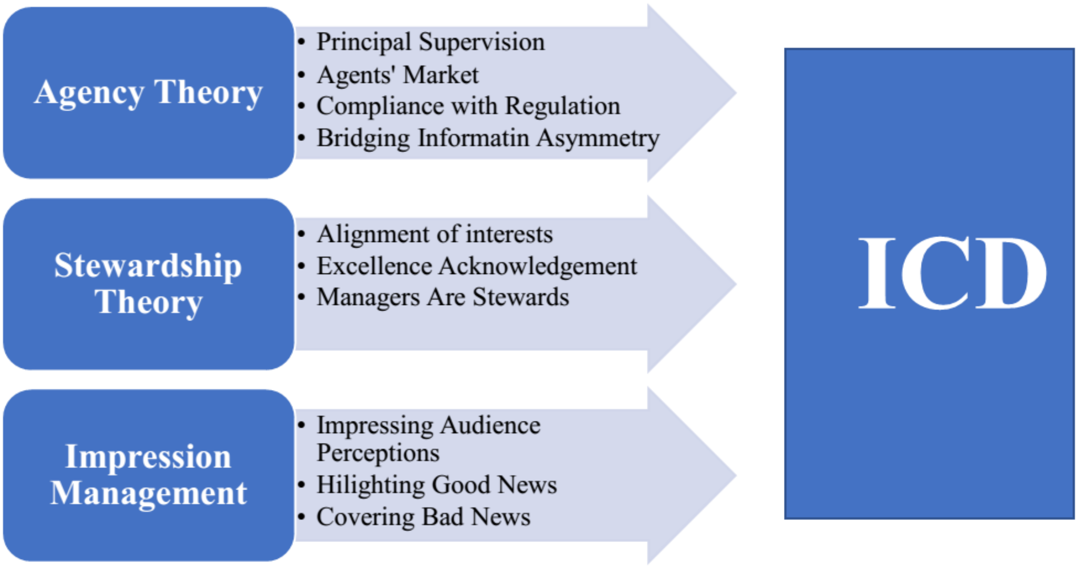

Figure 7.1 Theoretical Framework for ICD

7.5.3 Methodological Contribution

The current study has developed a customised research instrument for measuring IC using content analysis from the annual reports. This double-barrelled disclosure index was designed to measure the level or quantity and the quality of ICD. It remains a valid disclosure measure for similar studies which may take place in similar conditions other Arabian and middle eastern countries as well as countries in North Africa. Another contribution to methodology provided by the current study is that it involves two different techniques of data collection – (disclosure index and interviews for quantitative data results validation. This approach allows the researcher to gain deeper understanding of the ICD practices and determinants and provide a solid ground for generalizability.

7.6 Implications

This study found that the IC in Jordan is still in its early stages in terms of how it benefits the economy and participates in social and public wellbeing. Therefore it can recommend that countries with small and limited resources should invest more in their IC infrastructure. A nationwide IC survey is recommended so that the policy-makers will know how to draw on the available resources and where to invest further resources to establish a real knowledge based economy. Still, on the macroeconomic level Jordan needs to benefit from countries like Austria, Sweden and Denmark in the field of identifying the national IC and maintaining a comprehensive national IC. This will be positive for both public and private sectors and will help business to identify possible investment opportunities.

For professional and standard-setting bodies, ICD needs to be regulated, as this will help to increase the transparency and efficiency of the financial market; also, it will support and enforce market discipline. In addition, regulating the ICD will motivate companies to be creative and more competitive by offering higher levels of information than the required by regulations. Finally, it is recommended that higher education policy maker in Jordan and other Arab countries consider teaching modules about IC in economic and business specialties allowing students to develop an awareness of IC and its importance for businesses and for nations.

7.7 Limitations and future research venues

No research project can run without limitations. Some of these limitations can result from the time and resources availability. Some could result from access to data or technical aspects that prevent the researcher from processing the data.

The first limitation that can affect the generalizability of the results is the small size of the population: the ASE has 265 listed companies which remains small compared to established financial markets in the western world. Thus, despite the data being collected from the top 100 companies, which accounts for about 78% of the market capitalization, some of the included companies in the bottom of the list a merely have no engagement in ICD: this also raises a red flag to the policy makers as mentioned in the previous section, prompting regulations which will enact suitable regulations to motivate companies to show their investments in IC and their future plans for expansion into a modern economy: IC remains the gateway to intellectual investments and sustainable smart businesses.

Second, this study relies on the secondary data which collected from the corporate annual reports and for the sake of deeper understanding of the results a semi-structured interviews been conducted with a highly qualified and carefully selected respondent covering a range of professionals from the industry, investors (institutional and individuals) academics and financial experts to get deeper understanding of the results. However, perhaps deploying other research techniques such as the case study, comparative studies between some companies from Jordan and similar companies in the developed world can provide more explanation for feeble ICD situation within the Jordanian companies apart of the banking sector.

Third, this study has adopted as its research instrument a (disclosure index) from literature as indicated in detail in the methodology chapter. However, from about the 180 items recognised in literature as subcomponents of the three intellectual capitals parts, only 44 items were applicable to Jordanian companies. Thus, for the companies who get high scores on the customised index might not reflect the same high score on other indices: for example Li, et al., (2008) have a disclosure index of 65 items for their study in the UK. Similarly, Beattie & Thomson (2007) have an index of 75 items. This should be considered when reading the results, especially in developed countries.

