Corporate Governance Mediation Impact on Firm Value via Risk Disclosure in the Emerging Capital Market of Jordan

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Thesis submitted in fulfillment of the requirements for the degree

Doctor of Philosophy

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30th of June 2024

STATEMENT OF ORIGINAL AUTHORSHIP

I declare that the work contained in this thesis has not been submitted previously for a degree or diploma at this institution, an Australian or overseas university or any other institution of higher education. To the best of my knowledge and belief, this thesis contains no material previously published or written by another person except where due reference is made.

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ACKNOWLEDGEMENTS

In the Name of God, the Most Merciful, the Most Magnificent

All praise is due to Allah, the one through whose grace righteous deeds are completed. My deep gratitude is owed to God for bestowing blessings upon me, enabling the successful completion of this thesis.

I would like to express my sincere gratitude to my esteemed Supervisors ***Lisa Barnes, Warrick Long and Peter Morey*** for their valuable support, guidance, and constant encouragement throughout the journey of this research. Their expertise and constructive feedback have been crucial in shaping every stage of my doctoral endeavour.

To all my cherished friends, ***Haitham Bani Melhem and Moayed Melhem***, I extend my sincere thanks for their unwavering support and encouragement during challenging time.

To all those who cherish my growth and success, whose encouragement and support have fuelled my journey, I extend my heartfelt gratitude. Though I may not be able to name each of you individually, please know that your presence in my life has been a source of immeasurable strength and inspiration.

My gratitude also goes to my beloved wife, **Baraah**, and our precious princesses, ***Karam, Daniah, and Salma***, whose love, patience, and understanding have been my greatest source of strength and motivation. To my son ***Othman***, at the tender age of 4, your innocence and joy have brought light to even the darkest days.

I am also deeply indebted to **my father** for his unconditional love, support and guidance throughout my academic journey.

Lastly, I dedicate this thesis to the memory of my late mother, to whom I owe an immeasurable debt of gratitude. Her unwavering love and sacrifices have profoundly shaped the person I am today. Her prayers were my source of strength, without which this endeavour would not have been possible to complete. Though her presence is deeply missed, her love and wisdom will forever remain in my heart.

ABSTRACT

Purpose: This thesis aims to empirically explore the impact of Corporate Governance mechanisms on Firm Value, with specific focus on how this impact mediated via Risk Disclosure, with in the context of the emerging capital market of Jordan for the period of 2015 - 2019. The investigation is conducted through the context of Services and Industrial companies listed on the Amman stock Exchange, providing insights relevant to similar emerging markets. This thesis also aims to examine the impact of the mandated Jordanian Corporate Governance directives of 2017 on the level of compliance with Corporate Governance principles and their impact on both the quantity and the quality of Risk Disclosure

Design/Methodology/ Approach: Drawing on prior studies and the related theories including Agency theory, Signalling theory, Legitimacy theory, Stakeholders theory, and Resource Dependency theory, this research constructs a comprehensive model that reflects the interrelationships among the respective research variables. Using content analysis to collect both quantitative and qualitative data, the qualitative data is transformed into numerical values, enabling the application of quantitative methods. The research employs path analysis and utilizes Structural Equation Modelling to simultaneously investigate the strength and direction of the relationships between Corporate Governance variables, Risk Disclosure variables, and Firm Value (measured by Tobin's Q ratio), while accounting for specific Control Variables.

Results: The results of this research highlight the complexity of the interactions of Corporate Governance mechanisms, Risk Disclosure, and Firm Value. While some mechanisms significantly impact Risk Disclosure practices and Firm Value, others may have limited or no impact. In addition, the results show that the relationships between the respective research variables vary across different sectors. Moreover, the findings also reveal the diverse effects of Corporate Governance regulatory interventions and the introduction of mandated Corporate Governance practices across different variables and sectors.

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LIST OF ACRONYMS/ABBREVIATIONS

1.	AC	Audit Committee
2.	AGM	Annual General Meeting
3.	AMOS	Analysis of Moment Structures
4.	ANOVA	Analysis of Variance
5.	ASE	Amman Stock Exchange
6.	ASX	Australian Securities Exchange
7.	ASXCGC	Australian Stock Exchange Corporate Governance Council
8.	AUDFE	Audit Fees
9.	AUDQUL	Auditor Quality
10.	BIS	The Bank for International Settlements
11.	BLK	Block Holdings
12.	BMeetings	Number of Board Meetings
13.	BOARDQUL	Board Quality
14.	BoardSiz	Board Size
15.	CA	Current Assets
16.	CBJ	Central Bank of Jordan
17.	CCD	Companies Control Department
18.	CEFF	Committee Effectiveness
19.	CEO	Chief Executive Officer
20.	CFI	Comparative Fit Index
21.	CG	Corporate Governance
22.	CIND	Committee Independence
23.	CMA	Capital Market Authority
24.	CMET	Committee Meetings
25.	COMTSEFF	Board Committees' Effectiveness
26.	CSIZ	Committee Size
27.	DirEdu	Board Members' level of education
28.	E&Y	Ernst & Young
29.	EIoD	Egyptian Institute of Directors
30.	EXAQUAL	External Audit Quality
31.	FV	Firm Value
32.	GC	Corporate Governance Committee

33. GDP	Gross Domestic Product
34. GNDR	Board Gender Diversity
35. IC	Insurance Commission of Jordan
36. ICAEW	The Institute of Chartered Accountants of England and Wales
37. IFC	World Bank's International Finance Corporation
38. IFI	Incremental Fit Index
39. IFRS	International Financial Reporting Standards
40. IndepDir	Board Independence
41. JD	Jordanian Dinar
42. JSC	Jordan Securities Commission
43. MANO	Managerial Ownership
44. MENA	Middle East and North Africa
45. NAUDFE	Non-Audit Fees
46. newMANO	Reversed measure of Managerial Ownership
47. newOWNST	Amended Ownership Structure
48. NFI	Normed Fit Index
49. NRC	Nomination and Remuneration Committee
50. OECD	Organisation for Economic Co-operation and Development
51. OWNST	Ownership Structure
52. PDF	Portable Document Format
53. Profity	Profitability
54. PwC	PricewaterhouseCoopers
55. RC	Remuneration Committee
56. RD	Risk Disclosure
57. RiskQul	Risk Disclosure Quality
58. RiskQun	Risk Disclosure Quantity
59. RMC	Risk Management Committee
60. RMCPLC	Risk Management Committee Policy
61. RMSEA	Root Mean Squared Error of Approximation
62. ROA	Return on Assets
63. ROE	Return on Equity
64. SEC	Securities and Exchange Commission
65. SEM	Structural Equation Modelling
66. Size	Company Size

67. SL	Securities Law
68. SPSS	Statistical Package for the Social Sciences
69. STCEXT	Special Task Committees Existence
70. TLI	Tucker–Lewis Index
71. TQRatio	Tobin’s Q ratio
72. UK	United Kingdom
73. USA	United States of America
74. VRD	Voluntary Risk Disclosure

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CHAPTER 1: RESEARCH BACKGROUND AND MOTIVATIONS

1.1 Introduction

This thesis aims to shed light on the impact of Corporate Governance (CG) on Firm Value, examining the potential for the mediation role of Risk Disclosure (RD). Through empirical analysis, this study explores Corporate Governance practices within the context of Jordan and examines the impact of Corporate Governance components on Firm Value in an emerging capital market. This research selects the developing financial landscape of Jordan using a research sample that consists of the Jordanian listed companies from 2015 to 2019. In addition, this research explores Risk Disclosure practices in Jordan and considers the mediated impact of Corporate Governance on Firm Value via Risk Disclosure. This chapter establishes the background and the context for the thesis and introduces the research structure.

The structure of this chapter continues in the following order. Firstly, it lays down the background for this thesis and sets up an introductory overview to the research. The chapter next explains and justifies the rationale for selecting Jordan for the research setting. It also presents research motivations and the driving factors behind conducting this study followed by determining the main research objectives and research questions. The chapter also explains the overall strategy used to conduct the research, achieve its objective, and answer the research questions. It also discusses the research approach. The chapter concludes with an outline of the thesis organisation, including a brief summary of each chapter.

1.2 Background

Numerous empirical research studies have highlighted the consequences of weak Corporate Governance systems in the financial sector (Adams & Mehran, 2012; Bae et al., 2012; Claessens & Yurtoglu, 2013; Danoshana & Ravivathani, 2019; Jizi, 2013; Kyere & Ausloos, 2021; Shamsi, 2020; Younas et al., 2021). Moreover, Gavrea and Stegerean (2011, p. 674) state that “the way companies are governed determines their fate as well as that of the economy in general”. Gavrea and Stegerean (2011) added that while organisations need to raise capital in order to grow and survive in an open global market, they need to establish good Corporate Governance to attract investors and raise capital. During the past financial crises, the global financial markets stability was in danger, entire economies were strained, and confidence in the corporate sector was failing (Hobelsberger et al., 2022). Algoere and Hasani (2019) argued that implementing good Corporate Governance can reduce economic

risks and boost confidence in the corporate sector. Conflict of interests between different stakeholders can be minimized and resolved through strong Corporate Governance mechanisms that provide effective monitoring system to ensure reliable and representative financial reports (Algoere & Hasani, 2019). This highlights the importance of understanding the impact of Corporate Governance on Firm Value, particularly in emerging markets like Jordan, where governance structures are still evolving. In this context, this thesis investigates how Corporate Governance influences Firm Value, with a specific focus on the mediating role of Risk Disclosure. This empirical research seeks to contribute to a deeper understanding of how Corporate Governance and Risk Disclosure practices shape firm performance in emerging capital markets.

Financial scandals revealed the weaknesses of the 'reporting systems' and increased the need for more Risk Disclosure (ICAEW, 2011; Jain & Raithatha, 2022; Oliveira et al., 2017; Younas et al., 2021). Thus, academic researchers, government, company directors, and other stakeholders directed their attention toward Corporate Governance to develop the relationship between firms and shareholders on one hand, and with other stakeholders on the other. Some studies reveal the importance of Corporate Governance and its contribution to financial market development and highlight the significance of Corporate Governance especially in emerging markets which is the particular focus of this study (La Porta et al., 2000; Mitton, 2002; Tiep Le & Nguyen, 2022; Younas et al., 2021).

The Cadbury Report (1992, p. 12) highlighted the importance of the relationship between Risk Disclosure and Corporate Governance, the report emphasised that none of the Corporate Governance systems is a complete protection against 'fraud or incompetence'. The report stated that "compliance with a voluntary code coupled with disclosure, will prove more effective than a statutory code" (Cadbury, 1992, p. 12). Thus, Corporate Governance mechanisms are employed to protect shareholders' rights by reinforcing corporate regulations and enhancing information reporting transparency. Eccles et al. (2014) argued that companies' reports to stakeholders should include risks and risk management plans because Risk Disclosure can increase investors' confidence and improve transparency. Bainbridge (2012) expressed that a combination of adequate Risk Disclosure and good Corporate Governance are important in organisations sustainability and increasing investors trust.

Chinn and Ito (2006) define emerging capital markets as financial markets operating in developing countries. This research investigates the impact of Corporate Governance on Firm Value including the mediated via Risk Disclosure. This study will focus on Jordan, as one of the emerging markets in the middle east, to analyse the relationship between Corporate

Governance and Firm Value by testing the impact of Corporate Governance on the level of Risk Disclosure, and investigating the effect of the level Risk Disclosure on firm's value in Jordan for five years covering the time period from 2015 to 2019 for the listed companies on the Amman stock exchange excluding the financial Services Sector. The time period chosen provides the opportunity to capture effect of the legislative change of issuing the Corporate Governance directives in 2017 which moved Jordan from the "comply or explain approach" of Corporate Governance to the binding approach. Financial companies are excluded to maintain consistent and comparable research population the financial sector is governed by a separate Corporate Governance code, distinct from the regulations applicable to the Services and Industrial Sectors.

1.3 Rationale for Choosing Jordan

The Hashemite Kingdom of Jordan emerged as an independent country on the 25th of May 1946 (Metz, 1989, p. XV). Raphael (2015) describes Jordan as a small country with scarce natural resources, located in the Middle East along the Jordan River where Jesus Christ was baptized. Metz (1989, p. 3) indicates that Jordan is the homeland of ancient biblical kingdoms including Edom, Moab and Ammon. Jordan was part of the Ottoman Empire for 600 years before the establishment of Transjordan Amirate in 1921under the British mandate Haddad et al. (2017, p. 3) show that the Constitution of Jordan declares Jordan as a hereditary monarchy with a parliamentary system, outlining the division of powers into three branches: legislative power (the King and the Council of the Nation), executive power (the King, the Prime Minister, and the Council of Ministers) and judicial power (Jordanian courts).

At the end of 2018 Jordan's Gross Domestic Product (GDP) was 30,482 Million Jordanian Dinar (JD) with annual Growth rates of 1.9% at constant Prices (Department of Statistics, 2019). The OECD (2018b) classified Jordan as between developing countries in the Middle East and North Africa (MENA) region. Moreover, the report stated that Jordan was shocked with massive numbers of fleeing refugees from neighbouring Syria and Iraq where war and major conflicts erupted in the Middle East. The population of Jordan increased from 5.1 million in 2004 to nearly 9.5 million according to latest national census in 2015, and non-Jordanians comprised 30% (2.9 million) of the total population (OECD, 2018b, p. 21). This sudden increase in population put the country's economy and infrastructure under dramatic pressure, and the total population of Jordan was estimated at around 10.142 million in 2018 (p. 22). The report added that the government launched a number of economic reforms to

maintain economic stability, at the same time, authorities focused on enhancing government transparency and attracting foreign investment.

Further, Haddad et al. (2017) show that, in 2001, Jordan entered free trade agreement with the United States which required Jordan to reshape its legal framework to match international standards. Muasher (2011) reported that, in 2002, the Palace under King Abdullah launched the first initiative "Jordan First" to reform the "economic and political environment". However, the Jordan First initiative failed and never attracted the attention of the public, because they did not receive adequate information about it. Again, in 2006 another initiative launched by the King "We Are All Jordan" to address the critical issues and the biggest challenges facing the country, Muasher (2011) indicated that the initiative vanished due to weak commitment by the prime minister and furthermore the initiative failed to gain public trust.

Al-Awaqleh (2008) points out that Jordan, like the rest of the world, encountered corporate scandals during the past world financial crises. For example, the bankruptcy of Petra bank in 1989 which was the most scandalous, resulting in the devaluation of the Jordanian Dinar (JD) exchange rate by more than half of its value (to 1.41 UDS from 3.35 USD) (Al-Awaqleh, 2008). Consequently, the financial crises raised doubts about the effectiveness of Corporate Governance implementation, and created the need for more Corporate Governance studies to define the relevant Corporate Governance mechanisms and to focus on new issues about them (Aras, 2015). However, Al-Maghzom et al. (2016) indicate that studies examining the effect of Corporate Governance on Risk Disclosure is still limited especially in developing countries. This research will add to the literature on Corporate Governance and Risk Disclosure in developing countries and the results and implications of this research may be used and utilized in other developing countries with characteristics similar to those of Jordan.

Al-Tal (2014, p. 1) indicates that the Jordan capital market is 'a developing market' and highlighted the role of the Amman Stock Exchange (ASE) as the only securities market in Jordan regulating, facilitating, listing and trading in securities. Jordan, with 194 listed companies, was the second highest in number of listed companies among sixteen countries in the Middle East and North Africa (MENA) region included in a survey conducted by OECD (2018a). Thus, Jordanian capital market, compared to the other financial markets in MENA countries, can provide larger sample sizes and larger sample segments to conduct this research, than other countries in the MENA region.

The strategy and roadmap prepared by the Jordan Securities Commission and European Bank for Reconstruction and Development (2016, p. 10) reported that the Jordanian capital market is relatively large compared to other countries with similar GDP size, but the economic benefit is lower than expected which could be related to poor Corporate Governance practices. This study will provide an insight into Corporate Governance practices.

Omet (2005) pointed out that compared to the other MENA countries, Jordan is unique case in that most of the largest companies in the country are listed on the market stock exchange. Thus, examining the effects of Corporate Governance practices in the largest companies in the financial market can be particularly suited for the Jordanian capital market, more than for peer MENA markets.

According to Beblawi and Luciani (2015) Jordan's location in the middle of the conflicted area border to Syria, Iraq and Israel brought huge waves of refugees into Jordan. Jordan's refugee numbers are the highest compared to other MENAs; by the end of 2019 Jordan hosted (654,700) Syrian refugees, and a total of (2.9 million) refugees including Palestinian refugees making Jordan the second largest refugees host in the world after Turkey with (3.6 million) refugees (UNHCR, 2019). In addition to the fact that the Jordanian economy is very vulnerable with limited natural resources these refugee waves contribute to the Jordanian authorities facing challenges to stimulate the economy and secure financial stability. In similar vein it pushed the government to collaborate with the world bank and similar lending institutions in order to maintain positive economic growth (Beblawi & Luciani, 2015). In addition, Al-Ramahi (2008) reported that Jordan suffers from other problems including corruption, nepotism (Wasta in Arabic), unemployment and poverty. These problems distinguish Jordan from other MENA countries.

ASE (n.d.) shows that public shareholding companies in Jordan Began trading shares in the early 1930s, and by 1960s, corporate bonds were issued, leading to an unorganised securities market. To regulate this, the government supported by the Central Bank and the World Bank's International Finance Corporation (IFC) established the Amman Financial Market (AFM) with temporary law No 31 in 1973. Then, the ASE was founded on March 1999 as a private none- profit organisation. On February 20th, 2017, ASE transformed into a public shareholding company wholly owned by the Jordanian government (ASE, 2018, p. 57). The same year witnessed an important Legislative change by issuing Corporate Governance directives which moved Jordan from the comply or explain approach of Corporate Governance to the binding approach (OECD, 2018a, p. 10). Choosing Jordan provides a

singular opportunity to compare the effect of this Legislative change on the level of compliance of Corporate Governance.

1.4 Research Motivations

The motivations for conducting this research arise from the desire to contribute to the literature on Corporate Governance and Risk Disclosure to help identify best practices and to enhance Corporate Governance policies and practices. This research is driven by the following:

First, the body of literature concerning Corporate Governance and Risk Disclosure is still emerging (Abraham & Shrives, 2014). This study will add to the literature especially in emerging markets. Hence, this research investigates the correlations between three important areas of research (Corporate Governance, Risk Disclosure, Firm Value). Furthermore, it also investigates the mediated impact of Corporate Governance on Firm Value carried through Risk Disclosure which, as far as this study is aware, has not been explored before especially in the emerging capital market of Jordan.

Second, this research is motivated by the corporate scandals and collapses where companies' mismanagement and breach of Corporate Governance practices resulted in financial losses and significant harm to companies' shareholders and stakeholders including employees, customers, and the public (Kultys, 2016; Mitton, 2002). This research may provide practical evidence that could be used to enhance financial markets regulations.

Third, this study will focus on Jordan, as one of the emerging markets in the Middle East. The finding of this research could potentially be generalised and used to better understand Corporate Governance practices in emerging markets with similar settings to those found in Jordan. Jordanian capital market provides an opportunity to explore the impact of Corporate Governance reforms on Corporate Governance practices. In 2017 the Jordanian Corporate Governance directives was issued which took Jordan to the binding approach of Corporate Governance. This provides a rare opportunity to explore Corporate Governance practices Pre- and Post- the 2017 directives providing an evaluation of the effectiveness of introducing directives. Comparing Corporate Governance practices before and after the introduction of compulsory directives provides an opportunity to assess the impact of Corporate Governance regulatory interventions. In addition, this research covers a sample of Jordanian listed companies within the industrial and the Services Sectors which in turn

provides an additional opportunity to compare Corporate Governance and Risk Disclosure practices across different sectors.

Fourth, this research is motivated to draw the attention of capital markets regulators and policy makers to the importance of Risk Disclosure practices in enhancing Corporate Governance practices and firm performance. This thesis explores three research areas using path analysis to investigate the effect of Corporate Governance mechanisms on Firm Value including via Risk Disclosure mediated impact.

Finally, this research is motivated to draw the attention of capital market regulators and policy makers to understand the importance of Risk Disclosure impact on Firm Value and its role in enhancing the impact of Corporate Governance practices as it carries out indirect impact of Corporate Governance through to Firm Value. Consequently, this may necessitates implementing further mandated Risk Disclosure directives.

Overall, the motivations behind this research arise from recognising the critical role that Corporate Governance and Risk Disclosure practices play in determining the performance and sustainability of companies. This research aims to highlights the factors driving the relationships between Corporate Governance, Risk Disclosure, and Firm Value and contributes to further understanding of the Corporate Governance-Firm Value relationship. Ultimately, the research seeks to provide insights that can help promoting effective Corporate Governance practices leading in turn to the broader sustainability of the financial market and the economy as a whole.

1.5 Research Objectives

The primary objective of this research is to investigate the effect of Corporate Governance (CG) on Firm Value via the mediating variable of Risk Disclosure (RD) as illustrated in Figure 1-1.

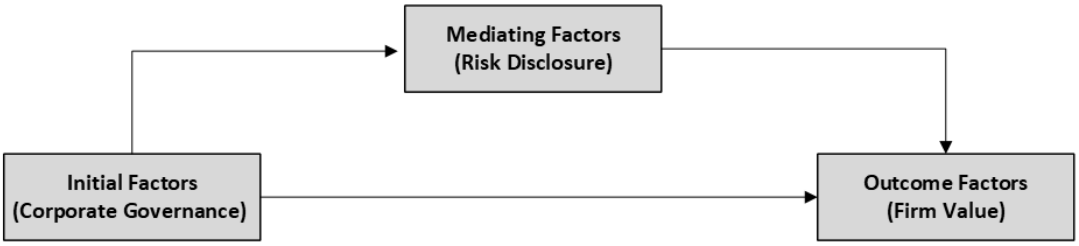


Figure 1-1

Mediating Impact Model

This empirical study aims at quantitatively examining Corporate Governance practices and their impact on Firm Value and Risk Disclosure practices and to explore the intermediate contribution of Risk Disclosure to the relationship between Corporate Governance and Firm Value of the Jordanian companies listed on ASE for five-year period (2015-2019). This research investigates the impact of the Jordanian Corporate Governance reforms of 2017 on the level of compliance with Corporate Governance principles and the impact of that on the quantity and the quality of Risk Disclosure in the annual reports' narrative of the Jordanian listed companies.

In order to achieve the primary objective, this study aims to:

1. Provide an understanding of Corporate Governance practices impact on Risk Disclosure in Jordan.
2. Provide an understanding of Risk Disclosure practices and its impact on Firm Value in Jordan.
3. Provide an understanding of Corporate Governance and its impact on Firm Value in Jordan, both directly and indirectly via the mediating variable corporate Risk Disclosure.

1.6 Research Approach

The context for this research is founded in a literature review which focuses on the three important elements, corporate governance, risk disclosure and firm value which is analysed and examined to establish the gab in the literature to be covered by this research. The literature review also helps to explain the empirical results of this research. In addition, the

related theories are reviewed, and a further theoretical model is built which is subsequently tested in a later section of this thesis. The principal source for data utilised are found in selected companies' annual reports. The data collected is both quantitative and qualitative which drives the research philosophy, design, methodology and methods. To date, there has been no research found examining models reviewing the impact of the components of Corporate Governance on Firm Value including via Risk Disclosure in an emerging capital market. This study aims to review the functioning of the Jordanian listed companies through the use of annual reports data for the period 2015 – 2019. To achieve this end, Structural Equation Modelling (SEM) is used to test the links between The Corporate Governance components, Risk Disclosure components and Firm Value components with the acknowledgement that several control variables also impact the Firm Value.

1.7 Thesis Structure

This thesis structure consists of six chapters in which each chapter plays its own role and contributes to deliver a comprehensive research study. The structure flow as follows.

Chapter 1 paves the way with research background and describes motives for this research and introduces the rationale for choosing Jordan. The chapter provides an insight into the research objectives and aims along with the chosen research approach.

Chapter 2 reflects on previous studies on Corporate Governance and the Corporate Governance framework in Jordan. The chapter determines the relevant Corporate Governance variables including a review of the literature on Risk Disclosure and Firm Value. The chapter explores the relevant theories which introduces the theoretical model adopted in this research after exploring the relevant theories. The chapter further establishes the thesis main objective, questions and hypothesis.

Chapter 3 introduces general research methodologies and related research philosophies, and then constructs the particular methodology and methods for this thesis. The chapter introduces the causal model and the potential direct and indirect pathways between the research variables. The chapter also constructs the theoretical model of the research which is assessed through the empirical data generating an initial empirical model for each of the Industrial and Services sectors. After that, by systematically trimming the non-significant path coefficients from the theoretical model until only significant paths remain, and the research Trimmed Empirical Model is generated. The chapter also introduces the statistical approach used to examine the relationships between the research variables. Furthermore, this chapter presents the research population, data measurement and data collection tools. The research

variables are categorised under four groups (Corporate Governance variables, Risk Disclosure variables, Firm Value, and control variables). The rational for how each variable is decided is explained. The sample of the study consists of the Jordanian listed companies for the period of 2015-2019. As previously stated, the sample consists of companies in the Industrial Sector and the Services Sector and excludes companies from the financial sector.

Chapter 4 reintroduces the research sample and data collection methods. The chapter also presents the research theoretical model and the descriptive statistics for each of the variables that have secured a place in the model. For each variable the comparison is conducted to show the difference across sectors. Moreover, the descriptive statistics for the research variables are compared before and post the introduction of the Corporate Governance directives of 2017. The chapter further presents path analysis by employing Structural Equation Modelling (SEM) and uses a trimmed empirical path model for each sector. The chapter conveys the results of the analysis and explains the direct and indirect paths between Corporate Governance and Firm Value and how Risk Disclosure plays as a mediating variable that impacts these pathways.

Chapter 5 discusses the results and provides a comprehensive interpretation of the results. The chapter explores the findings of the respective research variables (Board Characteristics, Board Committees' Effectiveness, Ownership Structure, External Audit Quality, Risk Disclosure Quantity, Risk Disclosure Quality, and Tobin's Q ratio as a proxy of Firm Value). The chapter then presents the similarities and the differences between the findings obtained from the companies in the Industrial Sector and the findings obtained from the companies in the Services Sector and explores their significance. The chapter also evaluates the variation in outcomes Pre- and Post- the implementation of the 2017 Jordanian directives. After that, this chapter investigates the significance and the meaningfulness of the relationships among the research variables and discusses the outcomes of the analysis with particular attention to the research objectives and hypotheses. This chapter also considers and explores the impact of control variables (Company Size, Company Age, Leverage, Liquidity and Profitability) and the correlation between Corporate Governance, Risk Disclosure, and Firm Value.

Chapter 6 pulls the lines of this thesis together, summarizes the key outcomes, and discusses their implications. This chapter provides a comprehensive overview with regards to the research objectives, questions, hypotheses and methodology. The chapter explores the significance of the relationships found between respective variables in order to establish and

test the implications of those relationships. Finally, this chapter presents the thesis contributions, outlines the research recommendations, and offers future research suggestions.

1.8 Chapter Summary

This chapter provides introductory overview to the research and sets off the background for this thesis. This chapter illustrates the research motivations, determines the research objective and aims, explains the overall strategy used to conduct the research, and outlines the structure of this thesis. This study explores Corporate Governance practices in Jordan and examines the impact of Corporate Governance mechanisms on Firm Value including the mediated impact via Risk Disclosure. This research is conducted using Jordanian listed companies from 2015 till 2019 excluding the financial Services Sector as they are regulated under a separate Corporate Governance code, different from the one applied to the Services and Industrial sectors. The motives for this research include: Firstly, the lack of studies concerning Corporate Governance and Risk Disclosure especially in emerging countries. Secondly, the corporate scandals which highlights the danger of the breach of Corporate Governance practices. Thirdly, exploring the impact of capital market regulations on Corporate Governance practices and Risk Disclosure and how that may impact companies Firm Value. Fourthly, this research explores the relationships among three important dimensions of research (Corporate Governance, Risk Disclosure, and Firm Value) considering the mediated impact of Corporate Governance on Firm Value via Risk Disclosure which, as far as this study is aware, which have not been previously examined together in one study, especially in an emerging capital market or in Jordan.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews and discusses the relevant existing literature on Corporate Governance attributes (mechanisms), Risk Disclosure, and Firm Value. The chapter reviews and discusses the relevant common theories and constructs a theoretical model which is used to shape the research questions and research hypotheses to achieve the research objectives. This chapter proceeds as follows. It explores the existing body of research on Corporate Governance, underlines and defines the term Corporate Governance, and discusses Corporate Governance framework in Jordan. I then determine and defines Corporate Governance mechanisms for this research. The chapter continues by reviewing and discussing the existing literature on Risk Disclosure and determining Risk Disclosure categories for this research. It reviews the relevant literature on Firm Value and the different approaches to determine a company Firm Value and reviews the literature on the relationship between Corporate Governance and Firm Value. After that the chapter determines the control Variables of this research, and discusses the research relevant theories (Agency theory, Signalling theory, Stewardship theory, Stakeholder theory, Capital Needs theory, Institutional theory, Legitimacy theory, and Resource Dependency theory) to develop understanding of the relationships between the respective research components (Corporate Governance, Risk Disclosure and Firm Value). Finally, the chapter develops research objectives, questions and hypotheses and constructs the research conceptual framework presenting a visual overview of the research ending with a summary of the chapter main points.

2.2 Background and Context

Corporate governance practices play an important role in shaping the value of firms (Ammann et al., 2011; Musa & Yahaya, 2023). Understanding how these Corporate Governance mechanisms impact Firm Value is important for various stakeholders including investors, regulators, and shareholders (Shank et al., 2013). Exploring how risk disclosure act as a mediator in this relationship adds value to this research and provides deeper insight into the mechanisms through which Corporate Governance practices impact Firm Value. In this literature review, this research aims to explore the existing connections between Corporate Governance, Risk Disclosure, and Firm Value. By examining the relevant studies this

research aims to highlight the factors driving these connections and contributes to further understanding of the Corporate Governance-Firm Value relationship.

2.3 Corporate Governance

Corporate financial scandals erupted at the end of the 1990s and through the global financial crisis of 2007–2008 generating a high level of attention to Corporate Governance as a global phenomenon (Adams, 2003; Aldhamari et al., 2020; Musa & Yahaya, 2023). Corporate Governance is an important topic that still attracts the attention of companies and scholars since the dramatic fall of the Enron Corporation and the bankruptcies of large U.S firms in 2002 (Dibra, 2016). Enron engaged in manipulative financial practices through off-balance sheet financing which was not revealed due to the non-existence of independent board members (Vinten, 2002). Similarly, WorldCom inflated its earnings which eventually led the company to bankruptcy (Lyke & Jickling, 2002). Emanuele and Isabella (2005, p. 485) stated that current catastrophes and business scandals in Europe have increased the significance of topics like "Corporate Governance, the role of financial systems, conflicts of interest, the role and conformation of supervisory authorities and the ethics of economic conduct".

On May the 24th, 2020, a search of the term 'Corporate Governance' on Google scholar returned 2,490,000 results. This is an indication of how prolific the literature is on Corporate Governance and how important this subject is. On Jun the 5th, 2024 the same search yielded 3,600,000. This substantial growth in the number of academic papers and articles reflects the ongoing focus on Corporate Governance and the expanding interest in understanding Corporate Governance practices. However, Corporate governance is not an end target in itself, for according to Altawalbeh (2020) it serves as a means to enhance growth and fostering investments by emphasising trust.

Table 2-1 shows how fast the body of the literature on Corporate Governance has expanded; from just 105000 articles by the end of 2000 to 1,340,000 articles by the end of 2010, and 1,520,000 by 2020, after which the literature on Corporate Governance continued to expand however on a slower pace as shown in figure 2-1. Table 2-1 separates searches on "Corporate Governance", then "Corporate Governance and finance" and finally "Corporate Governance and accounting". The time periods analysed include "anytime", following which articles were searched by years to show the increase in interest in governance, the time period of 1990 – 2000 is analysed first, then expanded from 1990 – 2010, and then extended again from 1990 – 2020 showing the fast increase in literature on governance. Finally, the year of 2019 – 2020 is analysed to see the most recent literature activity on Corporate Governance.

Table 2-1

Corporate Governance literature over time

Period	Corporate Governance	Corporate Governance & Finance	Corporate Governance & Accounting
Any Time till 24/05/2020	2,490,000	111000	1520000
1990-2000	105,000	20600	28100
1990-2010	1,340,000	35400	285000
1990-2020	1,520,000	44700	1030000
2019-2020	34,100	17300	23,000

Figure 2-1 demonstrates graphically the overall increase in Corporate Governance literature for the timeframes from 1990, to 2000, then 2010 and finally 2020.

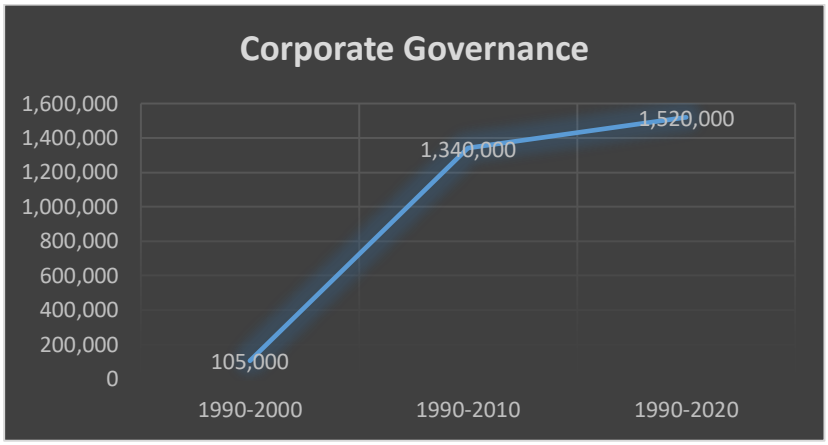


Figure 2-1

Corporate Governance Literature expansion over time

2.3.1 Corporate Governance Definition

According to Solomon (2020) the definition of Corporate Governance (CG) varies across different contexts, and is a phrase with many definitions. Abu-Tapanjeh (2009) tracked the term back to the Greek word ‘kyberman’ which indicates to direct, guide or govern, then it was transformed to ‘Gubernare’ in Latin and ‘governer’ in old French, indicating that researchers agreed that there is no agreed definition for Corporate Governance. Dawood et al. (2023) establish that different scholars defined Corporate Governance differently based on

their perspective and the focus of their research on this topic considering both broad and narrow perspective. For example, Larcker and Tayan (2020) presents Corporate Governance as a set of controlling tools employed by a company to deter managers from putting their own interests before those of the company. La Porta et al. (2000, p. 4) provided a broad definition for Corporate Governance as: "a set of mechanisms through which outside investors protect themselves against expropriation by the insiders". Similarly, Larcker et al. (2007, p. 964) defines Corporate Governance as "the set of mechanisms that impact the decision made by managers when there is separation of ownership and control". Oman (2001, p. 13) provided another broad definition stating that:

> Corporate Governance refers to the private and public institutions, including laws, regulations and accepted business practices, which together govern the relationship, in a market economy, between corporate managers and entrepreneurs (corporate insiders) on one hand, and those who invest resources in corporations, on the other.

Other authors provided definitions with narrower perspectives. For example Shleifer and Vishny (1997) in an earlier statement said that Corporate Governance clarifies the means through which investors make themselves certain of the returns on their investments. Armstrong et al. (2010, p. 181) defined Corporate Governance "as the subset of a firm's contracts that help align the actions and choices of managers with the interests of shareholders". Corporate Governance definitions evolved and changed overtime. Cadbury (1992, p. 15) introduced Corporate Governance as a "system by which companies are directed and controlled". Gillan and Starks (1998, p. 4) defined Corporate Governance as a system but specified that it is a "system of laws, rules, and factors". The Australian Securities Exchange (ASX) in 2003 adopted the Cadbury definition and defined Corporate Governance as "the system by which companies are directed and managed" (ASX Corporate Governance Council, 2003, p. 3). Later, the ASX Corporate Governance Council (2007, p. 3) expanded on the earlier definition and defined Corporate Governance as "the framework of rules, relationships, systems and processes within and by which authority is exercised and controlled in corporations". Barnes (2020) described Corporate Governance as 'an evolving concept', which implies that the ways to define it will continue to progress as new insights develop and different perspectives are introduced. Further, Dawood et al. (2023, p. 52) state that "Corporate governance viewed from the narrow or traditional viewpoint as a system of contractual affiliation between the management of a better participating company and its shareholders". On the other hand, Claessens and Yurtoglu (2013, p. 4) took a functional approach to define Corporate Governance. They classified the functions provided by financial markets and institutions under six types: "pooling resources and subdividing shares;

transferring resources across time and space; managing risk; generating and providing information; dealing with incentive problems; and resolving competing claims on the wealth generated by the corporation" and introduced Corporate Governance "as the range of institutions and policies that are involved in these functions as they relate to corporations". Corporate Governance under this definition covers the relationship between all stakeholders in the financial market.

Similarly, researchers in Jordan do not agree on one specific Arabic term to refer to the phrase "Corporate Governance", for example, Shbeilat (2013) found that many Jordanian researchers used the term 'Hakemeyya' and some used the word 'Hawkama' while others used the word 'Tahakkom' despite the endorsement of the word 'Hawkama' by the Academy of Arabic Language. Likewise, same inconsistencies were found in the Jordanian governmental regulatory bodies, who failed to agree on one Arabic term in reference to the phrase Corporate Governance. The Amman Stock Exchange (ASE) is an independent non-profit institution and was established in March 1999 as a market for trading securities in Jordan, and it defines Corporate Governance as:

> a set of rules and principles that govern the relationship between the management of shareholding companies, shareholders and parties with interests associated with these companies as part of the regulatory, administrative, legal and financial frameworks, which defines the rights and duties and responsibilities in order to achieve the company's goals and objectives (ASE, 2017).

This definition reflects the definition adopted by the Organization for Economic Cooperation and Development (OECD) which defines Corporate Governance as:

> Procedures and processes according to which an organization is directed and controlled. The Corporate Governance structure specifies the distribution of rights and responsibilities among the different participants in the organization – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision-making (OECD, 2008, p. 189).

Variations in corporate governance definitions are evident (Dawood et al., 2023), and according to Claessens (2006, p. 93) they can classified into two main types. The first type of definitions revolves around empirical corporate behaviour including performance, efficiency, growth, financial structure and with stakeholders' relations. In contrast, the second stream focuses on "the normative frameworks – the rules under which firms are operating", and the operational rules, principles, and standards dictated from "legal system, judicial system, financial markets, and factor (labor) markets". Claessens (2006) also advise it is more logical to go with first type of definitions when examining individual countries or companies within a

country, as it involves aspects such as the functioning of the boards, and the impact of executives' remunerations on companies' performance. Accordingly, this research considers the first category of definitions for Corporate Governance as it is concerned with Corporate Governance mechanisms and its impact on Firm Value of the listed Jordanian companies. In addition, this research explores how the mandated Jordanian Corporate Governance directives of 2017 influence the actual behaviour of the sampled companies, rather than solely focusing on the normative framework, rules or the directives.

To conclude, the variations in Corporate Governance definitions can be related to the various perspectives of research, representing the different ways researches analyse and interpret Corporate Governance (Solomon, 2020). Corporate Governance in both Larcker and Tayan (2020) and La Porta et al. (2000) introduce Corporate governance as a set of control mechanisms designed to safeguard investors interests against potential expropriation by managers. Those definitions are concerned with the mechanisms put in place to protect the investors, which aligns closely with the research objective of this thesis, namely the exploring of the impact of Corporate Governance mechanisms on Firm Value. Therefore, these definitions are considered in this research to investigate the impact of Corporate Governance on Firm Value including the mediated impact through Risk Disclosure.

2.3.2 Corporate Governance Framework in Jordan

Jordan, like any other country, has its own laws and regulations to ensure protection for shareholders' and stakeholders' rights to further improve confidence in the national economy. Jordan issued the 1997 Company Law and the 2002 Securities Law (SL) to ensure safe trading and to promote investors' confidence. Issuing SL enhanced the role and authority of the Jordan Securities Commission (JSC) which was established in 1997 to monitor and supervise the Amman financial market (Al-Akra et al., 2009; Altawalbeh, 2020). The Amman financial market was founded in 1978 to achieve several objectives including: promote investments in securities, to oversee issuing securities and the related transactions, ensure the availability of the data and statistics required to fulfil the market objectives, then in 1999 the financial market underwent a significant transformation and became known as the Amman Stock Exchange (ASE), which is Jordan's only stock exchange that provides the necessary infrastructure for trading securities within the regulations of SL, Listing Rules 2003, and Trading Rules 2003 (Mugableh, 2020). In addition, JSC supervises the Companies Control Department (CCD) which deals with registration and monitoring of companies both public and private (World-Bank, 2004).

According to Aladwan et al. (2016) the Amman Stock Exchange operations are directly governed by the following main legislations: Securities Law No. 76 for the year 2002 and its regulations, Internal By-Law of the ASE for the year 2004, Listing Securities Directives in the Amman Stock Exchange for the year 2012 and Trading Directives for the year 2004 (ASE, 2017). In addition to these legislations, Aladwan et al. (2016) list several regulatory authorities in Jordan that play an important role in overseeing and shaping Corporate Governance practices.

1. Central Bank of Jordan (CBJ): The central bank plays an important role in ensuring compliance with Corporate Governance standards, particularly within the banking sector.
2. Jordan Securities Commission (JSC): It is responsible for enforcing laws and regulations related to securities trading, investors' protection, and Corporate Governance practices within the capital market.
3. Amman Stock Exchange (ASE): It is the only stock exchange in Jordan, with the central role of facilitating the trading of securities and thereby ensuring transparency and integrity in the market. It sets listings requirements, trading roles, and disclosure standards to promote Corporate Governance among listed companies.
4. Companies Control Department (CCD): The main role for the Companies Control Department is to oversee registrations and regulations of companies operating in Jordan. It has a role in ensuring compliance with legal requirements and promoting corporate Governance practices.
5. The Insurance Commission of Jordan: overseeing the insurance industry in Jordan and ensuring compliance with laws and regulations governing insurance activities and promoting corporate Governance practices within the sector.

These legislations and regulatory bodies work together and contribute to the establishment and enforcement of Corporate Governance standards in Jordan. Collectively they aim to enhance transparency, accountability, and increase investors' confidence in the Amman Stock Exchange, which is the only Jordanian capital market.

El Husseiny (2013) clarified that Corporate Governance implementation in Jordanian banks can be traced back to the year 2000 when the Central Bank of Jordan encouraged banks to use the Corporate Governance practices embedded in the guidelines issued by The Bank for

International Settlements (BIS) in 1999. In 2004 the central bank issued the Bank Directors Handbook of Corporate Governance. Later in 2007 the Central Bank issued the Corporate Governance Code for banks. The Jordanian insurance sector is regulated and supervised by the Insurance Commission of Jordan (IC) which issued the Corporate Governance Instructions for Insurance companies in 2006. The issuance of these codes shows the development of thoughts concerning Corporate Governance and reflects an evolving understanding and commitment to best practice.

Based on the El Husseiny (2013) report and information collected from the JSE website; there are four regulatory codes and two instructions that shaped Corporate Governance in Jordan covering; banks, insurance companies, privately held companies (not listed) and shareholding companies (listed). Table 2-2 shows a brief summary of the development of the Corporate Governance regulations in Jordan compared to Australia, United Kingdom and the United States. These countries were chosen due to their classification as western Corporate Governance development pioneers as noted by Tricker (2019). This comparison highlights the diverse regulatory landscapes and key principles governing corporate governance across different countries, which in turn highlights the importance of Corporate Governance and its implementation. The comparison shows that Jordan's Corporate Governance is primarily governed by the Security Law and directives issued by the Jordan Securities Commission, focusing on board composition, duties, committee effectiveness, stakeholders' rights, disclosure and transparency, the external auditor, related-party transactions, and governance report. The UK relies on the Companies Act and the Financial Reporting Council's codes, emphasizing leadership, effectiveness, accountability, remuneration, and shareholder relations. Australia's governance is guided by the Corporations Act and Australian Securities Exchange (ASX) Corporate Governance Council principles, with a focus on board structure, ethical conduct, security holders' rights, and risk management. In the USA's Corporate Governance is overseen by state laws and federal regulations like the Securities and Exchange Commission (SEC), prioritizes board of directors' roles and duties, management responsibilities, relationship with the board, and shareholders, and the rights and responsibilities of shareholders.

Table 2-2

Cross-country Comparison of Corporate Governance regulations

Item	JORDAN	UK	Australia	USA
Law	Security Law (SL) No. 76 for the year 2002	UK Companies Act 2006 & its amendment of 2016	Corporations Act 2001 (Cth) (Corporations Act)	Each State Companies Laws

	Jordan Securities Commission (JSC) listing Directives and Trading Directives for the year 2004	The Financial Reporting Council (FRC) sets CG Codes, monitor, and promotes CG reporting.	Australian Securities Exchange (ASX) CG Council Under Listing Rule 4.10.3	Federal oversee companies through the Securities and Exchange Commission (SEC)
Latest version of the code	CG Directives for listed companies for the year (2017)	2018 UK CG Code	CG Principles and Recommendations 4th Edition 2019	New York Stock Exchange Commission on CG Report, 2010
Principles of the Code	Instructions Provisions: 1. Board Composite. 2. Board Duties and Responsibilities. 3. Board Committees. 4. Audit Committee. 5. Nomination and Remuneration Committee. 6. Governance Committee. 7. Risk Management Committee. 8. Board Meetings. 9. General Assembly Meetings. 10. Rights of Stakeholders. 11. Disclosure and Transparency. 12. The External Auditor. 13. Related-Party Transactions. 14. Governance Report.	Principles of the Code 1. Leadership. 2. Effectiveness. 3. Accountability. 4. Remuneration. 5. Relations with shareholders	Central principles of the Code: 1. Lay solid foundations for management and oversight. 2. Structure the board to be effective and add value. 3. Instill a culture of acting lawfully, ethically and responsibly. 4. Safeguard the integrity of corporate reports. 5. Make timely and balanced disclosure. 6. Respect the rights of security holders. 7. Recognize and manage risk. 8. Remunerate fairly and responsibly.	Principles covered three groups 1. Board of Directors • Composition and Role. • Duties and Obligations 2. Management • Responsibilities of Management. • Management's Relationship with the Board. • Management's Relationship with the Shareholders. 3. Shareholders • Rights of Shareholders. • Responsibilities of Shareholders.

* This table built based on information from Tricker (2019, pp. 120-137), Jordan's information sourced from Aladwan et al. (2016), El Husseiny (2013), and JSC (2017). Saudi from Algoere and Hasani (2019). The Egyptian from Abdelfattah and Hussainey (2019), EIoD (2016), and Fawzy (2003).

Furthermore, the comparison reveals that Jordan and the USA place emphasis on enforcement rather than promotion compared to the UK and Australia. For instant, in the UK, the Financial Reporting Council (FRC) sets corporate governance codes and actively promotes compliance through monitoring and promotion activities. Similarly, in Australia, the Australian Securities Exchange (ASX) Corporate Governance Council promotes compliance with the Corporate Governance Principles and Recommendations through oversight and guidance. In the USA, the Securities and Exchange Commission (SEC) oversees corporate governance practices and enforces them through rules providing recommendations and guidance for compliance. All these four countries share a common goal of promoting transparency, accountability, and to increase investors' confidence.

Additionally, Table 2-3 compares the historical developments of Corporate Governance practices represented with previous editions of Corporate Governance codes and

instructions of Jordan to those of UK, Australia, and the USA. These previous editions of Corporate Governance Codes and directives across countries reflect a continuous evolution in governance practices overtime.