Fourth, due to the fact that the majority of Jordanian companies publish their annual reports only in Arabic, consistency for both versions (English and Arabic) was a challenge. Moreover, some companies do not publish their annual reports on their websites and this made the researcher refer to the JSC database to collect the annual reports from there. Having these annual reports as images and some of them with Arabic version only made it impossible for the researcher to process the annual reports through computerised content analysis techniques. Thus, to keep the highest possible degree of consistency in analysis and coding, the researcher incurred the burden of conducting a manual content analysis for the 700 annual reports which took a huge amount of time and effort at this stage of building the IC database for the study sample. However, this raises the importance of establishing the national IC database for Jordanian companies which will facilitate more research and help in increasing the awareness of IC and its importance to the economic development.

Fifth, as mentioned previously, this study relies on the data collected from the corporate annual reports, which remain important disclosure channel for companies. However, approaching other disclosure channels e.g. websites, media, professional networks and social networks can provide a clearer and more comprehensive picture of ICD practices and the general situation of the IC transparency within the Jordanian companies. Thus, future studies can utilise such disclosure channels for more understanding of the ICD phenomenon.

Sixth, as this topic is still relatively new and according to Li., et al (2008) still feeble and underresearched. This must be considered to some extent a limitation, as some of the concepts are not well defined and this accordingly will pose some challenges during research.

7.8 Summary

In this chapter of the current thesis has summarised a detailed discussion of the research findings which have been presented as well as the answers for the research questions being discussed and the practical recommendations for the industry and policy-makers provided.

The contributions made by the present study are on all levels including the contribution to the knowledge, methodological contribution, contribution to the theory, and practice.

Limitations and avenues for the future studies also have been provided in light of the findings of this study: future studies can benefit from the comprehensive database built under this PhD project. Future research project can handle the IC from many angles including for example exploring the phenomena in other countries or taking a comparative study between more than one country. Collecting data from other sources than the annual reports can help in gaining a wider overview of ICD in Jordan for example in examining the disclosure patterns on websites, social media channels and or in professional networks.

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Appendices:

Appendix A.

A List of the Study Sample:

Banking Sector:

1) JORDAN ISLAMIC BANK
2) JORDAN KUWAIT BANK
3) JORDAN COMMERCIAL BANK
4) THE HOUSING BANK FOR TRADE AND FINANCE
5) ARAB JORDAN INVESTMENT BANK
6) BANK AL-ETIHAD
7) ARAB BANKING CORPORATION /(JORDAN)
8) INVEST BANK
9) CAPITAL BANK OF JORDAN
10) CAIRO AMMAN BANK
11) BANK OF JORDAN
12) JORDAN AHLI BANK
13) ARAB BANK
14) SOCIETE GENERAL JORDAN
15) JORDAN-DUBAI ISLAMIC BANK

Insurance Sector:

1) MIDDLE EAST INSURANCE
2) NATIONAL INSURANCE
3) ISLAMIC INSURANCE CO.,
4) EUROPEAN ARABEAN GROUP FOR INSURANCE.
5) AL-NISR AL-ARABI INSURANCE
6) JORDAN FRENCH INSURANCE
7) JORDAN I INTERNATIONAL INSURANCE CO.

8) ARAB ORIENT INSURANCE COMPANY

9) DELTA INSURANCE PLC

10) ALQUDS INSURANCE CO

11) UNITED INSURANCE CO

12) FIRST INSURANCE CO

13) MEDERERANEAN AND GULF INSURANCE (MEDGULF)

14) JERUSALEM INSURANCE

15) THE HOLY LAND INSURANCE

Manufacturing Sector:

1) AL-EQBAL INVESTMENT COMPANY LTD

2) JORDAN STEEL

3) JORDAN PHOSPHATE MINES

4) THE JORDAN CEMENT FACTORIES (Lafarge)

5) ARAB ALUMINIUM INDUSTRY /ARAL

6) THE JORDAN PIPES MANUFACTURING (ASPM)

7) THE JORDAN WORSTED MILLS

8) THE ARAB POTASH

9) JORDAN ELECTRIC POWER

10) JORDAN PETROLEUM REFINERY

11) THE JORDANIAN PHARMACEUTICAL MANUFACTURING

12) DAR AL DAWA DEVELOPMENT AND INVESTMENT

13) PHILADELPHIA PHARMACEUTICALS

14) ARAB CENTER FOR PHARMA-CHEMICAL

15) JWIKO WOODEN FURNITURE MANUFACTURERS

16) NATIONAL POULTRY

17) INDUSTRIAL COMMERCIAL AGRICULTURAL

18) ZAY

19) ARAB TEXTILE

20) NATIOAL ALIMUNEUME

21) NATIONAL CABLES AND WIRES COMPANY

22) GENERAL INVESTMENTS

23) JORDAN DAIRY PRODUCTS COMPANY

24) JORDAN PIPES

25) HYPEX

26) UNITION FOR TOBACO AND CIGARETTS

27) REDY MIXED CONCRET

28) UNITED IRON AND STEEL COMPANY

29) UNITED CABLES (UCIC)

30) SINROA FOOD INDUSTRIES

31) ARAB INTERNATIONAL FOOD AND INVESTMENT

32) HAMMOUDEH

33) EKBAL PRINTING AND PACKAGING

34) INDUSTRIAL RESOURCES

35) MULTI-PROJECTS COMPREHENSIVE COMPANY

36) UNITED CABLE UCIC

Services Sector:

1) JORDAN TELECOM (ORANGE)

2) MEDITERRANEAN TOURISM INVESTMENT (4seasons)