Table 2-3

Cross-County Historical Comparison of Corporate Governance Frameworks

Item	JORDAN	UK	Australia	USA
Previous Editions	Bank Director's Handbook of CG of 2004	Cadbury Code 1992	The Boardroom Report by Fred Hilmer in 1992	Sarbanes –Oxley Act (SOX) 2002
	CG Instructions for Insurance companies of 2006	UK Combined Code 1998 Included: 1- Cadbury Report 1992 2- Greenbury Report 1995 3- Hampel Report 1998 This code was revised in 2003 and 2006.	Principles of good CG and best practice recommendation in 2003.	The Dodd – Frank wall street reforms and Consumer protection Act of 2010 (SOX2)
	CG Code for Banks by the Central Bank of 2007	The Tumbull Report (1999, revised in 2005)	Corporate Governance Principles and Recommendations 2nd edition 2007	Non-Governmental Organizations contributions to CG: • Committee of Sponsoring Organizations (COSO) of the Tread way Commission. • Business Roundtable Association issued Principles of CG in 2002 and its updates in 2005 &2010. • The National Association of Corporate Directors (NACD) issued 'Director Professionalism' Report in 2001. • The American Law Institution (ALI) published a set of general principles on CG in 2002.
	CG Code for Shareholding companies 2007	The Myners Report 2001	Corporate Governance Principles and Recommendations Amendments 2010	
	2008 Rules of Corporate GG by JSC	The Higgs Report 2003		
	Corporate Governance Code for Privately Held Companies of 2012	The Smith Report 2003	Corporate Governance Principles and Recommendations 3rd edition 2014	
	CG Code for Shareholding Companies revised in 2014	The Tyson Report 2003 The UK Corporate Governance Code 2010. (Basically, it is new name for a revised copy of UK Combined Code), got Updated in 2012.		

∗ This table built based on information from Tricker (2019, pp. 120-137), Jordan's information sourced from Aladwan et al. (2016), El Husseiny (2013), and JSC (2017). Saudi from Algoere and Hasani (2019). The Egyptian from Abdelfattah and Hussainey (2019), EIoD (2016), and Fawzy (2003).

Table 2-4 provides further helpful insight by comparing the development of the Corporate Governance framework in Jordan to that of Egypt, and Saudi Arabia.

Table 2-4

Corporate Governance framework development across selected MENA countries compared to Jordan

Item	JORDAN	Saudi Arabia	Egypt
Law	Security Law (SL) No. 76 for the year 2002	Saudi Companies Act 1965 Updated in 2016. Capital Market Law 2003	The Company Law of 1951 and Companies Law No. 159 of 1981. Capital Market Law No. 95 of 1992 & its amendments of 199, 2008 and 2009.
	Jordan Securities Commission (JSC) listing Directives and Trading Directives for the year 2004	Capital Market Authority (CMA) regulate and develop the Saudi Arabian Capital Market	Egyptian Institute of Directors (EIoD) produces guidelines for CG applications. Capital Market Authority
Latest version of the code	CG Directives for listed companies for the year 2017	Amended Corporate Governance Regulations of 2019	Egyptian CG of 2016
Principles of the Code	Instructions Provisions: Board Composite. Board Duties and Responsibilities. Board Committees. Audit Committee. Nomination and Remuneration Committee. Governance Committee. Risk Management Committee. Board Meetings. General Assembly Meetings. Rights of Stakeholders. Disclosure and Transparency. The External Auditor. Related-Party Transactions. Governance Report.	Objectives of the Regulations Enhancing the role of shareholders. Board and Management responsibilities. Enhance the Board and the committees. Achieving transparency, impartiality and equity. Deal with conflicts of interest Enhancing accountability and control mechanisms. Establishing the general framework. Support the monitoring system. Raising the awareness of professional conduct.	The code adopted OECD principles: The Rights and Equitable Treatment of Shareholders. The Role of Institutional Investors. The Role of Stakeholders. Disclosure and Transparency. The Responsibilities of the Board of Directors. Main Pillars of the Code: General Assembly of Shareholders. Board of Directors. Board Committees. The Control Environment
Previous Editions	Bank Director's Handbook of CG of 2004	Corporate Governance regulations of 2006	Corporate Governance Code for listed companies of 2005
	CG Instructions for Insurance Companies of 2006	Amended Corporate Governance regulations of 2010	Corporate Governance Code for State Owned Enterprises (SOEs) of 2006
	CG Code for Banks by the Central Bank of 2007		
	CG Code for Shareholding Companies 2007	Corporate Governance Regulations of 2017	Revised Corporate Governance Code for listed companies of 2011
	2008 Rules of Corporate GG by JSC		
	Corporate Governance Code for Privately Held Companies of 2012		
	CG Code for Shareholding Companies revised in 2014		

* This table built based on information from Tricker (2019, pp. 120-137),Jordan's information sourced from Aladwan et al. (2016), El Husseiny (2013), and JSC (2017). Saudi from Algoere and Hasani (2019). The Egyptian from Abdelfattah and Hussainey (2019), EIoD (2016), and Fawzy (2003).

In terms of this study, Egypt and Saudi Arabia are two of the important countries in the Middle East and North Africa (MENA) and were chosen due to their classification as Corporate Governance pioneers. Koldertsova (2011) refers to Egypt as Corporate Governance development pioneer in the Middle East and North Africa (MENA) region. Similarly, Saudi Arabia is considered one of the Corporate Governance pioneers in the Arabic countries (Al Kahtani, 2013). The comparison shows that Jordan's Corporate Governance is primarily governed by the Security Law and directives issued by the Jordan Securities Commission, focusing on board composition, duties, committee effectiveness, stakeholders rights, disclosure and transparency, the external auditor, related-party transactions, and governance report. Conversely, Saudi Arabia relies on the Saudi Companies Act of 1965, updated in 2016, and the Capital Market Law of 2003, regulated by the Capital Market Authority (CMA), which together clarify the responsibilities of both the board of directors and management, aiming to strengthen their oversight and decision-making capabilities. Furthermore, it aims to promote transparency, impartiality, and equity in corporate operations while electively addressing conflicts of interest effectively. On the other hand, Egypt operates under the Company Law of 1951, Companies Law No. 159 of 1981, and Capital Market Law No. 95 of 1992, alongside amendments, with guidelines provided by the Egyptian Institute of Directors (EIoD) for corporate governance applications, aligning with OECD principles by focusing on board responsibilities, shareholders rights, investors' protection, and transparency.

The comparison shows that, in Egypt and Saudi Arabia, Corporate Governance regulations are enforced by law, similar to Jordan. The principles of the Corporate Governance in all three countries address various aspects such as board structure, accountability, transparency, and stakeholders' rights.

To gain a deeper understanding of Corporate Governance practices in Jordan compared to the other countries, developed and developing, it is important to widen the scope of the comparison. Table 2-5 assists in this process by comparing the Jordanian Corporate Governance Instructions issued by JSC (2017) to, the UK Code issued by UK Financial Reporting Council (2018), Australia Corporate Governance Code 4th edition issued by ASX CG Council (2019), and the USA Principles of Corporate Governance issued by Business Roundtable (2016) and (Sturm, 2016). This research employs the core principles of the Code of UK Financial Reporting Council (2018) as a foundation for comparing the instructions of Corporate Governance of Jordan to other selected countries. This choice is based on the fact that the UK is one of the leading countries in Corporate Governance reforms, and has been

improving the quality of Corporate Governance reporting systems since the international recognized Cadbury (1992) and updated versions of the Code. The comparison reveals that the Jordanian Corporate Governance directives introduced in 2017 have been benchmarked against Corporate Governance best practice of the UK and Australia, but are slightly different to that of the USA particularly in relation to committees. All frameworks separate chairman and CEO roles, the UK and Australia specifically requiring an independent non-executive director to chair the board. Compliance mechanisms range from law enforcement in Jordan to comply-or-explain approaches in the UK and Australia, emphasizing transparency and accountability in corporate governance practices. The comparison, with regards to leadership provisions, illustrates that all frameworks require a one-tier board structure, all promote separating the role of chairman and CEO, except for the USA, where the positions may be combined. In addition, Jordan requires at least six meetings a year, while the UK code emphasizes holding frequent meetings, and Australia and the USA do not specify meeting frequency.

The comparison in Table 2-5 highlights variation in the provisions effectiveness across different countries, each country has its own requirements for the composition of nomination committee, the USA stands out by requiring all members to be independence, while the other countries, including Jordan require the majority of members to be independent. All countries recommend or require an annual evaluation of the boards and committees' members. The proportion of independent directors varies across countries with Jordan requiring one third, while UK requires half of the board members to be independence, Australia and the USA require majority or substantial majority of independent members. Only the UK specifies a timeframe for external evaluation, while other countries do not specify such time frameworks.

The provision in all countries emphasize accountability through, risk systems, risk evaluation, risk management committee, internal audit, audit committee composition, and the financial experience of audit committee members. The comparison show that all countries utilize risk systems, cover risk evaluation, and mandates establishing internal audit. However, the requirements for the composition of risk management committees and audit committees vary across the four countries with some countries specifying the independence criteria, Jordan requires the committee to be formed with at least three members, chaired by an independent member, and the audit committee to consist of at least three members, with the majority independent.

Furthermore, the comparison regarding the provisions of board remuneration, shows that the provisions in all countries require the disclosure of the remuneration policies. However, there are differences in the extent of disclosure required for directors' remunerations across the four countries, with Jordan not specifying the disclosure level required. Only the UK specifies the appointment process for remuneration of consultants.

In term of relationships with shareholders, different approaches are utilized, such as general meetings, website updates, and regular engagements. Jordan is the only country that doesn't specify shareholders activism and the actions that can be taken to influence the decisions and operations of the company. Finally, there are differences in compliance approaches with the provisions of the codes across the four countries. Jordan and the USA enforcing the provisions, while Australia and UK adopt a comply or explain approach.

Table 2-5

The Jordanian Corporate Governance instructions compared to selected western countries' Corporate Governance Codes

Corporate Governance provisions		Jordan Instructions of CG issued by JSC (2017)	UK The Code issued by UK Financial Reporting Council (2018)	Australia CG Code 4th edition issued by ASX CG Council (2019)	USA Principles of CG issued by Business Roundtable (2016) and (Sturm, 2016)
Leadership	Board structure	One-tier	One-tier	One-tier	One-tier
	Board Meetings	At least six meetings a year	Frequently/regularly	Not specified	Not specified
	Chairman independence	Non-executive director	Independent non-executive directors	Should be an independent	Not specified
	Duality Role	Separate chairman and CEO	Separate chairman and CEO	Separate chairman and CEO	The positions may be combined
	Senior director	Not specified	Independent non-executive	Independent director	Independent director
Effectiveness	Nomination Committee composition	At least 3 members, majority independent.	Majority are independent outside directors	At least 3 members, majority are independent chaired by an independent	No one committee structure, all independent directors.
	Non-executive directors	Majority of board members shall be non-executive	Majority of board members	Majority of board members	Majority of board members are independent
	Independent directors	At least One third of the board	At least half of the board	Majority of board members	Substantial majority
	Evaluation of Board, committees and members	Annual evaluation	Annual evaluation	Regularly assessment, preferably annually.	Annual evaluation
	External evaluation	Not specified	At least every three years	Conducted by a suitable non-executive director	Not specified
Accountability	Risk systems	Risk Management	Risk management and internal control systems	Risk management framework	Risk management and internal control systems
	Risk evaluation	Covered	Covered	Comprehensive coverage (2007)	Covered
	Risk Management Committee	At least 3 members, chaired by independent.	Composed of independent outside directors	At least 3 members, majority independent, chaired by independent	Not specified

Corporate Governance provisions		Jordan Instructions of CG issued by JSC (2017)	UK The Code issued by UK Financial Reporting Council (2018)	Australia CG Code 4th edition issued by ASX CG Council (2019)	USA Principles of CG issued by Business Roundtable (2016) and (Sturm, 2016)
Accountability	Internal audit	Establish internal audit function	Establish internal audit function	Establish internal audit function	Establish internal audit function
	Audit committee composition	At least 3 members, majority independent.	At least three independent outside directors	At least 3 non-executive chaired by independent.	Three members, all independent
	Financial experience of Audit Committee members	All members should	At least one member	Some of them should	At least one member
Remuneration	Remuneration Committee composition	At least 3 members, majority independent.	Majority independent outside directors	At least 3 members, majority independent, chaired by independent	Not specified
	Remuneration policy	Disclosure	Disclosure	Disclosure	Disclosure
	Disclosure of directors' remunerations	Not specified	For all directors	For executive, senior, and non- executive	Not specified
	Appoint remuneration consultant	Not specified	Appointed by the remuneration committee	Appointed by the Remuneration Committee charter.	Not specified
	Say on Remuneration Policy	Shareholders to approve in the AGM	Invite shareholders to approve all new long-term incentive schemes	Should be approved by shareholders	Remuneration Committee
Relations with shareholders	Communication with shareholders	GM at least once a year, in the first 4 months. Company website	regular engagement with major shareholders to understand their views	Regular meetings, Company website	Regular shareholder outreach
	Shareholder activism	Not specified	Enter dialogue based on the mutual understanding of objectives	Facilitates effective two-way communication.	Issues raised by shareholder proposals and response communicated to all shareholders.
	Compliance	Force through rules (law enforcement)	Listing rules comply or explain	"if not, why not"	Force through rule

Table 2-6 show a comparison of Corporate Governance provisions among the following, Jordanian Instructions of Corporate Governance issued by JSC (2017), Saudi Corporate Governance Regulations issued by CMA (2017), and the Egyptian Corporate Governance Code issued by EIoD (2016) based on the core principles of the Code of UK Financial Reporting Council (2018). The comparison in term of leadership shows that all three countries' codes follow a one-tier board structure. However, Jordan requires more frequent board meetings (at least six per year), while Saudi Arabia and Egypt require four meetings annually. Regarding chairman independence, Jordan specifies a non-executive director, while Saudi Arabia doesn't provide a specific criteria, and Egypt requires an independent chairman only if the roles of chairman and CEO are not separated. Both Jordan and Saudi Arabia requires the separation of Chairman and CEO roles, whereas Egypt does not recommend role duality. Combining the roles of chairman and CEO concentrates the power in the hands of one individual, which may lead to constraint on the effectiveness of board monitoring which may lead in turn to earnings management (Alves, 2023; Fama & Jensen, 1983; Habbash et al., 2010).

In term of effectiveness, the three countries vary in their requirements for nomination committee composition, with Jordan emphasizing independence. Saudi Arabia focus on non-executive membership, and Egypt requires independent and non-executive members with an independent chairman. They all require a majority of non-executives on the board but vary slightly in the number of independent directors required. Jordan mandates one-third board independence, Saudi Arabia requires at least two members to be independent, or one third independent members, and Egypt specifies that at least two board members must be independent. Evaluations of board committees and members are required yearly in Jordan and Saudi Arabia, regularly and continuously in Egypt. However, external evaluations are not specified across all three countries.

In term of accountability, all three countries emphasize the establishment of an internal audit function, with at least one financial expert on the audit committee, and require audit committees with a majority of independent members. However, the composition of these committees varies, with Jordan and Saudi Arabia requiring at least three members, while Egypt requires a range of 3-5 members. In term of remuneration practices, while all three countries emphasize the disclosure of remuneration policies, only Saudi Arabia and Egypt specify the disclosure of directors' remuneration, with Egypt including top management in this requirement.

Additionally, all three countries specify the composition of the remuneration committee, with Jordan emphasizes a minimum of three members, majority of them independent, Saudi Arabia requires the inclusion of non-executive directors with at least one independent member, and Egypt emphasizes a minimum of three members of independent and non-executive members. Moreover, all three countries require shareholder approval of the remuneration policy. However, none of the countries specify the appointment of a remuneration consultant.

With regards to the relationships with shareholders, both Jordan and Egypt emphasize shareholders communications through the General Meeting and the supplement of information via the company website. Saudi Arabia requires more regular meetings, utilizing the company website, and employing various effective communication methods. In addition, Jordan doesn't specify any provisions to shareholder activism, Saudi Arabia allows shareholders owning 5% or more to add items to the annual general meeting agenda, whereas Egypt incorporates inquiries into the general assembly meeting. Lastly, compliance with the provisions is mandated and enforced by law in Jordan and Saudi Arabia, but in Egypt, it is enforced by the rule of comply or explain.

Overall, the comparison of Corporate Governance provisions in Jordan with those of other countries reveals both similarities and differences. However, the differences are not major. All countries stress the importance of principles such as board effectiveness, accountability, and shareholders' relations, with variations existing in certain specific requirements and the implementations of these principles. For instant, in term of board composition, the differences exist in the proportion of independent directors required, with Jordan mandating at least one-third, while in the UK and Australia a majority is required. Despite the differences, Jordan, just like all other countries including neighbouring countries Saudi Arabia and Egypt, lays stress on the importance of transparency and accountability in their Corporate Governance directives.

Table 2-6

The Jordanian Corporate Governance instructions compared to selected MENA countries' Corporate Governance Codes

Corporate Governance provisions	Jordan Instructions of CG issued by JSC (2017)	Saudi Arabia Corporate Governance Regulations issued by CMA (2017)	Egypt The Egyptian Corporate Governance Code issued by EIoD (2016)
Leadership			
Board structure	One-tier	One-tire	One-tier
Board Meetings	At least six meetings a year	At least 4 meetings a year and once every three months	At least once every three months
Chairman independence	Non-executive director	Not specified	Independent chairman if chairman and CEO roles are not separated.
Duality Role	Separate chairman and CEO	Separate chairman and CEO	Role Duality is not recommended.
Senior director	Not specified	Not specified	Not specified
Effectiveness			
Nomination Committee composition	At least 3 members, majority independent.	Must not be executive director and at least one independent member.	At least 3 members, independent and non-executive, chaired by independent.
Non-executive directors	Majority of board members shall be non-executive	Majority of board members shall be of Non-Executive Directors	Majority of members must be non-executives.
Independent directors	At least One third of the board	At least two members are independent or one-third of the board	At least two of the board members are independent
Evaluation of Board, committees and members	Annual evaluation	Annually assessment.	Review regularly and continuously
External evaluation	Not specified	Not specified	Not specified
Accountability			
Risk systems	Risk Management	Risk management system	Risk management
Risk evaluation	Covered	Covered	Covered
Risk Management Committee	At least 3 members, chaired by independent.	Chairman and majority of its members shall be non-executive	Made up of independent and non-executive members
Internal audit	Establish internal audit function	Establish internal audit function	Establish internal audit function
Audit Committee composition	At least 3 members, majority independent.	3-5 members, all are non-executive chaired by independent.	At least 3 members, all should be Independent Directors
Financial expert in Audit Committee	All members should	At least one member	At least one member
Remuneration			
Remuneration Committee composition	At least 3 members, majority independent.	Made up of non- executive directors with at least one independent.	At least 3 members, made up of independent and non-executive members.
Remuneration policy	Disclosure	Disclosure	Disclosure
Disclosure of directors' remunerations	Not specified	For all directors and top 5 paid Senior Executives	For all directors and top management
Appoint consultant	Not specified	Not specified	Not specified
Say on Remuneration Policy	Shareholders to approve in the AGM	Prepared by the committee and gets approved by annual general meeting	Shareholders to approve in the annual general meeting (AGM)
Relations with shareholders			
Communication with shareholders	GM at least once a year. Company website	Regular meetings, Company website	GM and Company website
Shareholder activism	Not specified	Shareholders of 5% or more can add items to the AGM agenda.	Inquires included in the general assembly meeting for responses
Compliance	Law enforcement	Mandatory (law enforcement)	Listing rules comply or explain

2.3.3 Corporate Governance Mechanisms

Based on the broad definitions provided earlier, Corporate Governance involves "a set of mechanisms" as per (La Porta et al., 2000; Larcker & Tayan, 2020; Larcker et al., 2007; Swandari & Hadi, 2021), or "a set of rules and principles" according to ASE (2017). These mechanisms, rules and policies are set in place to maintain good connections between management, boards, shareholders and stakeholders (Alkaraan et al., 2022; Bain & Band, 1997; Miller, 2010).

Brown et al. (2011) pointed out that some prior Corporate Governance studies focused on only a few specific governance items while other studies included more governance items in order make one composite measure. On one side, Khanchel (2007) included Board of Directors, board committees, and Audit Committees to explore the determinants of good Corporate Governance. Lipton and Lorsch (1992) focused on few major elements to improve Corporate Governance (Board Size and composition, Board Meetings, Chairman and CEO role separation, Information Quality, Corporate and CEO performance evaluation, and the relationship of the Board and shareholders). In addition, Adegbite (2015) addressed other important Corporate Governance mechanisms including Board Independence, board heterogeneity, directors' reputation, board evaluation, institutional shareholders, shareholder activism, executive compensation, full information disclosure, and independent Audit Committee. Others including Larcker et al. (2007) include 39 Corporate Governance items in their study, and Campos et al. (2002) developed a Corporate Governance index based on the Corporate Governance principles of OECD (1999) and took into account the following Corporate Governance factors: ownerships structure, one share/one vote, anti-takeover defences, meeting notification, Board Size, outside and independent directors, written board guidelines, and board committees disclosure, accounting standards, independent audits, broad and timely disclosure. In addition, Kyere and Ausloos (2021) conduct an empirical study on 252 UK companies focusing on five corporate governance attributes. Yet, Shakil et al. (2021) focus on only one characteristic that is Gender Diversity.

This discussion is consistent with Solomon (2020) who indicates that the Corporate Governance concept lacks a universal agreed-upon definition, and with Judge (2010) who indicates that it has been challenging for Corporate Governance researchers to define an accepted universal measures of "good Corporate Governance" or of Corporate Governance mechanisms by which goals can be attained and financial efficiency can be achieved. This implies that rating Corporate Governance Quality based on selecting specific governance mechanisms introduces subjectivity as these mechanisms depend on rules and regulations that

may vary from one financial market to another and may vary over time in the same market (Khanchel, 2007). Therefore, this study uses Corporate Governance mechanisms derived from the Jordanian directives for listed companies issued by the JSC in 2017 which is the initial year of the implementation JSC (2017).

The Jordanian directives of Corporate Governance are enforced by the law requiring all listed companies to comply with the Corporate Governance mechanisms embedded within the articles of these directives. This implies that companies are expected to implement the directive's mechanisms. However, certain articles within the directives allow for some flexibility in their application, as they may specify a given range or a minimum / maximum value. This flexibility provides a room for companies to comply with the directives and the Corporate Governance mechanisms within them in a way that may vary from one company to another. The transition to legally enforced Corporate Governance practices necessitates the exclusion from the research of these governance mechanisms anticipated to be uniformly applied without any scope for variation in their implementation. These mechanisms that do not allow variation in companies' responses are excluded from this research as they wouldn't provide useful information for the analysis, if all companies have the same response to the directives' articles, it doesn't contribute to understanding the differences and patterns among the companies. This research excludes Corporate Governance mechanisms embedded in these articles which are expected to provide uniform responses from companies, as they offer limited insight for the analysis. Instead, the focus is directed towards the articles of these directives that allow for variation in application across different companies. For example articles (4) item (a) of the Jordanian directives issued by JSC (2017, p. 6) requires the companies to be administrated by a Board of Directors of "not less than five and not more than thirteen members". The application of this article item is expected to vary across companies within the provided range (5-13). This item represented by Corporate Governance mechanism of Board Size, will be included in this study as one of the Corporate Governance mechanisms under investigation. However, in the same article item (d) "The Board of Directors shall assume the duties of managing the Company for a period of four years from the date of its election". As this item is expected to be applied similarly by all companies, it will not be included in this study. Similarly, each article in the JSC (2017) directives has been analysed to determine the Corporate Governance mechanisms for research purposes.

In the following three tables (Table 2-7, Table 2-8, and Table 2-9), this research explores each of the 17 articles and each article items of the Jordanian Corporate Governance directives issued by JSC in 2017. This exercise distinguishes the articles anticipated to

provide varied responses across companies from those are not, highlighting Corporate Governance mechanisms embedded in the articles expected to provide varied responses across companies. These highlighted mechanisms are included in this research investigation. Accordingly, Tables 2-7 explores the first five articles of the Jordanian directive and determines Corporate Governance mechanisms to be included in this research investigation.