3) ARAB INTERNATIONAL HOTELS (Sheraton)

4) ZARA INVESTEMENT HOLDING

5) JORDAN ARAB INTERNATIONAL HOTELS (MARIOTTS)

6) JORDAN PRESS FOUNDATION/AL-RA'I

7) PETRA EDUCATION COMPANY

8) AL-ISRA FOR EDUCATION AND INVESTMENT "PLC"

9) ROYAL AIR ACADEMY

10) THE ARAB INTERNATIONL FOR EDUCATION AND INVESTMENT (Applied Uni)

11) AFAQ HOLDING FOR INVESTMENT & REAL ESTATE DEVELOPMENT CO. P.L.C

12) ISTEKLAL HPOSBITAL

13) NATIONAL ELECTRIC COMPANY

14) ELECTRICITY DSTRIBUTION COMPANY

15) IRBED ELECTRICITY COMPANY

16) JORDAN NATIONAL SHIPPING LINES

17) TAJAMUTAT INVESTMENT (TAJ MALL)

18) JORDAN DECALPOLIS

19) DUTY-FREE SHPOS COMPANY

20) ROYAL JORDANIAN AIRLINES

21) COMPREHINSIVE LEASING COMPANY

22) MASAFAT SPECIALIZED TRANSPORT

23) LOANS GUARANTEE COMPANY

24) INTERNATIONAL CARDS COMPANY

25) INJAZ FOR DEVELOPMENT & PROJECTS

26) DULAYL INDUSTRIAL PARK

27) QAWASMI LAND TRANSPORT

28) MASAKEN

29) OFFTEC JORDAN

30) SOUTHERN ELECTRONICS

31) AFAQ REALESTATE INVESTMENT

32) JORDAN MORTGAJE REFINANCING COMPANY

33) FIRST FINANCE

34) BINDAR-JO

Appendix B.

Interviews Thematic analysis:

Theme 1	**Intellectual Capital Concept**	
Respondent 1	intangible assets information technology and employee's competencies.	
Respondent 2	All intangible assets including employees and knowledge.	
Respondent 3	Knowledge and research and development and qualified staff.	
Respondent 4	It is an intangible asset which is different from the common component of physical items that are easily measurable and included in the financial position statement. IC generally includes human capital and relational capital (relationship with firm's stakeholders) and usually includes forward-looking information.	
Respondent 5	A part of value of any investee that is added by its human resources, its hard to measure and even harder to build a financial model to forecast such value, but I think it is the key factor that determines the success of any business at mid to longer term, as a portfolio manager I rely on interviews of executives to build my perception regarding management capabilities and their way of thinking, as well as to understand their strategic objectives.	
Respondent 6	For me IC is the knowledge, experience and all competencies that company can transfer to value or use to create value	
Respondent 7	Mostly connected to the intangible and HR reputation and IT. Basically this kind of disclosure is so special and intended to specific audiences whom the sophisticated investors and financial analyst	

Respondent 8	The difference between BV and MV.	
Final Remarks		

Theme 2	Firms' interest to disclose such sensitive-type of information	
Respondent 1	Sometimes companies do so to affect its share price in the market as market value a one of the most used indicator by creditors and investors to evaluate the company Also, companies intend to expand its business or to show its growth to the market will find itself need to share alone of information about its future plans and new product if any.	
Respondent 2	I do not think we disclose anything will cause us any harm. what do you recognise as A SENSETIVE INFORMATION we already know that disclosed information either known to our competitors or it will not help them in affecting our market share.	
Respondent 3	To highlight its Strategic vision to the market and other audiences including potential investors. To reassure stakeholders that It has a clear plan Sometimes it could be doing that to draw the investors' attention to its potential growth showing its share as sustainably opportunity for capital gains and maybe for accessing credit facilities.	
Respondent 4	Due to the rapid corporate growing, traditional disclosure (e.g. financial reporting) going to be insufficient to meet users' needs.	
Respondent 5	I think a voluntary disclosure regarding IC will help investors and or analyst to better understand the strategy of any investee that will determine its value at the long term through enhancing the transparency	

	and credibility of the management, in which at the end it will decrease cost of capital as a direct result to decreasing operational risks	
Respondent 6	Companies will disclose such information to please its customers and to catch the investors' attention. However, it will do so only if the regulatory environment able to protect them from unfair coemption	
Respondent 7	Facilitate the expansion and future planning Proper and precise evaluation for present and potential investors	
Respondent 8	Any firms will try to present all information that reflect its honesty and integrity to the information users Especially potential investors to take informative decisions.	
Final Remarks		
Theme 3	IC Importance to the Companies and other stakeholders	
Respondent 1	It's a good strategy to communicate its achievements and to keep existing on the analysts table.	
Respondent 2	Absolutely, more information means clearer image and the information user can see the whole picture	
Respondent 3	Perhaps for precise evaluation. Understanding the new business lines or the new products	
Respondent 4	Yes, because of the genuine need of the investors for information and companies maybe really need to enhance its mental image within the public so obviously, all parties going to benefit from disclosure whatever the item disclosed transparency is good in all cases.	
Respondent 5	Decreasing cost of capital. Decreasing operational risks. Increasing firm value	