Table 2-7

Corporate Governance mechanisms determined by analysing the Jordanian Corporate Governance directives issued by JSC (2017) - Articles 1-5

Jordanian Corporate Governance directives issued by JSC (2017)	**Variation Potential**	**Mechanisms within Directives**	**Mechanisms Determined**
ARTICLES (1-3): Introduction, Definitions and the Scope of the instructions	No	-	
ARTICLE (4). Composition of the Board of Directors	Yes	Composition of the Board of Directors	**Board Composite**
a. board shall not be less than five and not more than thirteen members	Yes	Board Size	**Board Size**
b. Majority of non-executive c. On third shall be independent and defines independent members.	Yes	Board Independence	**Board Independence**
d. Board appointment term (4 years)	No	Board Term	
e. Board member can appoint a representative	No	-	
f. Board represents all shareholders.	yes	Board Independence	**Board Independence**
g. CEO and Chairman Position Separation.	No	-	
h. Director must be qualified and experienced.	Yes	Members Level of Education	**Directors Level of education**
i. Director must attend Corporate Governance training course. j. Director must not be a member of another company board. k. Company must not provide loans to any board members or their relatives (excluding Banks).	No No No	- - -	
l. Directors shall be given are information needed by the company.	No	-	
m. The Board can seek external consultant advice.	Yes	The existence of External consultant	**Committees' Effectiveness**
ARTICLE (5). Duties and Responsibilities of the Board of Directors:	Yes	Effectiveness of the directors.	**Committees' Effectiveness**

Consequently, the following mechanism have been considered in this research investigation, Board Composite, Board Size, Board Independence, Directors' Level of Education, and Committees' Effectiveness.

Similarly, Tables 2-8 explores articles (6 – 9) determining Corporate Governance mechanisms to be included in this research investigation.

Table 2-8

Corporate Governance mechanisms determined by analysing the Jordanian Corporate Governance directives issued by JSC (2017) - Articles 6-9

Jordanian Corporate Governance directives issued by JSC (2017)	**Variation Potential**	**Mechanisms within Directives**	**Mechanisms Determined**
ARTICLE (6). Committees Formed by the Board of Directors. a. The Board shall form Audit Committee (AC), the Nomination and Remuneration Committee (NRC), the Governance Committee (GC) and the Risk Management Committee (RMC).	Yes	Board Committee Existence	**Committees' Effectiveness**
b. AC, NRC and GC committees consist of at least three non-executives two of them shall be independent chaired by independence. RMC consist of at least 3 members one of them independent chairing the committee.	Yes	Committees' independence.	N&R Committees' Effectiveness
c. Committees establish their written procedures.	No		
d. Committees' decisions taken by majority votes.	No		
e. Committees submit decisions to the Board and its work to the annual meeting.	No		
f. Committees Powers.	No		
g. Committees shall meet periodically, AC with at least four meetings per year. The rest of Committees minimum two meetings a year.	Yes	Committees number of annual meetings.	Audit Committee Effectiveness.
h. Board can form Special Task Committees.	Yes	The existence of Special Task Committees	**Committees' Effectiveness**
ARTICLE (7). Audit Committee			Audit Committee Effectiveness
a. At least on member is a financial expert	Yes	Audit committee financial experts	
b. The Company shall provide AC with all necessary resources.	No		
c. AC meeting with the external Auditor shall exclude management.	Yes	Number of meetings	Audit Committee Effectiveness
d. The Committee shall supervise and monitor company's accounting, control and Audit activities e. Committee powers	No		
ARTICLE (8). Nomination and Remuneration Committee duties.	Yes		N & R Committees' Effectiveness
ARTICLE (9). Governance Committee duties	Yes Yes		CG Committee Effectiveness

As can be seen from this analysis the elements to be included are: Committees' Effectiveness, Nomination & Remuneration Committee Effectiveness, audit Committee Effectiveness, and Corporate Governance Committee Effectiveness.

Table 2-9 explores articles (10 – 17) determining Corporate Governance mechanisms to be included in this research investigation.

Table 2-9

Corporate Governance mechanisms determined by analysing the Jordanian Corporate Governance directives issued by JSC (2017) - Articles 6-9

Jordanian Corporate Governance directives issued by JSC (2017)	**Potential for variation**	**Mechanisms based on directives**	**Mechanisms included in this study**
ARTICLE (10). Risk Management Committee duties a. Develop the Company's Risk Management policy b. Monitor and evaluate company risks	Yes	The existence of Risk Management policy.	Risk Management Committee Effectiveness
ARTICLE (11). Board of Directors Meetings			
a. Meeting procedures b. Voting could be in person or any other approved means c. Board decisions issued by absolute majority of votes.	No		
d. The board meets at least 6 times a year (once every two months)	Yes	Board Number of meetings	Number of Board Meetings
e. Appointing a secretary for the board	No		
ARTICLE (12). General Assembly Meetings	No		
ARTICLE (13). Rights of Stakeholders			
a. General rights of shareholders	No		
b. Rights within the powers of the General Assembly: 1,2, 4-11 and 14	No		
3- The right to elect the external auditor and determine his fees…	Yes	Auditor Quality and Audit Fees?	External Audit Factors
12- Ownership of the company's employees for shares in its capital.	Yes	Ownership Structure.	Ownership Structure
ARTICLE (14). Disclosure and Transparency	No		
ARTICLE (15). The External Auditor	Yes	1- External auditor reputation 2- Audit Fees & Non-Audit Fees	External Audit Factors
ARTICLE (16). Related-Party Transactions "The Company may not execute the related-party transactions except with the approval of the Board of Directors and the approval of the General Assembly after obtaining the opinion and evaluation of the External Auditor in this regard"	No		

Jordanian Corporate Governance directives issued by JSC (2017)	Potential for variation	Mechanisms based on directives	Mechanisms included in this study
ARTICLE (17). Governance Report The Company shall prepare the report and include it in the Annual Report.	No		

This analysis of the remaining articles highlights the elements that are included in this study: Risk Management Committee Effectiveness, Number of Board Meetings, External Audit Factors, and Ownership Structure.

Based on the review of the literature and the analysis of the Jordanian Corporate Governance Directives of 2017 presented in the above preceding three tables, a clearer picture has emerged of the key Corporate Governance elements that will be the subject of further examination. The following list of governance mechanisms are now examined in greater depth in this study:

A. Board of Directors' Characteristics (Quality)
    1. Board Independence
    2. Members' Level of Education
    3. Board Size
    4. Board Gender Diversity
    5. Board Meetings
B. Board Committees' Effectiveness
    1. Nomination & Remuneration Committee Effectiveness
    2. Risk Management Committee Effectiveness
    3. Audit Committee Effectiveness
    4. Corporate Governance Committee Effectiveness
C. Ownership Structures
    1. Managerial Ownership
    2. Block-Holding Ownership
D. External Audit Factors

2.3.3.1 **Board of Directors' Characteristics**

There are two main roles for the Board of Directors as highlighted by Faleye et al. (2011, p. 162), being "monitoring and advising top management". Moses (2019) highlighted the importance of board characteristics in promoting effective monitoring of management.

Moses defined board characteristics in term of "Board Size, Board Independence, CEO Duality, gender diversity, board age, Board Education and board activity among others" (p. 38).

2.3.3.1.1 Board Independence

Board of Directors are of mixed groups of either insiders or outsiders (Garner et al., 2017). According to Rechner (1986) inside directors are those hired by the company while outside directors are not. Similarly, Hutchinson et al. (2009) classified directors into executive (insiders) and non-executive (outsiders) and divided non-executive into affiliated and independent directors. This research determines directors' independence based on the second article of the Jordanian Corporate Governance directives issued by JSC (2017, pp. 3-4) which defines independent director as a board member who does not has any material connections to the company or its subsidiaries or its directors, executives, external auditor. Moreover, under Article 4 (c) the directive indicated that the status of independence will ceased in the following cases (p. 7):

1. If the director worked for the company or its subsidiaries or any affiliate within the last three years of joining the board.
2. If the director or any of his family members were a member of the board of director or a senior manager in the company, or its subsidiaries or any affiliate within the last three years of joining the board.
3. If the director or any of his family members has interest in any engagement with the company, or its subsidiaries or any affiliate which has a value of 50,000 JD or more.
4. If the external auditor is a relative or a partner of the director or a partner of his relatives, or if the director or any of his family members works or worked for the external auditor in the last three years.
5. If 5% or more of the subscribed shares are owned by the director or any of his family members.

The inclusion of independent directors on the board stands as a significant Corporate Governance mechanism due to their role in enhancing board oversight (Abdul & Qaisar Ali, 2019; Kanakriyah, 2021; Khan et al., 2013). Some previous studies provide evidence that external board directors are considered more effective in the control approach of executive managers such as Pucheta-Martínez and Gallego-Álvarez (2020), Coughlan and Schmidt

(1985), and Hermalin and Weisbach (1991). In addition, (Kanakriyah, 2021) reports positive correlation between Board Independence and Firm Performance. Furthermore, Lopes and Rodrigues (2007) declare that independent directors can demand more information disclosure. But this does not reduce the importance of the insider directors as indicated by Garner et al. (2017) in their study which highlight the importance of insiders' information for better investment decisions and monitoring effectiveness.

2.3.3.1.2 Members Level of Education

There is a growing interest in understanding how board diversity attributes, particularly the Level of Education of board members, impact decision making process within the board and, consequently, the economic and financial performance of the company (Magnanelli et al., 2021). Gottesman and Morey (2006) pointed out that "educational qualification" could be an indication of intelligence, and it is expected that more intelligent executives will outperform their peers. Moreover, Pereira and Filipe (2022) point out that the education level of board members is crucial to ensure their competence in conducting their responsibilities effectively. Educational back-ground is one of the observable characteristics that companies may consider in hiring managers according to Bhagat et al. (2010). This could be related to the fact that managers tend to employ their learned knowledge at work as explained by the Graham and Harvey (2002) study which found that CEOs with an MBA often employ techniques they learned during their studies in project valuation. Moreover, Jeanjean and Stolowy (2009) explained that managers and CEOs equipped with degrees in financial fields learned the financial expertise which may help them in managing the firm and generating quality financial reports. AL-Dubai (2023) reports that of the board directors' level of education have a positive impact on financial risk disclosure, indicating that directors' capabilities spends on their education, managerial abilities in addition to their experience with the firm. Magnanelli et al. (2021) argue that the existing literature offers inconsistent findings on impact of educational diversity on firm performance, indicating a need for further research.

2.3.3.1.3 Board Size

Board Size is considered an important attribute of good Corporate Governance and has been widely examined in previous studies (Elshandidy & Neri, 2015; Lipton & Lorsch, 1992; Rouf & Hossan, 2021; Sifile et al., 2015; Yu, 2008) for its assumed role in enhancing the board effectiveness in monitoring the management. Sifile et al. (2015) highlights the importance of Board Size in determining the diversity and composition of companies' boards, recommending several approaches including, recommending females presence on boards,

skills and experience are the base for on boarding directors, directors are not to be part of more than 2 committees, and having acceptable mix of non-executives. According to Pfeffer and Salancik (2003) and Sifile et al. (2015) resource dependency theory indicates that larger boards supply the organization with more expertise to deploy in management monitoring and resources acquiring. In addition, Ekramy and Mellett (2013) argued that a larger board is a chance to bring a variety of expertise to the board and contributing to a more effective board. Moreover, other studies (Ntim et al., 2013) indicated that larger boards mean higher "stakeholder representation". However, communication and coordination between a larger board could be negatively affected according to Alonso (2009).

The relationship between Board Size and Risk Disclosure has been examined in previous literature reporting a positive correlation between Risk Disclosure and larger Board Size (Alnabsha et al., 2018; El Husseiny, 2013; Jizi, 2013; Krishnan & Visvanathan, 2009; Ntim et al., 2013). However, Byard et al. (2006) and Bouaziz (2014) found that larger Board Size has a negative impact on board effectiveness and the level of information disclosed. Furthermore, non-significant correlations between Board Size and risk information disclosed are reported in some studies including Alshirah et al. (2020). Nevertheless, Habtoor et al. (2019) indicate that the majority of studies on Risk Disclosure have primarily concentrated on firm attributes, such as Firm Size, Leverage, Industry, and Profitability, while Corporate Governance mechanisms, including Board size, have received comparatively less attention.

2.3.3.1.4 Board Gender Diversity

The number of female directors has been increasing steadily (Pathan & Faff, 2013). Previous studies on the inclusion of females in decision making teams show mixed results as diversity could be either beneficial by bringing different perspectives to the table or could hamper team performance by bringing conflict (Boone & Hendriks, 2009; Gilbert & Ivancevich, 2000; Gul et al., 2011; Richard et al., 2002; Zhong et al., 2014). However, empirical studies such as Krishnan and Visvanathan (2009) reveal that organizations who are hiring more females at senior management level have higher stock returns after initial public offerings compared to those companies with less female senior managers. In addition, Agyemang-Mintah and Schadewitz (2019) found that the relationship between the existence of females on companies' boards and Firm Value is positive and statistically significant. Similarly, Brahma et al. (2021) explore the correlation between Gender Diversity and financial performance of 100 companies in the UK, reporting a significant positive

correlation. Furthermore, Carter et al. (2003) examined Fortune 1000 firms and reported positive correlation between the inclusion of females on the board directors and Firm Value. On the other hand, Vo and Bui (2017) investigate the impact of Gender Diversity on firm performance in 880 listed companies in 10 different developed countries, revealing a negative correlation. Vo and Bui also highlight the scarcity of compelling evidence regarding the influence of Gender Diversity on Firm Value. It is therefore important to explore the impact of this board characteristic in this research.

2.3.3.1.5 Board Meetings

The frequency of Board Meetings is considered one of the important attributes of board effectiveness, which has been examined in numerous studies such as (Brick & Chidambaran, 2010; Kanakriyah, 2021; Ntim & Osei, 2011; Vafeas, 1999). Boards with more frequent meetings tend to be more efficient in overseeing the company management according to Vafeas (1999). Alshirah et al. (2020) explore the impact of specific Corporate Governance mechanisms on risk disclosure practices in non-financial listed Jordanian companies between 2014 and 2017, reporting a significant positive impact of board meetings frequency on the level of risk information disclosed within the companies' annual reports. However, Magnanelli et al. (2021) report a negative impact of the board meetings annual frequency on Firm Value. This negative correlation is explained by Vafeas (1999) indicating that boards conduct more meetings after hard years of operations and poor performance. In addition, M. Lipton and J. Lorsch (1992) noted more Board Meetings provide the required time for the board to accomplish their missions and responsibilities, resulting in more effective management monitoring. Effective board monitoring is associated with higher Firm Value concluded Brick and Chidambaran (2010). Additionally higher meeting frequency puts greater pressure on managers to provide additional information, in other words, more meetings imply more information disclosed (Alshirah et al., 2020; Barros et al., 2013).

2.3.3.2 **Board Committees' Effectiveness**

The main reason for establishing companies' Board Committees, according to ÇAkali (2022), is to effectively carry out corporate governance procedures effectively. Delegating the responsibilities of the board to the board committees supports effective efficient completion of board's functions (Alhossini et al., 2021; Puni, 2015). Article 6 of Jordanian Corporate Governance directives issued by JSC (2017) requires Jordanian listed companies to form four committees: Nomination and Remuneration Committee, Risk Management Committee, Audit Committee , and Corporate Governance Committee. These committees have the power to

obtain data or information from any of the company employee and request the presence of any of them for clarification purposes, and the power to seek external advice. Additional Board committees may also be voluntarily established as part of good practice. These are referred to in the directive in Article 6.i where Special Task Committees can be created in response to specific need. Each of these board committees are discussed below, exploring their significant, functions, composition, and their contribution in Corporate Governance effectiveness.

2.3.3.2.1 Nomination and Remuneration Committee Effectiveness

Article 8 of the Jordanian Corporate Governance Directives of 2017 addresses the establishment and functions of Nomination and Remuneration Committee as a single combined committee, some organisations may establish two separate committees - a nomination committee and Remuneration committee - depending on Corporate Governance regulations governing them. The role of this committee, according to the Jordanian directives, includes overseeing the on-going independence of independent board members, develop and review policies for board bonuses, benefits, incentives, and salaries. Ruigrok et al. (2006) highlight that the main role of the Nomination Committee is to ensure appropriate (qualified and independence) board candidates are selected in order to help raise the effectiveness of directors in performing their role. Prior research including Aldegis et al. (2023) and Kanapathippillai et al. (2016) emphasize that the Remuneration Committee is considered one of the essential board committees for its role in providing support and advice in the process of setting remuneration policies and determining the directors' compensations and benefits. The importance of this role has been highlighted in the literature for example in a study by Christensen et al. (2010) who concluded that the existence of Nomination Committees improves company performance. Aldegis et al. (2023) explore the impact of Nomination and Remuneration Committee on Tobin's Q ratio of 68 companies in Jordan and report a nonsignificant correlation between Tobin's Q and committee's independence, number of annual meetings, and females' membership, while committee's expertise is positively correlated. The Conyon and Peck (1998) study, which analysed 94 UK companies between 1991 to 1994, revealed that the Remuneration Committee percentage of independent directors positively correlated with senior management pay which reflects transparency and fairness. In addition, disclosing remuneration policies and remuneration related issues is also highlighted as a means to prove that shareholders' interests are maintained (Aldegis et al., 2023; Kanapathippillai et al., 2016; Morse et al., 2011).

Ruigrok et al. (2006) points out that there are no agreed guidelines on how to form a Nomination Committee, and that the guidelines vary across different countries. For instance, it is fully independent in major developed countries, with majority of independent non-executive directors with an independent chairman in the UK (Higgs report), and a majority of independent directors in Australia. According to the Jordanian directives, the Nomination and Remuneration Committee must include a minimum of three members, two of them independent and chaired by one of the independent members. Additionally, the majority of independent members should be maintained regardless of the total number of committee members.

2.3.3.2.2 Risk Management Committee Effectiveness

Aldhamari et al. (2020) indicate that the unanticipated corporate collapses along with previous financial crises have underscored the significant of Corporate Governance mechanisms in overseeing diverse forms of risks. according to Zango et al. (2015) integrating the role of Risk Management into Corporate Governance practices has been significantly highlighted by international regulators like the Organisation for Economic Cooperation and Development (OECD). Consequently, Risk Management Committees evolved as one of the significant board committees providing support for effective internal monitoring systems (Subramaniam et al., 2009). They continue by suggesting that the formation and disclosure of a Risk Management Committee may indicate effective Corporate Governance practice. The Australian Stock Exchange Corporate Governance Council ASXCGC (2007, p. 33) defines Risk Management as "the culture, processes and structures that are directed towards taking advantage of potential opportunities while managing potential adverse effects". The Jordanian Corporate Governance Directives of 2017 recognises the importance of Risk Management Committees and address the establishment and functions of the committee in Article 10. The role of this committee is to develop the risk management policy of the company, monitor and evaluate the risks. The Jordanian directives in article 6 instructs the Jordanian companies to have a minimum of three members in this committee, and one of those is independent person who chairs the committee. Additionally, the majority of independent members should be maintained regardless of the total number of committee members.

2.3.3.2.3 Audit Committee Effectiveness

Companies seek Audit services as an oversight tool to ensure the protection of shareholders from managers seeking their own interests (Al-ahdal & Hashim, 2022; DeAngelo, 1981; Monametsi & Agasha, 2020). Numerous prior studies established that Board

of Directors entrust some of its supervision role to the Audit Committee in three main domains: financial reporting, internal controls and auditor activity (Al-ahdal & Hashim, 2022; Andersen, 1998; Dellaportas et al., 2012; Inaam & Khamoussi, 2016; Krishnamoorthy et al., 2002). This role is demanded by Stockholders to be performed effectively to protect their rights as indicated by Krishnamoorthy et al. (2002). The following definition for Audit Committee Effectiveness was provided by Krishnamoorthy et al. (2002, p. 41) being "An effective Audit Committee has qualified members with the authority and resources to protect stakeholder interests by ensuring reliable financial reporting, internal controls, and risk management through its diligent oversight efforts". Jordanian companies are instructed by Article 6 of the Jordanian Corporate Governance Directives that their Board must form an Audit Committee. This committee must have a minimum of three non-executive members, two of them independent and chaired by one of the two independent members, and to continue maintaining the majority of independent members regardless of the total number of committee members. All committee members must possess financial and accounting knowledge with one of them, at least, who should have prior financial or accounting experience, or have completed a degree in those fields. The Jordanian directives, in article 7, provide power to the audit committee to access all the needed resources in order to execute its duty of overseeing the accounting and audit processes

2.3.3.2.4 Corporate Governance Committee Effectiveness

The Corporate Governance Committee among other board committees stands out as the most important in ensuring the effective implementation of corporate Governance practices (ÇAkali, 2022). According to Butar (2019) firms with governance committees are enhance operations generating more accurate and reliable financial reports. Establishing a Corporate Governance Committee helps to ensure that companies are following effective business practices especially in term of financial disclosure. Forming a Corporate Governance Committee is outlined in Article 6 of the Jordanian Corporate Governance Directives, which instructs Jordanian companies to form the committee with a minimum of three non-executive members, two of them independent and chaired by one of the two independent members, and to continue maintaining the majority of independent members regardless of the total number of committee members. Article 9 of the Jordanian Directives highlights the duties of the committee, which include organising the Governance report, arranging written procedures on implementing the Jordanian Directives, and ensuring that the company adhere to the directives, and reviewing the observations on company implementation of Corporate Governance within the company.

2.3.3.3 **Ownership Structures**

Saleh et al. (2017, p. 256) define the Ownership Structure as "the distribution of shares with regard to votes and capital and also by the identity of the shareholders". Claessens and Yurtoglu (2013) argue that the existing Ownership Structure can be considered of major importance in Corporate Governance and one of the major determinates of the challenges encountered by companies. Oman (2001) added that Good Corporate Governance achievements are impossible to separate from Ownership Structure of a firm. Saleh et al. (2017) explain that the impact of Ownership Structure is based on the ground that strategic goals vary with different owners. Moreover, Connelly et al. (2010, p. 1564) indicates that corporations are owned by a mix of different types of shareholders with different "trading styles, clientele, legal and regulatory environments, abilities to gather and process information". According to Saleh et al. (2017) Ownership Structures can be classified in terms of ownership concentration (Dispersed ownership and Concentrated ownership), and the identity of the owner (Managerial, Family, Institutional, Government, Foreign). A study by Yammeesri (2003, p. 30) classified companies' ownership to include the following "individual or family, domestic-corporation, foreign investor, bank and financial institution".

Several prior studies examined the relationship between Ownership Structure and Firm Value (Abukosim & Mukhtaruddin, 2014; De Miguel et al., 2004; Kumar, 2004; Lemmon & Lins, 2003; Morck et al., 2000). However, Yammeesri (2003) argue that the results of previous studies are still controversial. In addition, Chau and Gray (2002) and (Munisi, 2023), among others (Frost & Pownall, 1994; Gray et al., 1995; Mitton, 2002), indicate that the impact of Ownership Structure on firm disclosure has been investigated in previous studies especially in developed countries. For example, in their study on companies in Hong Kong and Singapore, Chau and Gray (2002) reached the conclusion that ownership concentration has a positive relationship with voluntary disclosure. Nevertheless, Munisi (2023) indicates that the correlation between Ownership Structure and Risk Disclosure in developing countries is less investigated compared to the developed countries. The findings of his study on non-financial firms listed in 11 Sub-Saharan Africa counties reveal that lower disclosure levels are notable in companies with more concentrated Ownership Structures. Another example, Alhazaimeh et al. (2014) study 72 companies listed in the Amman Stock Exchange to examine the impact of Corporate Governance and Ownership Structure on voluntary disclosure, revealing that Ownership Structures, particularly foreign ownership and Block Holder Ownership, are significantly impacting voluntary disclosure. Moreover, Iwasaki et al. (2022) compares East European EU member states, Russia, and China revealing that

managerial ownership of a company tend to have a positive influence on the company's performance in emerging markets while government ownership negatively impact company's performance.