	Enhancing market efficiency	
Respondent 6	Generally, transparency will increase investors' confidence in the company. More information about the IC especially if it about its developed systems its market share increase will give the investor the opportunity to assess the potential gains from the stock. For companies; reputation will create more reputation and lead to better mental image of the companies within its customers and providers.	
Respondent 7	Investors will give a higher value to the companies that adopt a transparent policy; assess the possibility of the continuity	
Respondent 8	Yes I do and that could be because of the companies thrive to build Trust with the audience and also, it could be a strategy for leveraging its social capital and promoting congruence within the staff**.**	
Final Remarks		
Theme 4	Jordanian Corporate Governance Code effectively motivate firms to be transparent about their IC.	
Respondent 1	To some extents yes but it is still needs more enforcement and a proper monitoring techniques to enhance the level of compliance.	
Respondent 2	Theoretically yes; however, the practice suggests that more effort by government should be done in enforcement of the compliance to the CG code.	
Respondent 3	Yes to some extent by enforcing the market discipline	
Respondent 4	Yes- JCGC encourages companies to offer accurate, timely and sufficient information which therefore enable investors in making rational economic decisions. This includes annual and periodic reports, transactions with other stakeholders e.g. suppliers and lenders and any	

	their relevant information.	
Respondent 5	I think yes, it is what I feel during my meeting and interviews with the listed companies, but to a larger extent with large cap companies.	
Respondent 6	to some extent yes, because the CGC has refer companies to other best practices and give too much emphasize to the transparency and openness which defiantly will lead to more disclosure about its intangibles	
Respondent 7	still not too much helpful	
Respondent 8	I think good CG will lead to a good financial system which will provide more honest information. However, considering the mentality and the specification of the Jordanian markets CGC needs more regulatory support to give its fruits.	
Final Remarks		
Theme 5	ICD Motivations	
Respondent 1	Competition and sometimes mimicking other companies abroad also, sometimes the international best practices and TQM requirements may motivate companies to be more transparent generally	
Respondent 2	Perhaps the completion and sometimes some companies try to just follow the leading companies in reporting practices and even the shape and the content of the annual report	
Respondent 3	**competition and opportunities**	
Respondent 4	Competition as I believe in Jordan some companies try to grow its market share via marketing and PR campaigns this will be reflected in all disclosure channels including its website, press-releases and of course the	

	annual reports. Also, the small and relatively new companies try to imitate the established companies for example I the company that I am a board member the GM once told me that he wants the make the annual report looks like Deutsche Bank. Despite that do not make any sense to me. I can understand his point of view as that will give a good impression to the receiver (the first impression) especially they need to distribute the annual report to all existing investors before the Annual General Assembly.	
Respondent 5	When they truly believe that such disclosures effect on the fair value of their entities, an example of that, in the last February I met a group of executives of potential Jordanian investees (to be added to my portfolio), during the meeting I pointed to them that an accurate disclosure in general will add value to your firms, because as a portfolio manager when I calculate cost of capital to any investee I add a risk premium to those who doesn't have enough disclosures, which means lower firm value.	
Respondent 6	Perhaps because they want to give the potential investors such information to encourage them to buy when the offering take place or they maybe reassuring the existing investors about the potential gains and growth opportunity.	
Respondent 7	sometimes the competition push the companies to do so.	
Respondent 8	motivate by the growth seeking Trust building and might be to extend the CG compliance.	
Final Remarks		
Theme 6	**Board size, structure, Ownership structure, Role Duality**	
Respondent 1	**Board Size**, I doubt that the BS have any effect. **Board structure**: Having specialised committees within the board will make the work more effective and this may enhance the CG function	

	generally which will support the transparency in general. **Role Duality**: wherever possible segregation of duties is better than hold all power in one-man hand; so I guess role-duality is will be negative effect.	
Respondent 2	No Answer provided	
Respondent 3	**Board Size:** experience diversity will be good **Board Structure:** subcommittees will help by dividing the assignments for more specialised people and give these subcommittees the opportunities to focus their effort on specific aspect then to be discussed effectively on the board level**.** **Ownership Structure:** this will depend on how own the majority of the capital or have an influential ownership. As the scattered ownership will help the transparency and vis versa. **Role Duality**: absolutely will be negative to the CG	
Respondent 4	**Ownership structure:** I think it influences the level of IC disclosure particularly in a context like Jordan where the ownership is concentrated in hands of few investors. Therefore, those blockholders (especially families) have a significant role in monitoring and controlling managers' decisions due to their ownership and voting power. They may demand high level of disclosure to pass a positive signal to minority shareholders and to other stakeholders. **board size:** I do not think the is any association between BZ and disclosure level. In Jordan, board size merely reflects the company size. **role duality:** RD is expected to hinder the disclosure level. As CEO almost controls the information given to the board, this make the CEO's monitoring and evaluation by the board less effective. Ineffective board could be therefore less interested in the disclosure matter. Also, The Chairman who is CEO at the same time may tend to lack of transparency	

	as a way to mask management fraud.	
Respondent 5	**Board size**: I think a large board size will enhance disclosures as the probability of board coalition and agreement to decide not to disclose become less. **Ownership Structure**: I think an institutional domination on the ownership structure will enhance disclosures, as institutions are more professional and have better understanding of the importance of disclosures and transparency than individuals. **Board Structure**: an existence of independent board members will lead to enhance disclosure process as he/she doesn't have direct benefit related to not to disclose decision **Role duality**: a segregation between the role of CEO and the chairman will minimise the ability of CEO to control the board, and as a final result the decision of not to disclose becomes harder.	
Respondent 6	**board** size I do not have a role in ICD or to any kind of transparency **Ownership Structure:** is respective issue and it depend it could be positive or it could be negative this depends on the company sector. And case by case Dividing the board into committees will help them to divide work between them and this can lead to better monitoring level so it maybe positive to ICD as well as the **role duality**.	**Nader**
Respondent 7		
Respondent 8	**board size**: maybe the larger board is likely to have diverse expertise and dedicated however, this not always works as sometimes larger board brings useless debate and conflict of agendas to the board table. **Ownership structure**: this maybe an obstacle for the transparency due to the nepotism family lobbying and long-arm to dominate the board and the	

	firm especially if a collusion exists with the executive management. **board structure** enhances the effectiveness of the board **role duality** it is bad for disclosure. As separation of duties can help the transparency in general by abolishing the opportunistic behaviour and separation will create information asymmetry under which the chairman will claim for more information and accordingly the flow of information to the board will be higher and board discussion will be more informed	
Final Remarks		