According to Kang and Sorensen (1999) many prior studies on corporate Ownership Structure have often categorised firms into two groups: companies controlled by managers and companies controlled by owners. A company is assumed to be controlled by managers if shares ownership concentration is low, in that the largest Block Holdings percentage is no more than five percent (Kang & Sorensen, 1999; Pfeffer & Salancik, 2003). This research follows this classification of Ownership structure, where Managerial Ownership and Block Holdings are considered representative indicators of Ownership Structure. These two elements of ownership structure are further developed in the next two paragraphs.

2.3.3.3.1 Managerial Ownership

Managerial Ownership, which is known as Insider Ownership in some literature, is considered an important mechanism to protect shareholders' rights by aligning manager' interests with those of shareholders' (Alves, 2012; Iwasaki et al., 2022; Jensen & Meckling, 1979; Warfield et al., 1995). Managerial Ownership can be referred to as the percentage of ownership by managers and executive directors or their families (Al-Fayoumi et al., 2010; Karathanassis & Drakos, 2004). However, other scholars (Demsetz & Lehn, 1985; Demsetz & Villalonga, 2001) argue that managers owning large blocks of shares may put their interests before minority shareholders by taking decisions by which their own benefit is considered regardless of the others. For instance, Marimuthu (2017) investigates 282 Malaysian listed nonfinancial companies and reports a negative relationship between Managerial Ownership and Firm Value,

2.3.3.3.2 Block-Holdings Ownership

Block- holdings ownership is an indication that a shareholder own 5% or more of the firm's total shares which concentrates ownership in the hands of few owners (Al Amosh & Khatib, 2022; Marimuthu, 2017). Holderness (2003) argues that concentration (Block Holdings) ownership in a company is considered a motivation to control and monitor managers. This implies that a positive impact of ownership is grounded in the efficient monitoring theory, which emphasis that higher block holdings (ownership concentration) provide block shareholders larger power to oversee managers according to Marimuthu (2017). Large shareholders are able to access and acquire the required information which prevent

insiders' immoral behaviour (Shakir, 2015). The use of high ownership concentration as an alternative way to monitor managers and protect shareholders' rights is promoted in emerging markets where financial markets are characterized by weak laws, regulations and shareholders' protection (Iwasaki & Mizobata, 2020; La Porta et al., 1999; Shleifer & Vishny, 1997). Moreover, a study by Mitton (2002) concludes that organizations with stronger outside "ownership concentration" experience significantly better stock price performance. In addition, Ekramy and Mellett (2013) report that concentration Ownership is a key factor in determining risk disclosure practices. The connection between Ownership Structure and Risk Disclosure is stressed by Owusu-Ansah (1998) who confirmed that wider spread ownership implies higher demand for proper information by shareholders. Similarly, Alhazaimeh et al. (2014) reveal that Block Holdings ownership is negatively correlated with voluntary information reporting.

2.3.3.4 **External Audit Factors**

The possibility of conflicting interests between those who prepare financial reports (Company Managers) and those who use them (stakeholders) necessitates third party review (External Auditor) ensures the fairness and the accuracy of the financial reports (Agustina & Indrayani, 2020; Calocha & Herwiyanti, 2020). Article 15 of the Jordanian Corporate Governance Directives of 2017 addresses the importance of an External Auditor and provides instruction to ensure fair, independent, and quality external audit. The primary responsibility of External Auditor, according to Al-ahdal and Hashim (2022), is to offer an accurate dependable evaluation of financial reports, reducing managers' illegal actions and improving financial performance. However, Bortolon et al. (2013) highlight three challenges to the independence of external audit: Non-Audit services, selection of auditor by the audited manager, and the employment of the auditor in the audited company. In addition, Cohen et al. (2004) indicate that selecting quality external auditors contribute significantly to enhancing the quality of firm's internal controls and financial reporting thus a firm is likely to be prepared to pay higher Audit Fees for a better-quality audit. However, Cohen et al. (2004) stressed that non-audit services' fees are seen as a risk to auditor independence. Al-Rassas and Kamardin (2015) indicate that Big 4 Audit companies Audit fees are frequently utilized as indictors of audit quality, while non-audit service fees are known to impact external audits. This study adopts these three variables to represent the external audit factors.

2.4 Risk Disclosure

The importance of Risk Disclosure has been acknowledged in the literature (Ahmad et al., 2021; Atanasovski et al., 2015; Heinle & Smith, 2017; Ibrahim & Aboud, 2023; Jain & Raithatha, 2022; Khandelwal et al., 2019; Linsley & Shrives, 2006; Solomon et al., 2000). Ibrahim and Aboud (2023) indicate that exploring the value related to narrative information is one important issue in business research. Ibrahim and Aboud also emphasis that Risk Disclosure is considered the most attractive to read and most impacting information in the narrative of companies' annual reports. Information reporting helps stakeholders make decisions and stay informed (Kutum, 2014). Companies can disclose information in many different means including; newspapers, websites, interviews, and letters (Haddad et al., 2017). However, the annual report has always been the main way to communicate information to stakeholders, yet the world scandals including Enron, WorldCom, and Tyco created extra demand for more disclosure especially in the in non-financial sections of the annual report (Amran et al., 2009). According to Claessens (2006), companies with better accounting information reporting outperformed during the times of financial distress drawing more attention to information reporting and transparency. Risk Disclosure statements draw the attention of stakeholders to put pressure on regulators who in turn asked for protection which helped in the emergence of Risk Disclosure regulations including (ICAEW, 1997, 2011; SEC, 1997).

In Jordan, Haddad et al. (2017) and Tahat et al. (2017) identify the year 1997 as a turning point for disclosure practices, when, in 1997 the directives of disclosure was issued and the Jordanian listed companies where required to apply these directives starting from 1998. Disclosure requirements were boosted in 2002 when the Security Law 2002 and its Directives of Disclosure was issued which boosted the disclosure requirements (Haddad et al., 2017; Tahat et al., 2017). In addition, the Jordanian Corporate Governance framework which is incorporated in Company Law of 1997 and Securities Law of 2002 highlights the shareholders rights and emphasizes disclosure and transparency (Alzoubi, 2016). Jordanian listed companies are mandated to comply with the Instructions of Issuing Companies Disclosure (JSC, 2002), which includes the obligation to include "a description of the company's risk exposure" within their annual reports (Haddad et al., 2017, p. 13). However, the directives of disclosure do not provide comprehensive guidelines regarding Risk Disclosure. Examination of the disclosure directives document confirmed that the term "risk" is mentioned only once throughout the entire document. This lack of detailed guidance may

lead to variability and inconsistency in how companies interpret and disclose their risk information, which in turn impacts the quality of financial reporting.

2.4.1 Risk Definition

In order to understand and examine Risk Disclosure it is important to start with defining the term "risk" (Khandelwal et al., 2019). Despite the fact that research studies in the area of Risk Disclosure is considered new, many definitions for the term "risk" has been provided in prior studies (Linsley & Shrives, 2006). For example, Griffiths (2016, p. 17) defines risk as "the threat that an action or event will adversely affect an organization's ability to achieve its objectives and successfully execute their strategies successfully ". Risk "contains two key ideas: uncertainty and outcomes" (Kucuk Yilmaz & Flouris, 2017, p. 25). In common terminology the term risk is used to reflect negative rather than positive consequences (Kucuk Yilmaz & Flouris, 2017) and to express threat, danger or hazard (Lupton, 1999). However, the Institute of Risk Management (IRM, 2002) introduced risk as the probability of an event to happen combined with its outcomes (both positive and negative). Linsley and Shrives (2006, p. 388) explained that in the modernist era (after the industrial revolution and the development of the insurance industry) the term risk has been defined to include the positive effects of events (opportunities or prospects) in addition to the common terminology of negative effects of events. Solomon et al. (2000, p. 449) defined risk as "the uncertainty associated with both potential gain or loss" and Ryan (2012, p. 296) defines risk as "random variation in firms' future economic performance, given currently available information". Tricker (2019) stressed that risk is associated with profit or loss that could result from unknown future circumstances. Consequently, risk indicates unpredictable future gain or endangerment of loss if an event happens (Toma & Alexa, 2012). This study adopts the perspective that risk is incorporates both positive and negative effects.

2.4.2 Risk Categories

A review of extent literature suggests that there is no agreed-on way to categorise risks encountered by companies. While the Institute of Risk Management (IRM, 2002) highlighted that Risks arise from external drivers and internal drivers, and are classified risk into financial risk, strategic risk, and operational risk. The International Financial Reporting Standard 7 (Financial Instruments: Disclosures) classifies Financial Risk into three types: Credit, Liquidity and Market Risk (Tahat et al., 2016). Moreover, the literature shows that risks encountered by businesses could be classified into many categories. For example, Cabedo and Tirado (2004) classified risk into financial (Market Risk, Credit Risk, Operational Risk,

Liquidity Risk) and Non-Financial risks (Business Risk, Strategic Risk). more risk categories used in Lajili and Zéghal (2005) categorised risk into these: Financial Risk (Currency, Interest Rate, Credit, Financial Instruments Value), Market Risk, Environment, Government Regulation, Operational, Supplier, Natural Resources, Political, Technology, Weather, Seasonality, and Cyclicality risk. Linsley and Shrives (2006) classified risk into six categories: Financial Risk, Operational Risk, Empowerment Risk, Information Processing and Technology Risk, Integrity Risk, and Strategic risks. Amran et al. (2009) adopted the method of Linsley and Shrives (2006) employing the same six risk categories. Collier (2009) lists risks in four simple categories: Business or Operational, Financial, Environmental, and Reputation Risk. Likewise, Toma and Alexa (2012, p. 110) listed seven risk categories that any business could experience which are: "Operational Risks; Financial Risks; Strategic Risks; Market Risk; Country Risks; Compliance Risks (legal liability); Natural Risks (environmental risk)". Kucuk Yilmaz and Flouris (2017) mentioned three categories: Financial Risk, Strategic Risk and Operational Risk. Similarly, many researches including Khandelwal et al. (2019) and Toma and Alexa (2012) argue that risk could be broadly classified according to its source of origin: internal risk and external risk. Internal risks result from normal actions within the business while external risks arise from events in the external business environment (Toma & Alexa, 2012). Lately, a study by Tricker (2019) introduced risk under 3 main risk categories: Strategic Risk, Managerial Risk, and Operational Risk. These prior studies highlight the diverse range of risk categories that have been identified and discussed. Table 2-10 below presents various ways of categorizing risks companies may encounter.

Table 2-10

Risk Disclosure categories in the literature

Study	Risk Categories
The Institute of Risk Management (IRM, 2002)	1- Financial risk. 2- Strategic. 3- Operational. 4- Hazard.
Cabedo and Tirado (2004)	**Financial:** 1- Market risk. 2- Credit risk. 3- Operational risk. 4- Liquidity risk. **Nonfinancial risks:** Business risk and Strategic risk.
Lajili and Zéghal (2005)	1- Financial (Currency Interest rate Credit and Financial instruments value). 2- Market risk. 3- Environment.4- Government Regulation. 5- Operational. 6- Supplier. 7- Natural resources. 8- Political. 9- Technology. 10- Weather. 11- Seasonality. 12- Cyclicality Risk.
Linsley and Shrives (2006) Amran et al. (2009)	1- Financial risk. 2- Operational risk.3- Empowerment risk. 4- Information processing and technology risk. 5- Integrity risk. 6- Strategic risks.

Collier (2009)	1- Business risk. 2- Operational risk. 3- Environmental and Reputation risk. 4-Financial risk.
Toma and Alexa (2012, p. 110)	1- Operational risks. 2- Financial risks. 3- Strategic risks. 4- Market risk. 5- Country risks. 6- Compliance risks. 7- Natural risks (environmental risk).
IFRS 7 (Financial Instruments: Disclosures) Tahat et al. (2016)	Financial risk: 1- Credit 2- Liquidity 3- Market risk
Kucuk Yilmaz and Flouris (2017)	1- Strategic risk. 2- Financial risk. 3- Operational risk.
Tricker (2019).	1- Strategic risk. 2- Managerial risk. 3- Operational risk.

The literature demonstrates that there is no universal method for categorising risks faced by companies. Nevertheless, The Institute of Chartered Accountants of England and Wales (ICAEW, 1997) introduced a proposal which was acquired by Linsley and Shrives (2006) to create a list of risk categories (Ali & Taylor, 2014). The list and the decision role utilised by Linsley and Shrives (2006) become commonly utilised in many studies (Abraham & Cox, 2007; Amran et al., 2009; Konishi & Mohobbot, 2007). Consequently, this study is employing risk categories outlined by Linsley and Shrives (2006), namely Financial Risk, Operational Risk, Empowerment Risk, Information Processing and Technology Risk, Integrity Risk, and Strategic risks. This classification has been cited and adopted in subsequent studies and recognised as a popular study (Elshandidy et al., 2018b).

2.4.3 Risk Management

Given the wide range of risks that organisations are exposed to in unstable and uncertain environments, businesses need to establish a way to evaluate, control and monitor these risks (Hopkin, 2018). Organisations recourse to risk management provides the chance to identify, analyse and react to risks (Merna, 2008). Risk management is not about eliminating risks, risk management is about identifying risks and calculating their effect when they occur (Hopkin, 2018). Risk management is "the process of understanding and managing risks that the organization faces in attempting to achieve its objectives" (Collier, 2009, p. 6). Hopkin (2018, p. 46) defines Risk management as "the set of activities within an organization undertaken to deliver the most favourable outcome and reduce the volatility or variability of that outcome". Linsley and Shrives (2000) touched on the significance of identifying and controlling risk for successful businesses and explained how critical it is to communicate risk information to stakeholders enabling them to evaluate the future impact of expected risks on the firm. In addition, reporting risk management steps and measures taken by directors to the public could motivate them to manage risk better (Linsley & Shrives, 2000).

2.4.4 Risk Disclosure Definition and Evaluation

Dissanayake (2023) indicates that risk disclosures are considered an important key to understanding the safety implications of an investment. Malafronte et al. (2016, p. 1) defines disclosure as "revealing of knowledge, freeing from secrecy or ignorance, or making known". Miihkinen (2012, p. 442) defines Risk Disclosure as "all information that firms provide in the risk reviews they present in their annual reports". Hassan et al. (2011) highlight two main categorise of corporate disclosure: Mandatory disclosure which is information disclosed to comply with laws and standards requirements, and voluntary disclosure which is any information disclosed in addition to mandatory disclosure. Lajili and Zéghal (2005) explained that risk information can be conveyed through three stages: "internal, intermediate, and external, where the internal risk communication involves sharing risk information between managers and employees in order to ensure efficiency, and the intermediate communication involves reporting risk information to the Board of Directors, in the external stage risk information are communicated externally to the public mainly through annual reports. Ibrahim and Hussainey (2019) study on UK firms revealed that 94% of risk information and 87% of the sentences on risk in a sample of 150 annual reports is discussing risk from negative views.

Hassan and Marston (2019) review the empirical literature on disclosure measurements and report more than 25 different ways to evaluate disclosure. However, there are two main broad methods to evaluate disclosure in firm's annual reports (Hassan & Marston, 2010). The first method is directly by scanning and exploring the disclosure medium itself (annual report) through counting risk information, building indices, and utilizing dummy variables. For example, this approach is used in Linsley and Shrives (2006) and Ntim et al. (2013). The second method is indirect and does not rely on the disclosure medium, this method utilizes readily measurements, carries out surveys, interviews and other data gathering mechanisms. Riley and Taylor (2014) and Tauringana and Chithambo (2016) for example use that approach. Moreover, Ibrahim and Hussainey (2019) listed two main techniques to measure annual reports narrative disclosure: content analysis (manual and computerized) and computational linguistics (fog Index and Texture Index).

Content analysis is a proven and well established in previous studies (Elshandidy & Neri, 2015; Haj-Salem et al., 2020; Lajili & Zéghal, 2005; Linsley & Shrives, 2006; Mousa & Elamir, 2013; Nicmanis, 2024; Torelli et al., 2020). Content analysis is defined by Bell et al. (2018, p. 281) as "an approach to analysis of documents and texts that seek to qualify content in term of predetermined categories and in a systematic and replicable manner". Content

analysis can be conducted manually as shown in Abraham and Cox (2007), Linsley and Shrives (2006), Al-Shammari (2014), and Haj-Salem et al. (2020) or using computer programs (computerized) as in Elshandidy et al. (2013) Ali and Taylor (2014), Elshandidy and Neri (2015), and Ntim et al. (2013). Still, Berger (2011) among other researchers suggest using computational linguistics or natural language processing techniques to measure risk information. However, not many researchers have the required knowledge and experience which could explain why manual analysis still attracts more disclosure research, despite being more time-consuming in comparison to computerized content analysis (Haj-Salem et al., 2020; Ibrahim & Hussainey, 2019). Moreover, Grimmer and Stewart (2013, p. 268) stressed that "the complexity of language implies that automated content analysis methods will never replace careful and close reading of texts". Accordingly, this study adopts the manual content analysis technique in order to generate the data for the respective research variables.

2.4.5 The importance of Risk Disclosure

Risk information within annual reports' narratives stands out as potentially the most accessible and impactful compared to other narrative disclosures (Ibrahim & Aboud, 2023). One of the primary reasons behind communicating information by companies is to help investors and other stakeholders in their investment choices by reducing their uncertainty (Cabedo & Tirado, 2004). Communicating information is very important in order to increase investors' confidence in the performance of capital markets (Deumes, 2008; Dissanayake, 2023). However, organisations are exposed to additional risks due to the rapid change in business environments and the way business is conducted in an era of fast technological advancement, globalization, high competition and new regulations which create the need for more information disclosure in addition to those provided in the traditional financial statements (Khandelwal et al., 2019). La Porta et al. (2006) found that higher enforcement governing disclosures is correlated to countries with stronger economies and well-developed capital markets.

Risk Disclosure significance was early acknowledged in regulatory papers to improve Risk Disclosure reported. For example, the Cadbury (1992) report on reforming Corporate Governance drew attention to the relevance of risk reporting to Corporate Governance and highlighted the importance of Risk Disclosure for stakeholders. Subsequently, other countries including the USA and Canada have understood the necessity to improve corporate Risk Disclosure as indicated by Solomon et al. (2000). According to Oliveira et al. (2013), Risk Disclosure caught the attention of shareholders and other stakeholders after the repeated

financial scandals which revealed the weaknesses of reporting systems. This motivates investors to require more information reporting and resulted in greater interest in more Risk Disclosure to assess organisations risks (Abdallah et al., 2015). Prior to the financial crises in 2007 and 2008 Lang and Jagtiani (2010, p. 141) affirmed that "financial firms lacked effective internal controls, accurate and timely financial and risk reporting to the right management level, and a corporate-wide view of risk or an enterprise-wide risk management program". This increased the pressure on organisations for more transparency and higher information reporting (Heinle & Smith, 2017), especially after several Risk Disclosure studies (Abraham & Shrives, 2014; Elshandidy & Neri, 2015; Khandelwal et al., 2019). These revealed that risk reporting increased but was still inadequate and limited in spite of all the emphasis on the need for more quality risk disclosure by investors, other stakeholders, regulatory reports, and regulation reforms. Other regulatory reforms such as Cadbury (1992) and the International Financial Reporting Standards (IFRS 7) which requires both qualitative and quantitative disclosure (Tahat et al., 2016). Furthermore, Elshandidy et al. (2018b) suggests more research should be conducted on risk reporting to further develop risk reporting standards. Prior Research, including Dobler et al. (2011), Elshandidy and Neri (2015), Elshandidy et al. (2018a), Ibrahim and Hussainey (2019), and Haj-Salem et al. (2020), stress the need for more empirical research aimed at understanding how the information disclosed by companies about their risks is adding value.

Linsley and Shrives (2000, p. 115) stated that "although businesses have had the opportunity to disclose risk information voluntarily few have done so". Later, Linsley and Shrives (2006) in their content analysis of 79 UK firms' annual reports confirmed the existence of "Risk Disclosure gap". Marshall and Weetman (2007) addressed the existence of the information gap between managers and reports' users. The existence of this gap could be related to a few factors including the cost of generating and disclosing the information (Bình, 2012; Clinch & Verrecchia, 1997) which may impact the level of disclosure, and after a certain point the cost of voluntarily disclosing information will be higher than the benefit of sharing it as explained by Linsley and Shrives (2000). Another factor is the fear of legal actions against managers when investments decisions are based on wrong management estimates as reported by Linsley and Shrives (2006). Moreover, there also exists the risk of releasing confidential information that may be used by rivals against the firm or lead to loss of competitive advantage (Marshall & Weetman, 2007). Beretta and Bozzolan (2004) and Khandelwal et al. (2019) highlighted the importance of Risk Disclosure and pointed out the

existence of disclosure gap or information asymmetry and the need to protect the users of financial reports from significant disclosure gaps.

Overall, publishing risk information is essential for evaluate the risks that business may encounter which drives the rate of return suitable for taking such business risks (Lev, 1988). In addition, Lev (1988) asserts that insufficiently disclosed risk information may leads to various issues including reduced stock liquidity, higher transaction costs, and less profitable investments. Some countries implemented regulations to mandate Risk Disclosure including Germany and the United States of America (Ibrahim & Aboud, 2023). Jordan doesn't have specific regulations exclusively focusing on disclosing risk information. However, the Securities Law 2002, along with its disclosure directives requires Jordanian listed companies to disclose particular pieces of information (Haddad et al., 2017). This study will add to the empirical evidence of the importance of Risk Disclosure impact on Firm Value which may necessitates implementing mandated Risk Disclosure directives.

2.5 Risk Disclosure and Corporate Governance

Companies tend to disclose risk information in order to improve its reputation and attract investors (Salem et al., 2019). In addition, Saggar and Singh (2019) stress that disclosing risk information in the annual reports helps preventing speculation, leaks, rumours, and insider activities. On the other hand, companies find themselves under pressure to disclose more risk information as understanding increases among stakeholders of the value of Risk Disclosure. However, global financial crises revealed significant worries surrounding Risk Disclosure which led to an increase in Risk Disclosure requirements (Al-Maghzom et al., 2016). Even with these regulatory requirements, the extent and quality of Risk Disclosure varies among companies and across various countries (Ibrahim et al., 2019). This prompts previous studies to focus on finding out what drives disclosing risk information in the companies' annual reports (Allini et al., 2016; Dobler et al., 2011; Elshandidy et al., 2018a; Elzahar & Hussainey, 2012; Lajili, 2009). This focuses the attention on the Board of Directors where disclosure choices are made and controlled (Saggar & Singh, 2019). Linsley and Shrives (2006) indicate that Risk Disclosure is shaped by a few variables including Corporate Governance, ownership composition and corporate attributes. Seta and Setyaningrum (2018) state that the impact of Corporate Governance on Risk Disclosure has been previously investigated and found a significant relationship between certain Corporate Governance mechanisms and Risk Disclosure. To date, studies examining the association between Corporate Governance and Risk Disclosure have produced conflicting results (Ahmad et al.,

2021). For example, Ismail and Rahman (2011) and AL-Dubai (2023) report a positive relationship between level of education of board members and disclosure. However, Mahadeo et al. (2012) reveals a negative association between the education level of the board and Risk Disclosure. Furthermore, Subramaniam et al. (2009) Ntim et al. (2013) and Ibrahim et al. (2019) stress a positive correlation between Board Independence and risk information disclosure. On the other hand, Elshandidy et al. (2018a) report negative correlation between Board Independence and Risk Disclosure, while Desender (2011) reveals that independent board directors do not necessarily correlate with risk management.