Theme 7	**Independent member and Intellectual Capital disclosure**	
Respondent 1	Yes, if the external member was properly qualified to such role because sometimes a good external member will not jeopardise his/her reputation for being rubberstamp member.	
Respondent 2	I am not sure if this will help. Sometimes the independent member does not have the expertise to carry out the monitoring role as stated in the CGC.	
Respondent 3	on ground, not effective due to the absence of the proper evaluation mechanism for the independent member. Sometimes the other members try to overwhelm the role of the independent member in voting	
Respondent 4	Independent directors may positively affect the disclosure level. Because of they are free from management pressure; independent directors wield more effective monitoring and control activities in order to protect their reputations and to protect shareholders' interests. From own experience as independent board member I won't sacrifice my personal reputation under any circumstances and I did register my conservative opinions in certain cases when I thought the GM try to convince the board to adopt a bit aggressive risk abietite	

Respondent 5	(Please refer to my answer on Board structure) an example of that is when the central bank of Jordan required all the Jordanian banks to appoint third of their boards as independent members, Jordanian banks disclosures and even the content of disclosure became materially better	
Respondent 6	I don't think that the independent member has any role in pushing the transparency up.	
Respondent 7	it good that CGC requested for third of the board to be independent members but as long as this has not been compulsively asked the corporate law the implementation will be subject to the discretions of the companies and this will be useless especially the independent members do not have the proper channels to communicate their concerns to the supervisory agencies and regulators**.**	
Respondent 8	From agency theory point of view this should be positive specifically if (he/she) well educated and knowledgeable having both technical knowledge and theoretical knowledge so the IM will be a great value added to the board and an essential pillar of the good Governance which will positively impact the transparency and absolutely the voluntary ICD will be increased.	
Final Remarks		

Theme 8	**Foreign Investors and Transparency and ICD**	
Respondent 1	I think they have a positive effect as when the foreign investment be substantial they delegate a sophisticated member to the board and I know some cases they also brought a highly qualified management team those who exited to reflect their expertise and knowledge and their own style of management on the local firms.	
Respondent 2	to some extent the foreign investors when they have a substantial share in the firm and able to put their representative in the board. They enhance the supervisory role of the board. Moreover, they demand high quality of information either about the operation and financial affairs so perhaps this will either directly or indirectly affect the level of transparency.	
Respondent 3	Yes, foreign investor seeks the stability and the Possibility of growth and the sustainable gain. They bring with them good practices in management and internal control which will enhance the governance structure	
Respondent 4	As foreigners are geographically away from the firms they invest in, this increases information asymmetries and makes managerial monitoring more difficult. So foreigners may add more pressure on management to increase corporate transparency.	
Respondent 5	I think it depends on the foreign investor itself, some foreign investors have positive effects as they are reputable institutions such as International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), and the Islamic Bank for Development (IBD), in the other hand some foreign investors didn't have any positive effect on the disclosures of investees, on the contrary they added more ambiguity. Mainly those incorporated offshore in Cayman Island, Virgin Islands, Jersey,,, etc.	
Respondent 6	I think this depend on the background of the foreign investors but generally foreign investors will demand higher level of information and this can lead to better level of disclosure of Intellectual Capital and other	

	aspect of companies' operation	
Respondent 7	Yah, I guess they bring expertise and sometimes they press for more transparency to protect their investment**.**	
Respondent 8	there is a lot of factors affecting the role of the F.Is. including the regulation and the enforcement of the CG	
Final Remarks		

Theme 9	**Institutional Investors role in Transparency and ICD**	
Respondent 1	I don't think they have any role because to some extent from my own experience the institutional investors do not engage with managerial activities.	
Respondent 2	Maybe because they have access to a sophisticated and improved analysis techniques and they are more educated in the financial analysis approaches they can enhance the level of transparency and absolutely this may lead to better disclosure about the ic.	
Respondent 3	Positive as normally the institutional investors will appoint a qualified representative and this individual will be subject to questions from the management (in institutional investor) and need to provide regular reports about the status of the investment on regular basis.	
Respondent 4	I expect that institutional investors could play positive role in IC disclosure due to their ownership magnitude and due to the analytical and information processing resources at their disposal. When it comes to the ICD I think any enhancement to the transparency level will lead to better voluntary disclosure for all aspect of the firm's	

	business, operations and other sides including intangibles, plans, act.,	
Respondent 5	In general I do believe that institutional investors enhance the quality of disclosures, as they have better understanding of the importance of disclosure than individuals.	
Respondent 6	to some extent they have a good role in enhancing the level of voluntary disclosure generally and this possibly will affect the ICD They can help through the know how transfer	
Respondent 7	Yah, they always have better understanding to the market conditions and more aware of the regulations and the international business environment, hence, when they represented in the board they will be make a good active member.	
Respondent 8	Institutional investors normally bring professionalism and strict compliance with them.	
Final Remarks		

Theme 10	**Audit Committee effect on the ICD**	
Respondent 1	AC have a very important role as it one of the oldest and most established committees worldwide their supervisory role given they are have the qualifications and expertise will enhance the level of transparency and voluntary disclosure.	
Respondent 2	Yes, because this committee is mandatory and its role associated with legal responsibility so the member will work under pressure of responsibility and this may cause them to consider the enhancement of the reporting levels and maybe also the quality of information.	
Respondent 3	it depends on the qualification of the members and their performance	

	it depends on the effectiveness of the committee and the board as whole.	
Respondent 4	The essential role of audit committee is directly related to overseeing financial reporting and auditing activities. Therefore, its role in disclosure is expected to be marginal.	
Respondent 5	I think Audit Committee has a direct effect on the compliance with statutory disclosures, but as IC disclosure still voluntary in general I’m not sure if the audit committee has material effect, I think the steering committee has more effect on voluntary disclosures.	
Respondent 6	when they are having the good qualification and knowledge they will help in enhancing the level and the quality of information Their role as risk management instrument will shape their participation in disclosure.	
Respondent 7	I do not think they have a direct effect. As according to the regulations, the role of the audit committee is to review and approve the financial statements and pass it to the board for final approval	
Respondent 8	will be a positive relationship in the normal situations by increasing the level of disclosure as they mostly are educated and qualified	
Final Remarks		

Theme 11	**CG Committee effect on the ICD**	
Respondent 1	Yes, I think such committee if properly implemented will bring a higher level of transparency to the firms. Because speciality in governance issues will allow the member of the committee to take their time and allocate sufficient effort to the review the governance structure and identify any loopholes to tackle them and enhance the internal control system and I	

	think will lead to more transparency and the ICD will be positively affected accordingly.	
Respondent 2	If such committee properly formed from a well-educated people and its role has enforced well by the governmental bodies and supervisory agencies this will help in achieving better disclosure practices.	
Respondent 3	Yes I think it is good as this will allow them time and effort to work on developing the governance structure enhancing the transparency and this will absolutely affect the ICD ether in levels and quality.	
Respondent 4	As long as we talk about “voluntary” disclosure, I think CG committee could positively participate in enhancing the transparency levels as I think having an independent committee that entitled to follow up and track the compliance with the recommendations of the CGC and if the board backed the recommendations and the executive management was cooperative absolutely this will help.	
Respondent 5	Yes I’m sure that such proposed committee will play a main role in this issue, mainly if this committee is established by the independent board members.	
Respondent 6	This depends on the sector and the level of supervisory monitoring for example in banking sector I think they do a good job but I am not sure about the other sectors	
Respondent 7	Currently this committee is existing only in banks because the CBJ asked the licensed banks to form such committee on board level and as you know the Governance code issued by CBJ is rule based and subject to CBJ examiners onsite review so in this case yes it can help in lifting-up the transparency as whole and the ICD.	
Respondent 8	NO Answer provided	
Final Remarks		

Theme 12	**influencing factor that affect the firms' decision to disclose or to withhold information about its IC**	
Respondent 1	The genuine intention of the local companies to cope with the international best practices and sometimes the uniform annual report when the eternal auditors have a role in preparing the annual reports will affect ICD.	
Respondent 2	Competition in the market Education and spreading the financial awareness.	
Respondent 3	the opportunity for the growth and possible gain of disclosure, especially increasing the market share.	
Respondent 4	I think any effort to develop the voluntary disclosure generally will enhance the ICD. However, I assume any further development of the regulations and make it in line with developed countries will help. We do not need to go through the long path of development; why not to start from the stopping point of countries who already ahead of us e.g. Scandinavian countries and neighbouring Israel.	
Respondent 5	Management perception, once firms recognise that such disclosure decrease the cost of capital, facilitates the process of capital issuance, and enhancing their borrowing ability with favourable rates, and directly affect the wealth of shareholders or the firm value at the long run, they will voluntarily disclose.	
Respondent 6	In country like Jordan The government needs to lead the effort in ICD by incentivising the companies for do more disclosure and encourage them to adopt a higher level of transparency. offering more support to the supervisory agencies (JSC, CBJ, CCD) to effectively carry on their role and increase the awareness of the public interest. Encouraging the civil society to play an effective role in the public supervision	

Respondent 7	Regulation then Regulation then Regulation establishing a high commission for transparency which will lead to higher a better level of disclosure. taking in consideration the cultural differences	
Respondent 8	Attract more investors Timing Other peer-firms in the market	
Final Remarks		

Appendix C:

A list of the participants in interviews:

Participant	**Biography**	**Type**
1	CEO	Internal Preparer
2	General Manager Industrial Company	Internal Preparer
3	Manager External Audit E.Y. Jordan	Preparer
4	Independent Board Member	Internal Preparer
5	Executive Manager – Financial Market Stability and Banking Supervision dept. CBJ Regulator.	External Regulator
6	Investment Manager Institutional Investor's Rep.	External User
7	Individual Investor	External User
8	Financial consultant	External User

Appendix D:

Disclosure Index.,

This index has been developed based on literature and by going through most prior papers published in Intellectual Capital (IC) that utilized the disclosure index (DI) as a method to measure the level of ICD. Moreover, a survey has been done on a selected sample of annual reports of the Jordanian listed companies that covers all sectors operate in Jordan to evaluate the feasibility of such DI. The DI divided into three parts each one of them is designed to capture the information relating to each category of IC i.e. (Structural, Relational, or Human Capital).