In addition, studies examining the relationship between Corporate Governance and Risk Disclosure extends across various countries, reflecting global interest in this area. Within the domain of developed financial markets, studies such as Ahmed et al. (2006) examining 141 US banks, Miihkinen (2012) investigating 99 Finish firms, Abraham and Shrives (2014) examining four companies in the UK, Fukukawa and Kim (2017) investigating non-financial firms in Japan, and Carlon et al. (2000) examining the annual reports of 54 Australian companies operating in the mining sector. These studies explore various aspects of Risk Disclosure practices within their respective national context, highlighting the relationships between Corporate Governance mechanisms and Risk Disclosure practices within the context of developed financial markets. On the other hand, research in developing countries include, an investigation by Ibrahim et al. (2019) of 408 annual reports of Saudi non-financial-listed firms during 2012-2015, Jain and Raithatha (2022) examined a sample of the top 200 Indian listed firms on NSE Propensity, Kamal Hassan (2009) explored 41 UAE corporations, Mousa and Elamir (2013) investigate 46 listed companies on the Bahrain Bourse, and Kutum (2014) examines all 15 banks listed on the Amman Stock Exchange for the year ending December 2013, AL-Dubai (2023) explores the impact of board attributes of education (level, field and country) on corporate financial risk disclosure in Saudi Arabia focusing on 4 companies in the energy industry. These studies enhance the understanding of Risk Disclosure practices in emerging markets.

Ahmad et al. (2021) point out that previous studies explored the relationship between Corporate Governance mechanisms and Risk Disclosure have been carries out in developed economies. Similarly, Tahat et al. (2019) reviewed the literature on Risk Disclosure and found that of 19 papers selected from journals ranked on a level of three and four stars that the majority of these studies lack frameworks and use regression analysis to test hypothesis with focus on the quantity more than the quality of risk disclosed, and most of these studies concentrate on financial intuitions. The findings of Ahmad et al. (2021) and Tahat et al.

(2019) highlights the existing gap in the literature concerning the relationship between Corporate Governance and Risk Disclosure, especially in the emerging capital markets, where the focus on emerging markets has not been given much attention (Ekramy & Mellett, 2013; Hassan et al., 2009). In addition, the results of Tahat et al. (2019) regarding the absence of frameworks in research and the focus on the use of regression analysis to test hypothesis examining the quantity more than the quality of risk disclosed highlights the need for more comprehensive and qualitative approaches to understand the interactions of Risk Disclosure practices, Furthermore, the concentration of studies in the financial sector highlights the need to extend the focus of research within the context of non-financial sectors.

Accordingly, this research contributes to the existing literature as it explores the impact of Corporate Governance variables on Risk Disclosure through the following avenues. Firstly, this research focuses on the developing share market of Jordan which adds to the literature investigating the relationship between Corporate Governance and Risk Disclosure in developing countries. Secondly, this study diverges from the majority of studies examine the connections between Corporate Governance and Risk Disclosure by centring its focus on both the industrial and the Services Sectors providing a cross sectors comparison of results, whereas previous studies have predominantly concentrated on financial institutions. Finally, this research takes a different approach from the majority of previous studies and develops a research framework that explores the strength and direction of the correlation between Corporate Governance mechanisms and both Risk Disclosure Quantity and Quality.

2.5.1 Risk Disclosure Literature Themes

The growing interest of investors and other stakeholders in annual reports narrative (notes to financial statements) has developed since the 1980s (Nichita, 2015). This growing literature on Risk Disclosure can be organised in three main themes: Geographical Context (developed versus developing), Samples' industry type (Financial and Non-financial) theme and Measurement techniques theme.

2.5.1.1 Geographical Context (Developed Versus Developing)

Ekramy and Mellett (2013) indicated that most of the previous studies on Risk Disclosure studies have been carried out in developed countries. Yet, Research on Risk Disclosure is still insufficient (Abraham & Shrives, 2014; Miihkinen, 2012). Furthermore, focus on emerging markets has not been given much attention (Ekramy & Mellett, 2013; Hassan et al., 2009). Moreover, Abdallah et al. (2015) states that Risk Disclosure research has

given little attention to the impact of Corporate Governance on the level of disclosure, particularly in developing markets.

In Jordan, a recent study by Alkurdi et al. (2019) examined the effect of Corporate Governance mechanisms on Risk Disclosure for a list of 15 Jordanian banks. Their study found that Board Size and independent board, the separation of duties, and Audit Committee meetings are positively correlated with Voluntary Risk Disclosure (VRD). Interestingly they also found that the Managerial Ownership attribute was a negative impact. However, it should be notes that an earlier study on Jordanian banks by Mardini (2015) found that Corporate Governance and voluntary Risk Disclosure are not related. This research adds to the literature on Risk Disclosure in developing countries and attempt to fill the gap in the literature on Risk Disclosure in developing countries specifically Jordan.

2.5.1.2 **Industry Type (Financial and Non-financial)**

Although they may appear to be the same, financial companies are different in their business operations from those of non-financial companies, and they operate under different disclosure practice framework and regulations (Al-Shammari, 2014). Accordingly, financial and non-financial companies should be researched independently to avoid research analysis bias (Khlif & Hussainey, 2016; Linsley & Shrives, 2006). For example research completed by Alkurdi et al. (2019); Mardini (2015) and Miihkinen (2012) investigated Risk Disclosure in financial companies, while Al-Shammari (2014); Dumay and Hossain (2019); Fukukawa and Kim (2017) and Yang et al. (2018) investigated Risk Disclosure in non-financial companies. In a Jordanian context, Alshirah et al. (2020) asserted that disclosure-related studies are very limited and are mostly concerned with corporate disclosures in general (Alhazaimeh et al., 2014; Haddad et al., 2015; Haddad et al., 2017; Omar & Simon, 2011), and there are only a handful of studies concerned with Risk Disclosure in Jordan. Some of these few empirical studies on Risk Disclosure focused on financial companies such as; Alkurdi et al. (2019), Mardini (2015), Kutum (2014) and Tahat (2014) while there is hardly any studies that focus on non-financial companies such as Alshirah et al. (2021) and Alshirah et al. (2019).

2.5.1.3 **Measurement Techniques Used**

To evaluate disclosure in firm's annual reports Berger (2011) suggests utilizing computational linguistics to measure risk information, the same techniques employed by Yang et al. (2018), Berger (2011), and Beyer et al. (2010). However, other research projects utilized content analysis including Abraham and Cox (2007), Elzahar and Hussainey (2012),

Greco (2012), Hassanein (2015), Dumay and Hossain (2019), Torelli et al. (2020), Bufarwa et al. (2020), Alshirah et al. (2020), Ibrahim and Aboud (2023). Content analysis is precise and a reliable approach, as it ensures consistency and offers credible references from the information disclosed in the narrative (Al-Maghzom et al., 2016; Ibrahim & Aboud, 2023). Al-Maghzom et al. (2016) note that content analysis could be conducted either manually or automatically (computerised) or both. Some studies such as Abraham and Cox (2007), Linsley and Shrives (2006), Al-Shammari (2014) and Elzahar et al. (2015) and Alshirah et al. (2021) applied manual content analysis metho**d** while other including, Dumay and Hossain (2019); Kothari et al. (2009), Smith and Taffler (2000) and Ibrahim and Aboud (2023) utilised computerized content analysis method. Others including Hussainey et al. (2003); Elshandidy and Neri (2015) Elshandidy et al. (2013) and Hassanein (2015) used both manual and automatic methods.

Accordingly, this study will add to the current limited literature on risk-disclosure studies in emerging markets specifically in Jordan. In addition, this study will examine Risk Disclosure in the annual reports of non-financial companies listed in Jordan adopting manual content analysis techniques over the period from 2015-2019. Table 2-11 categorizes the related literature on Risk Disclosure into the three themes discussed above. This table illustrates the extent of research endeavours in this field of study. Clearly there is a rich research base to support on-going efforts to understand the key elements and approaches to risk disclosure study.

Table 2-11

Summary of previous Risk Disclosure studies themes

Research setting (Country)		
Developed capital markets		Jorion (2002) in the US, Blankley et al. (2002) in the US, Combes-ThuÚlin et al. (2006) in France, Beretta and Bozzolan (2004) in Italy, Durnev and Kim (2005) in 27 developed countries, Black et al. (2006) in Korea, Abraham and Cox (2007) in the UK, Konishi and Mohobbot (2007) in Japan, Marshall and Weetman (2007) in the US & the UK, Lajili (2009) in Canada, Elzahar and Hussainey (2012) in the UK, Miihkinen (2012) in Finland, Dobler et al. (2011) in the US, UK, Canada and Germany, Abraham and Shrives (2014) Fukukawa and Kim (2017) in Japan, Yang et al. (2018) and Brasel et al. (2016) in the US, Dumay and Hossain (2019) in Australia, and Ibrahim and Aboud (2023) in the UK.
Emerging capital market		Alkurdi et al. (2019) in Jordan, Mardini (2015) in Jordan, Al-Maghzom et al. (2016) in Saudi Arabia, Mousa and Elamir (2013) in Bahrain, Amran et al. (2009) in Malaysia, Al-Shammari (2014) in Kuwait, and Alshirah et al. (2020).
Sample /Industry Type		
Financial firms		Alkurdi et al. (2019), Miihkinen (2012), Mardini (2015), Kutum (2014), Tahat (2014), Kilic et al. (2013), Lim et al. (2013), O'Hanlon (2013) and Palmer and Schwarz (1995).
Non-financial firms		Fukukawa and Kim (2017), Yang et al. (2018), Dumay and Hossain (2019), Abraham and Shrives (2014), Yang et al. (2018), Marshall and Weetman (2007), Al-Shammari (2014), Konishi and Mohobbot (2007), Alshirah et al. (2021), Alshirah et al. (2019) and Ibrahim and Aboud (2023)
Risk Disclosure measurement techniques		
Content analysis	Manual	Abraham and Cox (2007), Elzahar and Hussainey (2012), Greco (2012), Al-Shammari (2014), Elzahar et al. (2015), and Alshirah et al. (2021)
	Computerised	Kothari et al. (2009); Smith and Taffler (2000), Dumay and Hossain (2019), and Ibrahim and Aboud (2023)
	Both	Hussainey et al. (2003), Elshandidy and Neri (2015), Elshandidy et al. (2013), and Hassanein (2015)
Computational linguistics	Fog Index Texture Index	Yang et al. (2018), Berger (2011), and Beyer et al. (2010)

2.6 Firm Value

Value is an important concept that expresses the need to keep or acquire a good (Neap & Celik, 1999). Rashid and Islam (2008, p. 13) defines the term 'value' as "the utility or the benefit derived from a good or an object". Traditionally Firm Value is associated with owners' value, later different perspectives appeared and some researchers found that Firm Value should be focused on all stakeholders not only shareholders (Lonkani, 2018). Accordingly "investors' perception toward firm that often associated with stock prices" (Putu et al., 2014, p. 35). Rajhans (2013) emphasized that Firm Value reflects its financial health, future prospects and maximizing the shareholders' wealth. However, Boţoc (2015) stressed that maximizing stockholders wealth is certainly the aim of firms.

Firm Value can be determined in different approaches, some researchers used accounting based measures, including return on assets and return on equity, while others used market based measures like Tobin's Q ratio (Black et al., 2006; Bocean & Barbu, 2007; Haj-Salem et al., 2020; Pintea & Fulop, 2015). Nevertheless, some researchers like Alqatan et al. (2019) used both Tobin's Q ratio and return on assets. Siagian et al. (2013) combined return on assets, market to book ratio and Tobin's Q ratio to proxy for Firm Value. However, Kumar (2004) and Ross et al. (2008) suggest that as accounting based measures are historical in nature and do not reflect future possibilities, and that they also ignore risk their use may be restricted. Moreover, Alexander et al. (2011) indicated that changes in firms accounting policies or methods may impact the calculation of these measures. Accordingly, accounting measures will not be employed in this study.

Rashid and Islam (2008) listed six market measures of Firm Value: Market-to-Book Value Ratio, Price-Earnings Ratio, Value Ratio, Net Present Value, Internal Rate of Return, and Tobin's Q Ratio. However, the most popular approach to determine the Firm Value is Tobin's Q ratio (Tahir & Razali, 2011). Haniffa and Hudaib (2006) argued that Tobin's Q ratio captures management effectiveness in employing the firm assets to generate value for shareholders. This could explain why the Tobin's Q ratio has been broadly used as a measure for Firm Value in previous literature Antonczyk and Salzmann (2014). Table 2-12 presents the findings and summary of literature on Corporate Governance and Firm Value which clearly show that Tobin's Q is the most used approach to proxy for Firm Value. Moreover, Al-ahdal et al. (2020, p. 4) clarifies that Tobin's Q reflects "the market's expectation of the performance of firms. It can be calculated by dividing market capitalization plus total debt by a total asset of the company". It is worth mentioning that market capitalization is a measure which reflects "the public opinion of a company's net worth" Ehie and Olibe (2010, p. 130).

Tobin's Q ratio was developed by James Tobin (1969) which represents the proportion of market value of a firm's assets to their replacement value (Singhal et al., 2016; Tahir & Razali, 2011). Tobin's Q ratio has been calculated differently in different researches (Rashid & Islam, 2008). For example, it has been formulated as equity and total assets to total assets of a company (Klapper & Love, 2002) while in (Gompers et al., 2003) it was calculated by dividing market value of assets on the book value of assets. According to Silva et al. (2018, p. 691) Tobin's Q ratio can be represented as: "the market value of equity plus the book value of liabilities, divided by the book value of assets at the end of each year". The Silva et al., (2018) method of calculating Tobin's Q ratio will be adopted in this research as the proxy for Firm Value following the pattern of previous research (Batten & Vo, 2019; Fang et al., 2009; Nguyen et al., 2016; Rashid & Islam, 2008)

2.7 Firm Value and Corporate Governance

Broad previous research has investigated the effect of Corporate Governance on Firm Value (Ammann et al., 2011; Antonczyk & Salzmann, 2014; Baek et al., 2004; Balachandran & Faff, 2015; Bennouri et al., 2018; Black et al., 2006; Brown & Caylor, 2006; Ciftci et al., 2019; Enache & Hussainey, 2020; Ibrahim & Aboud, 2023; Kajola, 2008; Khaniya et al., 2023; Leung & Cheng, 2013; Musa & Yahaya, 2023; Siagian et al., 2013; Uddin et al., 2021).

The literature on the relationship between Corporate Governance and Firm Value can be classified into the following themes:

2.7.1 Geographical Context

Empirical research on the relationship between Firm Value and Corporate Governance has mainly been conducted in developed capital markets (Arora & Sharma, 2016). This relationship has also been explored in emerging capital markets for example; Black et al. (2014) who competed a study on 5 emerging markets and revealed that better Corporate Governance practices are correlated with better growth opportunities and higher Firm Value.

Studies examining the relationship between Corporate Governance and Firm Value have been conducted in both developed and developing (emerging) capital markets. Studies conducted within developed financial markets context include, Bhagat and Black (2001) USA, Black and Kim (2012) Korea, Adams and Mehran (2012) USA, Larcker et al. (2007) USA, Giroud and Mueller (2010) USA, Shank et al. (2013) USA, Labelle (2002) Canada, Gompers et al. (2003) USA, Drobetz et al. (2004) Germany, Bassen et al. (2009) Germany, Cremers and Ferrell (2014) USA, Bennouri et al. (2018) France, Gupta et al. (2009) Canada,

and Enache and Hussainey (2020) USA. On the other hand, studies conducted within developing financial markets context include, Kajola (2008) Nigeria, Abdallah et al. (2015) Gulf Cooperation Council countries Jackling & Johl (2009) India, Ntim, (2009) South Africa, Ciftci et al. (2019) Turkey, Haj-Salem et al. (2020) Tunisia, Black et al. (2014) 5 countries, Al-Khouri (2006) Jordan, Kartika (2021) and Altawalbeh (2020) Jordan.

2.7.2 Methodological approaches

Research on Corporate Governance and the relationship to Firm Value can be classified into two main categories, studies using individual parameters (mechanisms) of Corporate Governance (Adams & Mehran, 2012; Bennouri et al., 2018; Bhagat & Black, 2001; Black & Kim, 2012; Ciftci et al., 2019; Haj-Salem et al., 2020; Jackling & Johl, 2009; Kajola, 2008; Labelle, 2002), and studies that utilized or constructed indices to capture the research variables aspects, especially Corporate Governance indexes (Bassen et al., 2009; Black et al., 2014; Cremers & Ferrell, 2014; Drobetz et al., 2004; Giroud & Mueller, 2010; Gompers et al., 2003; Labelle, 2002; Larcker et al., 2007; Ntim, 2009; Shank et al., 2013). Some other studies used both the single measures and the indices measures in the same study Bassen et al. (2009) and Enache & Hussainey (2020) which will be adopted in this study.

Correlation Patterns and Debates

Michelberger (2016) and Pintea and Fulop (2015) reviewed the empirical studies conducted on Corporate Governance and Firm Value and concluded that the connections or correlation between Corporate Governance and Firm Value is still debatable, part of the literature noticed strong positive correlation, some studies reported a negative relation while other studies did not detect any link at all. Black and Kim (2012) investigated the effect of board structure as a single Corporate Governance element on Firm Value (Tobin's Q) of Korean companies and concluded a positive effect. Similarly, Gompers et al. (2003) found positive correlation between shareholder rights (measured as a governance Index) and Firm Value of 1,500 US firms. However, Bennouri et al. (2018) explored the effect of female directorship on Firm Value of 394 French companies and concluded that female directorship has a significant positive impact on ROA and ROE, and significant negative impact on Tobin Q. A recent study by Haj-Salem et al. (2020) investigated the collective impact of Corporate Governance and corporate Risk Disclosure on Firm Value of 156 Tunisian listed companies using and concluded that corporate Risk Disclosure and family ownership are negatively influence Firm Value. However, the other governance mechanisms (Board Size, Audit

Committee Independence, and women on the board) are correlated positively with Firm Value.

Al-Khouri (2006) empirically investigated the impact of specific Corporate Governance mechanisms (identity and concentration of different block holders) on the Firm Value of 89 Jordanian industrial and service listed companies over the period (1998 – 2001), and controlled for few variables including; Firm Size, Leverage, Firm Age and Dividend. The study concluded a positive and material correlation between Firm Value and ownership by institutional investors, and non-significant association between Firm Value and ownership by management. A recent empirical study by (Altawalbeh, 2020) on 60 Jordanian listed industrial and service companies investigated for the period between 2012-2017 revealed that Board Meetings frequency and government ownership impact on Firm Value (measured as ROA) is significant and positive while the impact of Board Independence is significantly negative. Bassen et al. (2009) studied the impact of compliance with the German Corporate Governance code on firm performance in a sample of 100 big German firms. Individual analysis of the eleven components of the code correlation with four performance measures revealed the following mixed results: "Three of them, association with all performance measures are insignificant. Four (four) components are significantly positively (negatively) connected with at least one performance measure" (Bassen et al., 2009, p. 388). But the correlation was negative and significant when compliance with code was taken as an aggregate (composite).

In summary, this study builds on previous research on Corporate Governance and Firm Value and contributes to the current limited literature on Corporate Governance in the context of developing stock markets, specifically in the emerging financial market of Jordan. In addition, this study will add to the limited studies on Corporate Governance practices in nonfinancial companies by examining Corporate Governance practices in the annual reports of Jordanian listed companies in both the Industrial and the Services sectors, adopting manual content analysis techniques over the period from 2015-2019. The following Table 2-12 summarises and categorises the previous studies discussed above on Firm Value and its interactions with Corporate Governance. While various existing research explores individual mechanism, this study adds to the literature using multiple Corporate Governance variables including, Board Independence, Board Education, Board Size, Board Gender, Board Meetings, Board Committees' effectiveness, Ownership Structure, and External Audit Factors. Incorporating all these variables in one study can be considered rare, there is a need for studies that consider these factors collectively.

Table 2-12

Findings and Summary of literature on Corporate Governance and Firm Value

Country (Financial Market)	
Developed	Bhagat and Black (2001) USA, Black and Kim (2012) Korea, Adams and Mehran (2012) USA, Larcker et al. (2007) USA, Giroud and Mueller (2010) USA, Shank et al. (2013) USA, Labelle (2002) Canada, Gompers et al. (2003) USA, Drobetz et al. (2004) Germany, Bassen et al. (2009) Germany, Cremers and Ferrell (2014) USA, Bennouri et al. (2018) France, Gupta et al. (2009) Canada, Enache and Hussainey (2020) USA, and Ibrahim and Aboud (2023) in the UK.
Developing	Kajola (2008) Nigeria, Jackling and Johl (2009) India, Ntim (2009) South Afric, Ciftci et al. (2019) Turkey, Haj-Salem et al. (2020) Tunisia, Black et al. (2014) 5 countries, Al-Khouri (2006) Jordan, Kartika (2021), Altawalbeh (2020) Jordan, and Musa and Yahaya (2023) Nigeria
Corporate Governance parameters (mechanisms) measurement	
Individual (single)	Bhagat and Black (2001), Black and Kim (2012), Kajola (2008), Jackling and Johl (2009), Adams and Mehran (2012), Labelle (2002), Bennouri et al. (2018), Ciftci et al. (2019), Haj-Salem et al. (2020), and Altawalbeh (2020)
Comprehensive (indies)	Larcker et al. (2007), Giroud and Mueller (2010), Gompers et al. (2003), Drobetz et al. (2004), , Shank et al. (2013), Cremers and Ferrell (2014), Ntim (2009), and Black et al. (2014).
Both	Bassen et al. (2009) and Enache and Hussainey (2020)
Firm Value measurement	
Market based measures	Black et al. (2014) Tobin's Q, Haj-Salem et al. (2020) Tobin's Q, Enache and Hussainey (2020) Tobin's Q, Cremers and Ferrell (2014) Tobin's Q, Gompers et al. (2003) Tobin's Q, Adams and Mehran (2012) Tobin's Q, Black and Kim (2012) Tobin's Q, and Drobetz et al. (2004) Tobin's Q and market-to-book ratio.
Accounting based measures	Altawalbeh (2020) ROA, Labelle (2002) ROE, Shank et al. (2013) Portfolio return, Giroud and Mueller (2010) ROA, and Kajola (2008) Profit Margin and ROE
Both market and accounting	Ciftci et al. (2019) Tobin's Q and ROA , Bennouri et al. (2018) Tobin's Q, ROA and ROE, Ntim (2009) Tobin's Q and ROA, Larcker et al. (2007) Book to market ratio, Market Cap, Profit margin and ROA, Jackling and Johl (2009) Tobin's Q and ROA, Bassen et al. (2009) Tobin's Q, market-to-book ratio of equity, stock return, ROA and ROE, and Bhagat and Black (2001) Tobin's Q, Operating income to Assets, Sales to Assets and Market adjusted stock price return.
Correlation between Corporate Governance and Firm Value	
Positive	Black and Kim (2012), Larcker et al. (2007), Gompers et al. (2003), Drobetz et al. (2004), Ntim (2009), Enache and Hussainey (2020), and Black et al. (2014)
Negative	Giroud and Mueller (2010) and Cremers and Ferrell (2014)
No correlation	Shank et al. (2013) and Bhagat and Black (2001)
Mixed results	Kajola (2008), Jackling and Johl (2009), Adams and Mehran (2012), Labelle (2002), Bassen et al. (2009), Bennouri et al. (2018), Ciftci et al. (2019), Haj-Salem et al. (2020), and Altawalbeh (2020).
*Mixed results: correlation results vary across different variables of the same group (negative, positive and no correlation)	

These themes underscore the complexity and the variability in the relationship between Corporate Governance and Firm Value, influenced by factors such as, mechanisms utilized, geographical context, measurement methods, and correlation patterns.

To conclude, the literature review sheds light on the complex relationships among Corporate Governance, Risk Disclosure, and Firm Value. While some studies identify positive associations between specific Corporate Governance mechanisms, risk disclosure practices, and firm value, others show mixed or inclusive results. This underscores the need for further research to enhance the understanding of these relationships. In addition, while much of the prior studies examine these relationships focusing on developed share markets, exploring these relationships in the contexts of developed countries needs more research. Furthermore, research in the areas of Corporate Governance, Risk Disclosure, and Firm Value employ various methodological approaches, including examining individual variables or constructing indices to capture Corporate Governance practices and Risk Disclosure practices. Some studies utilize accounting-based measures of Firm Value, such as return on assets and return on equity, while others employ market base measures like Tobin's Q ratio. This variation in the approaches employed in different studies highlights the importance of methodological considerations in exploring the connections between Corporate Governance, Risk Disclosure, and Firm Value. This requires this research to justify the chosen approach to ensure a meaningful link into the complex relationship between the research variables. Finally the review of the literature, as far as this study is aware, has not previously examined the impact of Corporate Governance mediated through Risk Disclosure into Firm Value, particularly in an emerging capital market or in Jordan.