This DI is a dichotomous index as if the any relevant piece of information presented in the subject annual report will take a value of (1) or (0) otherwise (Krippendorff 2013). Which is unweighted disclosure index, (Ali et al. 2004; Craig & Diga 1998) as it intend to measure the level of disclosure; while **The Quality** of disclosure will be measured by another technique which simply using a four points scale 1-4; where if the item disclosed in narrative without any financial or monetary value information will be assigned score of (1) if the narrative associated with numbers/monetary or financial value will be assigned score (2) if the narrative and monetary value accompanied by graph and or images will take a score of (3), moreover if the previous information enhanced with future oriented/forward looking information this make it deserves score of (4). This methodology of assessing the quality of disclosure used by (Husin et al. 2012; Abdifatah Haji Ahmed & Nazli A Mohd Ghazali 2013; Haji & Ghazali 2012) with some modification as their scale was of three score. In addition, this scale has been judge by experts and institutional investors were consulted to assess this method validity.

Structural Capital	
Corporate Strategy	This covers the vision and mission of the corporate its core values, business model and long run goals and any other information relating to this item.
Excellence	All methods, possibilities and techniques deployed by business to adhere to the best performance and achieve higher level of customer's satisfaction. attitudes towards long term success and the Practices in maintaining and improving quality standards of products and & improvement services
Certification and Accreditation	Any kind of disclosure about the company if it has any national and/or international accreditations, and disclosure about alignment with the any international standards (ISO, UKAS, HACCP etc.), or applying specific standard to gain trust and the how this help it to achieve its objectives. Prizes and awards

Intellectual property	this refer to all disclosures made about intangibles that include but not limited to patents, innovations, copyrights, trademarks, trade secrets, licenses, commercial rights and other related fields owned by firm and its assets which is protected by law this may include also Concessions and favourable contract (Singh & Mitchell Van der Zahn 2008; Li et al. 2008a)
Research & Development:	This refers to future-oriented, longer-term activities in business practice, which development (R&D) can achieve higher levels of knowledge and improvement in business practice, allowing the organisation to exploit competitive advantages. It includes, e.g. R&D policies, programmes, planning, progress, budgets. R & D plans projects budget and expenses dedicated for quality improvements (Merkley 2014).
Online environment	This include the services that firm provide via its website, its email, mobile applications and other technological channels. Also, the description of the services in narrative or providing statistics for such services. (Mouritsen 1998)
Systems	Any information disclosed about the interrelated elements, structures and subcomponent of the company that used by company to facilitate either producing its products or rendering services or to facilitate delivering these to its customers or helping the management to achieve the corporate's goals.
information technology systems	A collection of, software's, technologies and/or techniques, which combine resources to produce desired products or helping in making the quality of service better, or to solve problems, fulfil needs, or satisfy wants. It includes machines IT (e.g. computer hardware and software), IS (e.g. programs, applications, database), technical methods, and techniques. Also this includes Investments in information technology and reasons for investment in IT Description of existing IT and IT systems expenses and the MIS and utilization of systems and technologies system integration and information system security.
Management philosophy	The way leaders in the firm think about the firm and its employees' i.e. the way a firm's managed. Leaders thinking about their company and its employees. For example, management philosophy can be Kaizen[ii] (continuous improvement), Total Quality management, or Empowerment, (Brooking, 1998).
Corporate culture	Organizational disclosure about its mind-set, including its values, beliefs, attitudes and understandings shared by its people and groups within an organisation, which controls the way members of the organisation interact with each other and with other stakeholders.

Policies, Procedures, And Procedures (PPP)	Any disclosures that describes the policies and procedures that approved and used to govern the operations and practices within the company and show how the company is run. Also, disclosures about its organisational norms and operations for utilizing resources, routines, and documentations which enables the company or employees to follow. Indicators are, e.g. efficiency, effectiveness, and productivity. (Li et al. 2008a)
New Products, and/or Plans for new products	Any information disseminated by company about developing a new products and a plans for new products/ new business lines.
Knowledge Management	This includes information relating to knowledge sharing any information relating to know-how-transfer, educating employees/customers/suppliers and sharing experiences with local societies (Bratianu & Orzea 2013).
Risk Management	Any information that describe the company's attitude in dealing with risks including risk management policy and risk appetite statement, risk profile, hedging techniques and the measurements of internal and external processing failure, this may include any pre-established criterias for measuring the failure, near-miss incidents and etc.
Organization structure / reporting lines	Organizations hierarchy, reporting lines, governance structure within the organization and the authorities and responsibilities allocation within the company.
flexibility	Information reflect the company's ability to cope with changes in economy, operation circumstances and how it's able to face challenges in order to turn the threats into opportunities. This may include information about energy alternative, or shortage of raw materials, failure of specific supplier and business continuity planning
Tacit Knowledge	This covers information about the company learning ability taking in consideration the feedback company acquired, experience build-up.
Knowledge-based infrastructures	It includes, e.g. documented materials (e.g. shared database) that a firm shares infrastructure amongst employees, facilities or centres (knowledge centres, laboratories) (Merkley 2014)