2.8 Control Variables

Identifying the relevant Control Variables is an important aspect of research, especially in studies exploring complex relationships between multiple variables, "primarily due to the pragmatic challenges inherent in conducting experimental and quasi-experimental studies" (Bernerth & Aguinis, 2016, p. 270). In addition, Bernerth and Aguinis (2016, p. 276) emphasise the "important to discuss the control variable inclusion or exclusion process openly and transparently", which requires incorporating the control variables into the research analysis, providing descriptive statistics for all the control variables included, and evaluating the results with and without controls.

Control Variables, as outlined by Strang (2015), are factors beyond the primary independent variables, that may impact the dependent variables under investigation. In this

research, which investigates the influence of Corporate Governance on Firm value including the via Risk Disclosure impact, the identification and the inclusion of relevant Control Variables are essential to ensure the accuracy and the validity of the findings. Controlling these variables in the analysis helps to ensure that the relationships between Corporate Governance, Risk Disclosure, and Firm Value are correctly assessed without control Variable influence. However, Control variables can be incorporated into a research only when logical reasoning or empirical evidence justification can be provided (Strang, 2015).

Bernerth and Aguinis (2016) indicate that considering prior empirical research is one way to identify Control Variables. Consequently, this research aims to draw on insights from prior empirical studies in the field of Corporate Governance to establish the understanding of the factors that may directly impact Firm Value other than the main independent variables of Corporate Governance mechanisms. For example, Musa and Yahaya (2023) investigate how Corporate Governance impacts the Firm Value of 134 listed Nigerian firms. They incorporate several factors as control variables including, dividend policy, firm size, asset tangibility, profitability, and leverage as Control variables. Their findings regarding the impact of these control variables on Firm Value are as follows, Leverage shows a positive and significant relationship, while asset tangibility shows a positive and significant impact. Profitability impact is negative but statistically non-significant. However, dividend policy demonstrates a negative yet significant relationship. Additionally, firm size shows a negative but significant correlation. In another example, Haj-Salem et al. (2020) consider firm size, leverage, liquidity and dividend as control variables in exploring the joint effect of Corporate Governance and Corporate Risk Disclosure on Firm Value in Tunisia. Their results indicate that company size has positive and significant impact on firm value. While the impact of leverage and liquidity impact is positive, it is not statistically significant. On the other hand, the impact of dividend is negative and significant. Further, Kartika (2021) investigates the moderating role of Corporate Social Responsibility in the relationship between good Corporate Governance and Firm Value assuming Growth, Size, Profitability, Leverage and Age as Control Variables. Similarly, Uddin et al. (2021) consider Firm Size and Profitability as Control Variables when investigating the relationship between Corporate Governance and Firm Value. Their findings show that firm size negatively and significantly impacts firm value, while profitability impacting firm value is positive and significantly. Gupta et al. (2009) assess the connections between Firm Value and ownership and post take over operations performance considering company size and leverage as Control Variables. Their results illustrate that company size has

a significant negative influence on Firm Value (Tobin's Q), while Leverage has a positive non-significant influence.

Based on evidence from prior studies that these Non-Corporate Governance Variables can directly influence Firm Value, this research incorporates five Control Variables: Company Size, Company Age, Leverage, Liquidity, and Profitability. These five variables are identified in previous research as significant factors affecting Firm Value.

2.8.1 Company Size

Several studies highlight the significant influence of Company Size on Firm Value (Akhtaruddin & Haron, 2010; Bandanuji & Khoiruddin, 2020; Carter et al., 2003; Gupta et al., 2009; Loncan & Caldeira, 2014; Musa & Yahaya, 2023; Reschiwati et al., 2020; Uddin et al., 2021). Companies with larger assets bases are usually stable and well-established with greater profit-making abilities, which is perceived as good indication by investors, potentially leading to increased share prices (Bandanuji & Khoiruddin, 2020). In addition, according to Reschiwati et al. (2020) a larger company size makes access to funding easier and helps to secure loans, leading to an increase in the amount of debit that contributes to the development of the company, and enhances investors' confidence and eventually firm value. However, Zuhroh (2019) reports that company size has a direct and significant negative impact on Firm Value. Furthermore, Doukas et al. (2000) reports that agency problem and higher agency costs are seen more in larger companies as their managerial structure is more complex which involves more monitoring costs. In addition to the impact of Company Size on Firm Value, prior literature also highlights its impact on disclosure practices (Allini et al., 2016; Beretta & Bozzolan, 2004; Buzby, 1975; Dobler et al., 2011; Linsley & Shrives, 2006). For instance, Buzby (1975) argues that the requirements for detailed disclosures put small companies in unfavorable circumstances. They often have fewer resources to afford the cost of producing information to comply with disclosures requirements compared to larger companies. Beretta and Bozzolan (2004) state that a larger sized company usually implies stability, growth, and Profitability which have a big effect on disclosure quantity.

2.8.2 Company Age

Multiple researchers underline the direct significant impact of Company Age on Firm Value (Al-Khouri, 2006; Kartika, 2021; Saona Hoffmann et al., 2019). Stangler and Kedrosky (2010) indicate that young companies that are usually less than five years old are often smaller in size than the older ones. This brings the factors related to company size, discussed

above, and their impact on Firm Value. Moreover, Akhtaruddin (2005) argues that newer companies tend to have less information available for disclosure and suggesting that disclosing certain information may expose these company to competitive disadvantage, which makes them to be seen as riskier investment options, impacting their Firm Value. Company Age is an important factor that may influence the company ability to generate profit and, consequently, its value(Khaniya et al., 2023). In addition, Alkayed and Omar (2023) indicate that Company age may affect the amount and the quality of information disclosed.

2.8.3 Leverage

Gupta et al. (2009) refer to Leverage as the ratio of the company debt to its total assets. Leverage has been underlined to have a significant influence on firm value in multiple studies (Akhtaruddin & Haron, 2010; Gupta et al., 2009; Haj-Salem et al., 2020; Kartika, 2021; Markonah et al., 2020; Musa & Yahaya, 2023). For instance, Wijaya et al. (2010) indicate that financial decisions have an impact on Firm Value, where using borrowed funds to finance investments or operations can positively impacts Firm Value. Musa and Yahaya (2023) indicate that higher levels of debts may lead to reduced cash generation for the company, which may affect its financial performance. Further, they indicate that high levels of debt of a company may lead to the allocation of the significant portion of its cash flow towards servicing those debts, which can leave less available for dividend payments to shareholders, leading to lower investor expectations and potentially impact the overall value of the company.

2.8.4 Liquidity

Liquidity is referred to as the capability of a company to meet its financial obligations and settle its immediate debts, and this is found by comparing the firm’s current assets to its current liabilities (Markonah et al., 2020; Zuhroh, 2019). The impact of Liquidity on Firm Value is highlighted in prior research (Haj-Salem et al., 2020; Markonah et al., 2020; Safitri et al., 2015; Zuhroh, 2019). Nonetheless, Markonah et al. (2020) argue that the correlation between Firm value and Liquidity can be explained by the level of cash management efficiency, particularly when higher Liquidity is not reflected in higher Firm Value. They stress that leverage ratio is often seen in high-performing companies, which in turn, can attract the interest of investors, and potentially lead to increased Firm Value.

2.8.5 Profitability

Profitability, similar to the other control variables, is highlighted in many studies showing that it directly and significantly impacts Firm Value (Kartika, 2021; Markonah et al., 2020; Musa & Yahaya, 2023; Safitri et al., 2015; Uddin et al., 2021). Jihadi et al. (2021) highlights the importance of Profitability in providing insights into the effectiveness of a firm in generating earning relative to its cost over a specific period. Also, according to Markonah et al. (2020) it provides an indication of the competency of the company's management. Besides its favorable effect on Firm Value, prior studies including Inchausti (1997); Wallace and Naser (1995), and Sinaga and Fachrurrozie (2017) show that Profitability has the potential to impact information reporting (Disclosure) in the annual reports.

To conclude, this research considers and incorporates five Control Variables, Company Size, Company Age, Leverage, Liquidity, and Profitability. These variables are identified based on their proven impact on Firm value found in prior research. Accounting for these variables can enhance the validity of the research results and helps to provide more comprehensive understanding of how Corporate Governance variables impact Firm Value, particularly within emerging capital markets context.

2.9 Theoretical Framework

Developing a theoretical base for the research is very important to link the theory to the purpose of the research. Iqbal (2007, p. 17) described this process as "the most difficult but not impossible part of a proposal". Parum (2005) confirmed that there is no generally accepted theoretical model for Corporate Governance. Agency theory is considered the most popular theoretical underpinning used by researchers to justify for Corporate Governance and disclosure (Abid et al., 2014; Afza & Nazir, 2014; Bonazzi & Sardar, 2007; Ntim et al., 2013; Oliveira et al., 2017). However, Agency theory is no longer deemed to be enough as argued by Van den Berghe et al. (2002) who suggested considering additional perspectives on Corporate Governance such as employees and other stakeholders. Later, Kultys (2016) discussed other views and highlighted the debates against considering agency theory as a core theory for Corporate Governance. Moreover, Marashdeh et al. (2021) indicate that, although each theory has its own limitations, when considered together, they offer more comprehensive understanding of Corporate governance , as they complement each other's strengths and weaknesses.

After reviewing the literature on Corporate Governance and corporate Risk Disclosure, theories, including Agency Theory, Stewardship Theory, Signalling Theory,

Capital Need Theory, Resource Dependency Theory, Institutional Theory, Stakeholder Theory, and Legitimacy Theory, will all be reviewed and their applicability or otherwise to the research will be established.

2.9.1 Agency Theory

Agency theory can be considered an entrance to Corporate Governance debates. It is usually acknowledged at the beginning of any argument on Corporate Governance concepts and its mechanisms (Afza & Nazir, 2014). Panda and Leepsa (2017) note that Adam Smith (1776) is often credited as the initial author to recognize the existence of the agency problem, which is the focus of Agency theory and its efforts to address. Prior discussion on agency theory focuses on understanding the agency problem and its associated costs, addressing the challenges that arise within firms as a result of separation between and managers, and the importance of controlling this problem (Panda & Leepsa, 2017). This theory was presented by Jensen and Meckling (1976, p. 308) as "a contract under which one or more persons (the principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent". According to Eisenhardt (1989) This delegation of authority comes with costs and may result in problems, the first problem is the conflict of interest that may occur when interests of managers conflicts with the interests of the shareholders, the second problem may occur when the managers put their own interest first and risk the interest of the shareholders. This creates the 'information asymmetry problem' as clients (managers) can acquire and hold more information than agents (Bonazzi & Sardar, 2007). Jensen and Meckling (1976, p. 8) indicate that agency problems results in extra costs involved in the "appropriate incentives and efficient monitoring" that can be used by shareholders to ensure that managers will take the ideal decisions that serves their best interests. According to Jensen and Meckling (1979) the costs result from the conflicting interest between principals and agents include, monitoring costs (costs incurred overseeing managers' performance), bonding costs (cost of setting up to operate as per the owners' interests) , and residual loss losses resulting from inefficient managers' decisions).

Panda and Leepsa (2017) and Munisi (2023), among others, stress that the agency problem extends beyond principal and agent, it also covers the agency problem between majority and minority shareholders, owners, and creditors. However, Daily et al. (2003) indicate that the theory encounters a range of limitations, especially with the assumption that the agency problem can be resolved by a contract, between the agent and the principal, which details how things should be done. These shortcomings include, future uncertainty, practical

problems like information asymmetry, rationality, fraud and transaction costs, the limited role of shareholders in the company, and the assumption that managers are acting in their own self-interest.

Panda and Leepsa (2017) indicate that the Agency theory explains the use of Corporate Governance mechanisms to regulate and oversee the actions of the agents (managers). Numerous studies highlight the role of Corporate Governance mechanisms in reducing the agency problem (Abdul & Qaisar Ali, 2019; Adegbite, 2015; Agrawal & Knoeber, 1996; Bonazzi & Sardar, 2007; Demsetz & Villalonga, 2001). However, Marashdeh et al. (2021) argue that Agency Theory falls short in explaining the some of the Corporate Governance practices as it doesn't consider the social and cultural factors, which necessitates considering the other theories related to Corporate Governance in developing the research theoretical framework.

2.9.2 Stewardship Theory

Panda and Leepsa (2017) highlight that Stewardship theory, as opposed to agency theory, assumes no conflict between the managers and shareholders of a company, rejecting the idea that agents put their own interests before the interests of the clients. Stewardship theory was developed to enable studying situations where managers, acting as stewards, are driven to put the interests of their principals first (Davis et al., 1997). Moreover, according to Abid et al. (2014) and Garzón Castrillón (2021) managers are responsible stewards of the assets they manage, and they can be relied on as honest or truthful, which reduces the need for monitoring. This perspective on managers is derived from the belief that, in many cases, managers consider the way to achieve their own objectives goes through accomplishing the targets of the shareholders (Garzón Castrillón, 2021; Kultys, 2016). Additionally, Donaldson and Davis (1994, p. 51) remark that "organizational role-holders are conceived as being motivated by the need to achieve and exercise responsibility and authority, to gain satisfaction through effectively performing essentially challenging work, and to gain recognition from peers and bosses". Basically, Stewardship theory assumes that the director of the boards are trusted that the decisions they make would serve the interests of shareholders, this assumption reduces the costs of monitoring and enhances company returns and financial performance (Abid et al., 2014). This assumption of trust in the company directors is the main factor that differentiates Stewardship theory from Agency theory according to Marashdeh et al. (2021). In addition, Garzón Castrillón (2021) indicates that the limitation of Stewardship theory in exploring Corporate Governance lies in its exclusive attention to shares owners and the

managers, while disregarding other stakeholders that influence or are impacted by company's activities. Despite the differences between Agency theory and Stewardship theory, Kyere and Ausloos (2021) incorporate both theories to establish the theoretical framework in order to investigate the influence of good Corporate Governance on financial performance of 252 non-financial listed UK companies, suggesting the use of other theories in future studies.

2.9.3 Signalling Theory

In the preceding discussion the concept of "information asymmetry" was presented, which is defined by Bergh et al. (2019) as "a condition wherein one party in a relationship has more or better information than the other". Signalling theory is basically involved in reducing "information asymmetry" between two groups (Spence, 2002). One group, the senders, who decide whether and how to convey (signal) that information, and the other group, the receivers, who have to decide how to understand the signal (Connelly et al., 2011). Moreover, Ross (1977) indicated that stakeholders are less informed compared to the managers and the idea behind Signalling theory is to report more information to the stockholders to reduce the information asymmetry between them. According to Abu Alia et al. (2022) Signalling theory assumes that Voluntary Disclosure provides impression of effective management quality which drives good company performance. Connelly et al. (2011) stress the widespread application of Signalling theory in management research, especially in studies explaining the impact of information asymmetry within various research contexts. Certo (2003) indicates that a variety of research utilize Signalling theory to explore how companies appoint diverse boards to convey information to different stakeholders, and to examine how different qualities of a board can send important signals about the company intentions and values. In addition, Campbell et al. (2001) expressed the view that companies do use voluntary disclosure as a Signalling method to disclose extra information on top of what is obligatory by law as a signal to stockholders that they are an above average performing company. Signalling could be considered as a means to convey information regarding managers' performance within their companies. Using voluntary disclosure is a way to assure (signal) the stakeholders that managers are acting in a professional manner in relation to the running of their companies (Watson et al., 2002).

2.9.4 Capital Need Theory

Companies need funding to grow and increase their capital which involves the cost of getting loans or issuing shares (Shehata, 2014). Capital needs theory stresses that companies tend to increase their voluntary disclosure to reduce investor uncertainty which leads to less

cost of capital (Abu Alia et al., 2022; Gary et al., 1995; Hossain et al., 1994). Disclosing more information voluntarily can help organizations lower the cost of raising capital (Choi, 1973). Furthermore, Hassan et al. (2009) advised that additional information in the annual report could reduce the uncertainty around the valuation of share returns and decrease transaction costs and also increase the demand on the firm stocks. However, voluntary disclosure could be misunderstood and may raise doubt on managers' intentions. Botosan (2006) emphasized that most of the literature tested the relationship between information and the cost of raising capital, suggesting that more disclosure is associated with the cost reduction of raising capital. Additionally, Boston clarifies that this cost reduction resulting from increasing information disclosure can be explained by minimizing investors' expectations of the risk levels or decreasing information asymmetry. Abu Alia et al. (2022) investigated all the Palestinian listed non-bank companies between 2009 and 2018, incorporating Capital Need theory, among other theories, to explore the impact of voluntary disclosure and Corporate Governance on information asymmetry and cost of equity, to conclude that higher voluntary disclosure decreases the cost of equity especially when higher disclosure is combined with good Corporate Governance. However, some pioneer research shows that specific kinds of disclosure may have contrary impact (Botosan, 2006).

2.9.5 Resource Dependency Theory

According to Pfeffer and Salancik (2003) organisations need resources, including raw material, finance, and skilled labour, to operate and this is at the heart of the resource dependency theory. This theory, as Garzón Castrillón (2021) explains, they see organisations as interconnected with the environment in which they conduct their activities. It offers another perspective on how businesses obtain the resources needed to ensure long-term business continuity according to Marashdeh et al. (2021). To ensure their survival, companies rely on and compete for the resources and information available within their surroundings (Garzón Castrillón, 2021). Additionally, Pfeffer and Salancik (2003) of the view that organisations behave based on their level on dependency on different resources, and that they try to reduce their reliance on some resources and maintain control over others. Abdul and Qaisar Ali (2019) indicate that, companies that gather resources and manage their surroundings are more likely to continue and develop regardless of the economic conditions. Abdul and Qaisar also argue that this theory views Corporate Governance mechanisms as resources which may help to gain access to the other required resources or to gain control on the surrounding environment, for instance board members are regarded as valuable assets with connections to resources, equipped with knowledge, expertise, and skills that contribute to the organisation

growth. Marashdeh et al. (2021) indicates that board members possessing advanced skills are likely to enhance firm performance. Similarly, Boone and Hendriks (2009) and Zhong et al. (2014) suggest that the presence of females on the company board adds diverse perspectives to complement the male members' viewpoints and potentially improves the decision-making processes. Moreover, Boyd (1990) suggests more independent directors on the board to bring more expertise, and better relations with other stockholders.

The need for resources (particularly finance) motivates disclosing more information to reduce uncertainty in order to avoid higher cost of capital, as investors would charge higher funding rates when Risk Disclosure is less (Healy & Palepu, 2001). In addition, Singh (2007, p. 2129) states that:

> Resource dependency theory suggests that those responsible for recruiting new directors seek particular characteristics in new appointees to complement the existing board and to provide connections to new resources to secure the future of the firm….each new director brings a unique mix of personal attributes, skills, knowledge and experience, forming human capital

Resource dependency theory is incorporated in numerous prior studies exploring Corporate Governance (Boyd, 1990; Pereira & Filipe, 2022; Pfeffer & Salancik, 2003; Sani, 2021; Singh, 2007). For example, Pereira and Filipe (2022) employ Resource dependency theory to investigate the influence of the educational background quality of boards members on the financial performance of a sample of Eurozone banks. A further study by Sani (2021) incorporates among other theories, resource dependency theory to investigate the impact of board diversity on financial performance of 70 listed Nigerian companies, reporting a positive correlation between board gender diversity with financial performance.

2.9.6 Institutional Theory

Carpenter and Feroz (2001, p. 565) informs the reader that "institutional theory views organizations as operating within a social framework of norms, values, and taken-for-granted assumptions about what constitutes appropriate or acceptable economic behaviour". Institutional theory, as proposed by DiMaggio and Powell (1983), suggest that organizations tend to be increasingly similar to one another due to three main pressures from their environment. First, organizations are impacted by other organizations they depend on. Second, organizations are impacted by professional standards and practices that similar organizations have to adopt. Lastly, organizations, in uncertain conditions, follow the steps of successful organizations in their field. DiMaggio and Powell (1983) argue that firms are bound to their community rules and regulations to be able to access their needed resources to

survive, adding that institutional theory is one way to describe interactions between organizations and the surrounding world including, governments, shareholders, employees and other stakeholders. de Grosbois and Fennell (2022) argue that, institutional theory suggests that companies operate within specific institutional environment or fields, which include different society laws, regulations, norms, political views and guidelines. Corporate behaviour, including disclosure practices can be understood through institutional theory as companies try to adjust their practices to align with generally accepted standards and norms. Thus, companies are motivated by forces that impose on them disclosure practices which society or stakeholders consider normal. Deegan (2009, p. 360) states that:

> Companies may adjust their voluntary corporate reporting practices in response to external pressure, to meet the expectations and the requests of influential stakeholders. These stakeholders often hold similar expectations for other companies which results in uniformity in the practices adopted across different companies.

2.9.7 Stakeholder Theory

The stakeholder concept is held in high regard by Donaldson and Preston (1995) as originally put forward by Freeman (1984) in his leading publication book, Strategic Management: A Stakeholder Approach. Freeman (1984) introduces a view where organizations are involved in joint relationships with different parties including any other individual or group who are impacted by or able to impact the performance of the company and aims to strengthen stakeholders' collaboration. While researchers don't agree on the exact definition of the concept, they generally adhere to the same fundamental principle that companies should consider the needs, interests, and impacts of individuals and groups who either directly affect or might be affected by its polices and activities (Clarkson, 1995; Garzón Castrillón, 2021; Mainardes et al., 2011). According to Solomon (2020), these relationships encompasses a wide range of parties from clients, staff, shareowners, suppliers, communities and financial providers, up to the general public. This theory changed how corporate performance is measured, to whom to report and their accountability. Thus, while maximizing shareholders' wealth other stakeholders are given attention (Abid et al., 2014). Furthermore, Clarke (2004) introduce an organization as an agreement between the enterprise and its multiple stakeholders, and adds that Corporate Governance contributes to monitoring these agreements and to protecting the rights of shareholders. For instance, a study by Zhong et al. (2017) found that in order to keep strong stakeholder relationships, Corporate Governance structures prompt managers to tune salaries levels to the optimum point for shareholders and staff. Accordingly, Solomon (2020) indicates that stakeholder theory addresses the

stakeholders' need for information and highlights the importance of companies providing the needed information and to disclose further voluntary information in order to achieve transparency. Solomon adds that, compared to the Agency theory, Stakeholder theory includes a broader range of parties in the equation, whereas Agency theory primarily focuses on principals and agents.

Stakeholder theory is incorporated in numerous studies on Corporate Governance and Risk Disclosure (Bufarwa et al., 2020; Ibrahim & Aboud, 2023; Jain & Raithatha, 2022; Ntim et al., 2013; Saggar & Singh, 2017; Sifile et al., 2015). For example, Jain and Raithatha (2022) draw on Stakeholder theory to explore the influence of Risk Disclosure on Firm Value of 200 listed firms in India between 2013 and 2018.

2.9.8 Legitimacy Theory

Legitimacy theory is founded on the concept that organisations are bonded by a social contract to their communities, and their activities cannot be separated from the community within which they operate (Janang et al., 2020). Suchman (1995, p. 574) defines legitimacy as "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions". Similarly, Legitimacy is described by Buhr (1998, p. 2) as "obtaining and maintaining social approval". Buhr adds that companies need to show that their activities comply with the social values of the community they operate in. In order to meet society expectations companies need to act according to community requirements, and they need to demonstrate they do so by disclosing information on their activities (Lu & Abeysekera, 2014). Moreover, Janang et al. (2020) indicate that as companies aim to establish themselves as legitimate organisations, and communicating relevant information in the annual reports can help achieve this goal, especially through disclosing the company's involvement in Corporate Social Responsibility activities. Oliveira et al. (2011) use the Legitimacy theory to investigate the drivers of voluntary risk disclosures in the narratives of the annual reports of 111 banks in Portugal, reporting that Portuguese banks respond well to institutional demands to comply with Basel II requirements which in turn foster Legitimacy.