Relational capital	
Networking and Connectivity	Any information disclosed about the channels utilised by company to connect and communicate with its customers and suppliers e.g. internet, mailbox voice-mail, social media channels and professional networks. Groupware and corporate intranets, personal digital assistants, and newsletters. Also, networks of distribution, such as distribution centres. It is what a company owns and forms a very essential part of the business supply chain. (Hassan & Marston 2010; Campbell 2004)
Market presence	The geographical area that the company is serving or covering including the selling points representative office or branches locally or internationally, targeted markets and ability to satisfy all expected demands
Market share	Information about the market share statistics, competition in market growth in sales, sales per segments and per business line major customers and long term contracts with customers sales forecast etc.
Customer relationships	Information covers include principles, practices, and guidelines that an organization follows when interacting with its customers. (E.g. customer loyalty schemes, customer satisfaction survey and the initiatives taken for improvement, complaints management). Also, this covers company's channels to obtain feedback form customers such as hot-lines call centres etc. (Li et al. 2008b; Li 2009)
Customer retention:	Disclosure made about the activities company takes to prevent customers from switching to alternative companies.
Customer involvement	this include the strategy that identifies and develops ways to involve customers in the business and product development process, such as design, marketing, sales, customer service, etc. The degree of involvement can be as far as to make the customer a part of the product, experience, and delivery. it focuses on customer consultation on product or services development, which could also include customer and company connectivity.
Company image	Information disclosed about reputation (goodwill) and how the customers and all other stakeholders perceived the company and how they look to the company and to what extent this affect the company policies and its reactions toward this mental image (Li et al. 2008a)
Strategic alliance and	partnership with other companies joint effort products and/or joint venture and any

Business collaboration	joint effort in research for developing products Collaborations established with other business partners, moreover, this include relationship with subsidiaries and sister companies and/or parent companies.
Distribution channels and Intensity	Defined as appropriate mechanisms of getting products and services into the market (Brooking, 1996). It refers to various third party distribution channels e.g. distributors, agents, dealers knowledge of suppliers, relationships with them (such as suppliers reliance on key suppliers, bargaining power against suppliers, support of suppliers, and payment terms). Intensity also covered by information about company's position in the market and its ability to cover the local market and ability to reach markets abroad. (García-Meca & Martínez 2007; Whiting & Miller 2008)
Business agreements	It includes such as licensing and franchising agreements, any agreement that company think it empower its competition in the market.
Diffusion	Is the process by which a new idea or new product is accepted by the market? The rate of diffusion is the speed that the new idea spreads from one consumer to the next
Human Capital	
Number of employees	Information about employee's count of a firm, employee breakdown by, e.g. market (business operation or geographical segments).
Staff's breakdown	Disclosures covering qualifications and by role of employees within the firm
Employee's benefits	what benefits offered by firm to its staff including fringe benefits and other benefits e.g. education support career mobility
Recruitment policy	is there any approved policy for hiring/ firing employees in place, the qualification should be in the employee to be hired job discerption for each vacancy in the firm
Employee diversity	Diversity is defined as the division of classes among a certain population. The item refers to the mix of, e.g. ethnicity, gender, and colour, and nationality. Relevant disclosures include employee diversity policy, the mix and breakdown of employee by race, religion, and culture.
Employee education And Skills/know-how	Education of directors as well as other employees diversifications of the employees according to the level of education and certifications held by them also, practical knowledge on how to accomplish something Disclosures can be description of knowledge, know-how, expertise or skills of directors and other employees. Matrices

	could also be shown indicating number of employees with such skills, vocational qualifications etc. (Li et al. 2008b)
Employee work-related competences and work related experiences	The knowledge and skills that can be useful to accomplish jobs. It refers to competences e.g. current positions held outside the company by directors, professional recognition/qualification, awards won (external), and employee publications. Also information that is acquired during the job in terms of tacit, explicit and implicit knowledge including employees' previous working experiences.
Employee equality and Genderism	Disclosures cover written policy or any mechanism to ensure equal treatment of staff irrespective of social and cultural differences. Related disclosures include employee equality policy and initiatives taken for enforcement, senior management by gender, and percentage of disabled employees irrespective of social and cultural differences (Li et al., 2008).
Training	including training policy, budget and training expenses also types of training its implications on the firm's future and key employees replacement policy (Succession-plan)
Work environment	Firm's attitude toward offering supporting work environment discrimination free and challenging to the employees' abilities. Providing safe workplace and safety initiatives
Employee relationship	The acknowledgments and recognition of importance of employees, employee appreciation, dependence on key employees, employee satisfaction, loyalty, Health & Safety and working environment. It also includes initiatives to build and improve employee relationship, e.g. trade union activities, promotion in share ownership and employee contractual relationships
Employee attitudes and commitments	Information that reflects how employees are working and how they attached to their work. Relevant disclosures could be, e.g. behaviour employee friendliness, welcoming, hardworking, optimism, enthusiasm, and identification of individuals with company's goals
Employee motivation	Policies, initiatives and evidence of motivation of directors and other employees. It includes reward (internal) and incentives systems, e.g. employee explicit recognition, performance psychometric occupational assessment, and indicators of such as employee turnover, stability, absence, and seniority (Li et al. 2008a; Campbell 2004; Hassan & Marston 2010)
Employee	Other employee abilities apart from the above discussed, e.g. communication ability, interpersonal ability, sensitivity (e.g. thoughtful), flexibility, and management

capabilities	quality (Guthrie 2007)
Employee teamwork	Teamwork is the concept of people working together cooperatively. It covers information about culture of teamwork (expert teams and networks, teamwork capacity), programmes that enhance relationships between employees within/across departments

[i] **a Japanese business philosophy of continuous improvement of working practices, personal efficiency, etc.**
[ii] **a Japanese business philosophy of continuous improvement of working practices, personal efficiency, etc.**