2.9.9 Summary of the Theories

Agency theory is the main theory used in this study. Agency theory helps explain how Corporate Governance practices may reduce the conflict of interests between managers and shareholders. This theory highlights the conflict of interest that can arise between managers

and shareholders (agency problems), as managers may put their own interests before those of shareholders. The theory proposes that disclosure serves as a means to show that managers are working to the best interest of shareholders. However, disclosure cannot capture the real effort of managers due to information asymmetry during the process of communicating information from managers to shareholders. Consequently, Signalling theory fulfils the role of a supporting theory explaining voluntarily disclosure of information as an effort to show better performance and to be seen as above average performing companies to prevent under evaluation of their companies. Similarly, Resource Dependency theory complements Agency theory by regarding board members as important assets providing connections to the resources in the surrounding environment. The other supporting theories in this study are legitimacy theory and stakeholder theory. Both theories highlight the relationships of a firm with other parties. However, each theory is concerned with different aspects of the links between companies and their stakeholders. Legitimacy theory focuses on the social side of these relationships, and explains firms' Corporate Governance and disclosures that meet society's expectations. While Stakeholder theory focuses on relationships with the other parties who have the ability to impact the firm performance and explains Corporate Governance mechanisms and disclosures to meet the requirements of parties who have power over the firm or its resources. Other theories, like stewardship theory, capital need theory, and institutional theory, are also discussed to show how different theories explain Corporate Governance differently and how these theories overlap and complement each other. Stewardship theory, as opposed to the agency theory, argues with role duality as it assumes that managers are honest and truthful and act to the best interests of the company. However, the Jordan Corporate Governance directives of 2017 enforce the separation of roles of the CEO and the board chair. Capital need theory focuses on the relationship with investors and stresses the need to reduce investors' uncertainty through disclosing more information. However, the focus of the capital needs theory is covered by stakeholders' theory. Stakeholders' theory focuses on relationships with investors among all the other parties who can boost the company performance. The institutional theory focus on the companies bounds to their community rules and regulations. This focus is covered under the legitimacy theory that puts an emphasis on companies meeting the expectations of the community they operate in. For this research then, agency theory will be the parent theory supported by Signalling theory, stockholders' theory and the legitimacy theory. Table 2-13 summarises the respective Corporate Governance theories.

Table 2-13

Summary of study related theories

Theory	Description	Reference
Agency Theory	Agency theory is considered the base to explore the concepts and the mechanisms within the field of Corporate Governance. Jensen and Meckling (1976) refer to it as a contract where principals delegate the power to make decisions to agents to run the show on their behalf. This delegation comes with costs and potential problems of conflicting of interests where agents prioritize their own interests over these of the principals, and information asymmetry problem where agents hold more information than principals.	(Afza & Nazir, 2014; Bonazzi & Sardar, 2007; Eisenhardt, 1989; Jensen & Meckling, 1976, p. 308)
Stewardship Theory	Stewardship theory presents the relationship between principals and agents are in harmony, with agents prioritizing principals' interests. The theory assumes that agents are trusted stewards and their decisions are done to serve the interests of the principals, which eventually leads to achieve their own.	(Abid et al., 2014; Donaldson & Davis, 1994; Kultys, 2016; Panda & Leepsa, 2017)
Signalling Theory	Signalling theory addresses the issue of 'information asymmetry' where one party possesses greater or quality information than the other. Its aims to reduce this information gap between the two parties.	(Connelly et al., 2011; Ross, 1977; Spence, 2002)
Capital need Theory	According to this theory, companies tend to increase their voluntary disclosure of information to investors to reduce uncertainty, ultimately lowering the cost of capital. This view is supported by various studies suggesting that greater voluntary disclosure can lead to decreased capital-raising costs.	(Botosan, 2006; Gary et al., 1995; Hassan et al., 2009; Hossain et al., 1994)
Resource dependency theory	Resource dependency theory suggests organisations rely on various resources to function effectively, and their behaviour is influenced by the level of dependency on these resources. The theory highlights the importance of resource management and adaptation to external environment. The theory views Corporate Governance mechanisms as valuable resources that can provide access to access to other necessary resources and contribute to the company development.	(Abdul & Qaisar Ali, 2019; Pfeffer & Salancik, 2003; Singh, 2007)
Institutional Theory	Institutional theory suggests that organisations operate within social framework of norms and values with pressure of laws, regulations, and society expectations. In response to external pressures, companies tend to adjust their behaviour to align with the accepted standards and norms, resulting in uniformity across different companies.	(Carpenter & Feroz, 2001; de Grosbois & Fennell, 2022; Deegan, 2009; DiMaggio & Powell, 1983)
Stakeholder Theory	A view where organizations are involved in joint relationships with different parties including any other individual or group who are impacted by or able to impact the performance of the company and aims to strengthen stakeholders' collaboration.	(Freeman, 1984)
Legitimacy Theory	Legitimacy defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions".	Suchman (1995, p. 574)

2.10 Research Objectives and Hypotheses Development

As stated above this study will utilize Agency theory (primary theory) and supporting theories (Signalling theory, Stakeholder theory, Resources dependency theory and Legitimacy theory) to examine how Corporate Governance impacts Risk Disclosure and Firm Value. The primary objective of this research is to investigate the effect of Corporate Governance (CG) on Firm Value via Risk Disclosure (RD). This empirical study aims at quantitatively examining Corporate Governance practices and their impact on Firm Value and RD practices in the annual reports of Jordanian companies listed on ASE for the five-year period (2015-2019).

This study excludes all companies in the financial sector and will focus on companies categorised under the Services and Industrial Sectors. According to the ASE website companies are listed under three main sectors financial, Services, and industrial. Services and Industrial Sectors are regulated by the Corporate Governance directives for listed companies for the year (2017) while there are two different CG codes that regulate industries under the financial sector. Banks are regulated by CG Code for banks issued by the Central Bank in 2007, while insurance companies are regulated by the CG Instructions for Insurance companies issued by the Insurance Commission of Jordan (IC) in 2006. This creates inconsistency in the study population which necessitates the exclusion of the companies in the financial sector from this study. The study aims to extract and develop the data from the annual reports of Jordanian companies over a period of five years (2015 -2019). This period covers the two years before and two years after the CG directives for listed companies in 2017 which took CG regulations in Jordan from the comply or explain method into the must comply approach. Comparing corporate governance practices before and after the introduction of compulsory directives offers an opportunity to compare the impact of regulatory interventions. In addition, the results of this research could provide implications for regulatory bodies to reinforce Corporate Governance elements that promote better corporate Risk Disclosure in Jordan.

Figure (2-2) provides a visual representation of the conceptual framework which guides this research. This framework visually illustrates the research key concepts, theories, aims, questions, hypotheses, and Methodology to understand the theoretical rational behind the research design.

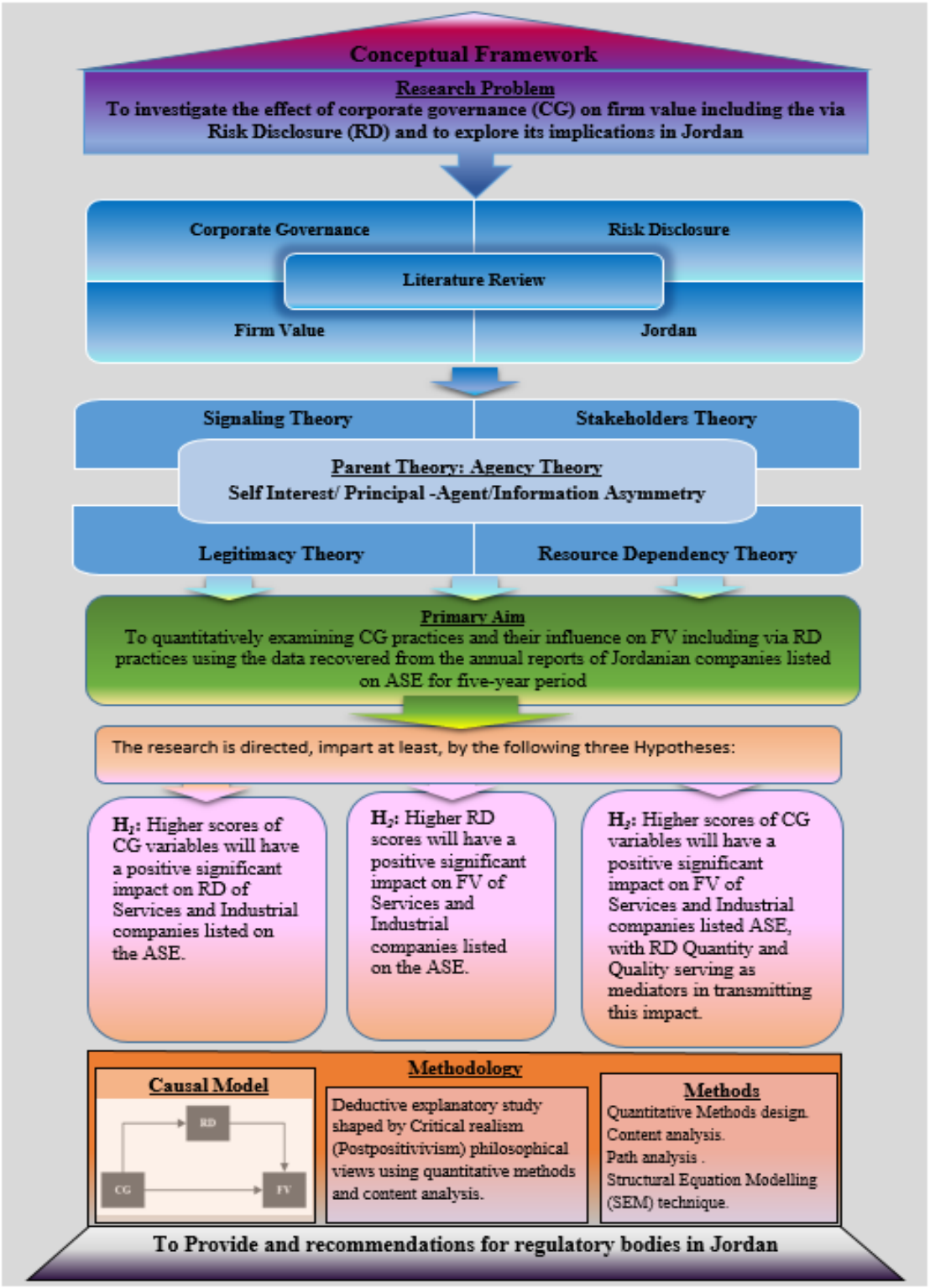


Figure 2-2

Overview of the Research Conceptual Framework

2.10.1 Research Questions and Hypotheses

This empirical study aims at quantitatively examining Corporate Governance practices and their impact on Firm Value and RD practices from the data recovered from the annual reports of Jordanian companies listed on ASE for five-year period (2015-2019). This research explores both Corporate Governance and Risk disclosure practices among the Jordanian companies listed on the Amman Stock Exchange during the period of 2015-2019. In addition, the research explores the variation in these practices Pre- and Post- the implementation of the Jordanian corporate Governance Directives of 2017. Moreover, the research compares Corporate Governance and Risk Disclosure practices across different sectors. Consequently, the research explores the interactions between Corporate Governance practices and Risk Disclosure practices and their influence on Firm, examining how different mechanisms of Corporate Governance, such as Board composition, Board Committees' Effectiveness, Ownership Structure, and External Audit interact with Risk Disclosure in term of quantity and quality and Firm Value among Jordanian listed companies. Furthermore, this research explores the mediating impacts, if any exists, of Risk Disclosure practices, both in term of quantity and quality, on the relationship between Corporate Governance practices and Firm Value of the Jordanian listed companies during the period 2015-219. The scope of this study is mainly directed with the following questions:

1. Will Corporate Governance have an impact on Risk Disclosure of Services and Industrial companies listed on the Amman Stock Exchange during the period of 2015-2019?
2. Will Risk Disclosure have an impact on Firm Value for Service and Industrial companies listed on the Amman Stock Exchange during the period of 2015-2019?
3. Will Corporate Governance have an impact on Firm Value for Services and Industrial companies listed on Amman Stock Exchange, and Can Risk Disclosure Quantity and Quality serve as mediators in transmitting this impact?

It is important to note that this research's aims and objectives extend beyond the below hypotheses. Yet, this research will be directed, impart at least, by the following Hypotheses:

H_1. Higher scores of Corporate Governance variables will have a positive significant impact on Risk Disclosure (RD) of Services and Industrial companies listed on the Amman

Stock Exchange. Previous studies such as (Allini et al., 2016; Dobler et al., 2011; Elshandidy et al., 2018a; Elzahar & Hussainey, 2012; Lajili, 2009) focus on finding the drivers of Risk reporting in companies' annual reports, drawing attention to the role of the Board of Directors in making and controlling disclosure choices. This highlights the role of Corporate Governance mechanisms in impacting risk disclosure practices, where stronger governance practices are expected to promote risk reporting. Therefor this Hypothesis assumes a positive impact of Corporate Governance variables on Risk Disclosure. In addition, past studies highlighted the Board of Directors' role in disclosure practices revealing conflicted findings (Ahmad et al., 2021). While some studies found positive relationships between Corporate Governance mechanisms and Risk Disclosure (Seta & Setyaningrum, 2018), Other reported negative or non-significant correlations (Elshandidy et al., 2018a; Mahadeo et al., 2012). This highlights the need for further investigations into the interactions between Corporate Governance and Risk Disclosure. Furthermore, (Ahmad et al., 2021) highlight that prior studies examined the relationship between Corporate Governance mechanisms and Risk Disclosure concentrate in developed economies. This suggests gaps in the literature regarding the relationship between Corporate Governance mechanisms and Risk Disclosure in developing stock markets. Therefore, this Hypothesis guides this research to examine the impact of Corporate Governance variables on Risk Disclosure in the context of developing stock market of Jordan, aiming to provide insights into how Corporate Governance variables impact Risk Disclosure in emerging markets context.

H_2. Higher Risk Disclosure will have a positive significant impact on Firm Value of Services and Industrial companies listed on the Amman Stock Exchange. The importance of risk disclosure has long been recognized in regulatory papers. For instant the Cadbury (1992) report on Corporate Governance reforms emphasizes the relevance of risk reporting to Corporate Governance and highlights for stakeholders. Despite various studies on risk reporting (Abraham & Shrives, 2014; Elshandidy & Neri, 2015; Khandelwal et al., 2019), it remains evident that further research in this area is essential. Tahat et al. (2016) emphasize that this necessity exists despite continuous calls for enhanced risk reporting from investors, stakeholders, regulatory reports such as the Cadbury report and the International Financial Reporting Standards (IFRS7). This indicates that there is still a gap in understanding the importance of Risk Disclosure and its impact on Firm Value, which necessitates further research in this area. La Porta et al. (2006) reveal that there is a connection between enforcements governing disclosures and developed capital markets. This correlation suggests that higher transparency and disclosure practices contribute to overall economic prosperity.

Therefore, this hypothesis aims to find a positive correlation between Risk Disclosure and Firm Value of the Jordanian listed companies to encourage higher level of Risk Disclosure enforcements, considering that Jordan does not have specific regulations exclusively focusing on disclosing risk information (Haddad et al., 2017).

H_3. Higher scores of Corporate Governance variables will have a positive significant impact on Firm Value of Services and Industrial companies listed on the Amman Stock Exchange, with Risk Disclosure Quantity and Quality serving as mediators in transmitting this impact. Panda and Leepsa (2017) indicate that the Agency theory explains the use of Corporate Governance mechanisms to regulate and oversee the actions of the agents (managers). Numerous studies highlight the role of Corporate Governance mechanisms in reducing the agency problem and conflicts of interests, aligning the interests of managers and shareholders, which contribute to enhancing long-term sustainability and profitability of companies (Abdul & Qaisar Ali, 2019; Adegbite, 2015; Agrawal & Knoeber, 1996; Bonazzi & Sardar, 2007; Demsetz & Villalonga, 2001). In addition, there are numerous studies that explore the impact of Corporate Governance on Firm Value including (Ammann et al., 2011; Antonczyk & Salzmann, 2014; Baek et al., 2004; Balachandran & Faff, 2015; Bennouri et al., 2018; Black et al., 2006; Brown & Caylor, 2006; Ciftci et al., 2019; Enache & Hussainey, 2020; Kajola, 2008; Leung & Cheng, 2013; Siagian et al., 2013). However, Michelberger (2016) and Pintea and Fulop (2015) highlight the on-going debate regarding the nature of this relationship, with some studies reporting positive correlations, others reporting negative results, and some have found no significant link at all. Furthermore, most of the research has been conducted in a developed capital market context, leaving a gap in understanding how corporate governance impacts Firm Value in emerging markets like the Amman Stock Exchange. Therefore, based on the principles found within Agency theory and the empirical evidence supporting it, it is reasonable to investigate this relationship in the context of the emerging capital market of Jordan (Amman Stock Exchange) filling this gap and providing valuable insights into the interconnections of Corporate Governance and Firm Value.

The scope of this research pushes the boundaries of the research questions and hypotheses. Still, these questions and hypotheses provide a framework for exploring the relationships between Corporate Governance practices, Risk Disclosure practices and Firm value within the context of Jordanian listed companies. They can guide, impart at least, this empirical analysis and help reach conclusions from the annual reports over the period of 2015-2019.

2.11 Chapter Summary

This chapter reviews the relevant previous studies on Corporate Governance, defines the term Corporate Governance, and discusses the Corporate Governance framework in Jordan to identify the relevant Corporate Governance components for this research under four main categories: board characteristics, board committees' effectiveness, Ownership Structures, and External Audit Factors. The chapter then explores the existing literature on Risk Disclosure, and establishes Risk Disclosure categories for this research. After that the chapter reviews the relevant literature on Firm Value and explores the common approaches used to determine a company Firm Value (accounting measures vs. market measures). The chapter also reviews the prior research on the relationship between Corporate Governance and Risk Disclosure, and the relationship between Corporate Governance and Firm Value. Furthermore, this chapter explores theories relevant to the research including; Agency theory, Signalling theory, Stewardship theory, Stakeholder theory, Capital Needs theory, Institutional theory, Legitimacy theory, and Resource Dependency theory, and discusses their applicability to this study. This research incorporates Agency theory as the main theory, supported with Signalling theory, Stakeholder theory, Legitimacy, and Resource dependency theory in order to establish an understanding of the correlations between the respective research components Corporate Governance, Risk Disclosure and Firm Value. Finally, the chapter sets up the research objectives, questions and hypotheses and uses a visual overview of the research to illustrate the research conceptual framework. The research methodology implemented in this study is presented and discussed in the following chapter.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The previous chapter defined the research problem and constructed the research objective and aims. This chapter establishes the methodology adopted to address the study aims. This chapter proceeds as follows. It introduces and defines the terms “Research” and “Methodology”, and presents an overview of the philosophy, the philosophical assumptions and paradigms that shape this thesis. The chapter explores the common research methodology and establishes the research design for this thesis. The chapter then presents the research methods adopted, and justifies the choice of the research design. After that it establishes the research causal model showing the interconnections between the research variables, and presents the research initial theoretical model which is constructed based on the literature review and the proposed links between respective research variables followed by introducing the research sample and the research source of data, providing an overview on the research data collection process, and describing how the data is measured, and tested for each of the research variables. Further, the chapter presents the evolution of the research model and introduces the final theoretical model, which is assessed against the data, systematically trimming the non-significant path coefficients from the theoretical model until only significant paths make up the model generating the research Trimmed Empirical Model. This chapter concludes with a summary covering the main points discussed.

3.2 Introduction to Research Methodology

Science can be broadly classified under two main groups: natural science (concerned with natural objects or phenomena) and social science (concerned with people) and can be described as “a systematic and organized body of knowledge in any area of inquiry that is acquired using the scientific method” (Bhattacherjee, 2012, p. 1). This definition provides an ideal stepping off point for the following discussion.

Salkind (2012) stresses that new knowledge is generated through the research process, which is “a systematic process of collecting, analyzing, and interpreting information -data- in order to increase our understanding of a phenomenon about which we are interested or concerned” (Leedy & Ormrod, 2016, p. 20). Bhattacherjee (2012, p. 1) outlines that research should adhere to the scientific method and add knowledge to science to be regarded as “scientific research”. The scientific method is a structured way of conducting research where

a problem is inspected and hypotheses are constructed after which results are interpreted and generalised (Sreejesh et al., 2014). In other words, research creates scientific knowledge through theory (logic) and observations (evidence) where theories are validated and clarified through observations, and observations are given sense and importance through theories (Bhattacherjee, 2012). There two main approaches to obtaining knowledge: induction and deduction (Ritchie & Lewis, 2003). Induction starts with observations on a sample to collect evidence then to extract a conclusion which is generalized to the sample population, while, deduction starts with developing a hypothesis then evidence is collected and moves towards a conclusion through logical argument (Leedy & Ormrod, 2016)

Researchers including Bhattacherjee (2012); Noor (2008) and Urban and Van Eeden-Moorefield (2018) classified Scientific research into three main groups:

1. Exploratory (the topic is new, and the purpose is to generate some basic knowledge about it).
2. Descriptive (little known about the topic, but not enough, and it is aims to observe and describe the topic and how it is related to another phenomenon).
3. Explanatory (topic is observed, and the aim is to provide a solid understanding of the nature of the relationships between concepts).

Research methodology is a design for conducting a study within the scope of a specific paradigm (Wahyuni, 2012). Indeed, it is "the general approach that the researcher takes in carrying out the research project" (Leedy & Ormrod, 2016, p. 26). "Methodology is about the design process for conducting research and it is not about the instruments or methods for doing things" (Alharahsheh & Pius, 2020, p. 40). Research methodology reflects on the rational of choosing specific method and excluding others (Kothari, 2004). Creswell and Creswell (2018), Leedy and Ormrod (2016), and Mackenzie and Knipe (2006) classified research methodologies (designs) into three general types: Qualitative, quantitative and mixed-methods. Creswell and Creswell (2018) explain that the research general approach involves interaction between three dimensions: research philosophy, research design and research methods.

3.3 Research Philosophy

Determining research paradigms and assumptions is fundamental and comes before choosing a research method (Blaikie, 2016). Philosophy is traditionally seen as a field of study concerned with "ideas and thinking about life and everything in it" (Ruona, 1999, p. 18). However, philosophy is "more a rigorous and enquiring attitude of mind than an

academic discipline" (Chia, 2002, p. 2). This philosophical enquiring attitude drives researchers' strategies adopted for knowledge creation (Chia, 2002). Saunders et al. (2019, p. 130) define research philosophy as "a system of beliefs and assumptions about the development of knowledge" and confirmed that that there is no one agreed approach to research philosophy to adopt in business research.

Conducting a scientific research project to create knowledge is shaped by researcher's belief systems or what's called paradigms (Bhattacherjee, 2012, p. 1). Saunders et al. (2019) clarify that research is shaped by the combination of different assumptions adopted by the author including **ontological** assumptions (the realities experienced in the research), **epistemological** assumptions (human knowledge), and the **axiological** assumptions (the author impact). In addition, the researcher subjective or objective position which determine "Another significant choice which exists in the research paradigm is the extent to which the researcher is either subjective (involved in or has an impact on the research outcome) or objective (distanced from or independent) in the execution of the fieldwork (empirical work)" (Aliyu et al., 2015, p. 9). These combination of assumptions along each continuum are opposite extremes of objectivism and subjectivism form different research philosophies or paradigms (Holden & Lynch, 2004). The following section discusses the main philosophies (paradigms) presented by some philosophical studies such as Creswell and Creswell (2018), Saunders et al. (2009) and Wahyuni (2012).

3.3.1 Philosophical Assumptions and Beliefs

Ontology is concerned with assumptions regarding the nature and structure of reality and existence (Easterby-Smith et al., 2012; Guarino et al., 2009; Guba & Lincoln, 1989; Saunders et al., 2019). The ontological assumption in a study determines how the research objects (i.e. management, properties, processes, individuals, organisations and organisational events) are seen and investigated (Saunders et al., 2019). Guarino et al. (2009, p. 1) referred to ontology as "the study of attributes that belong to things because of their very nature". Wahyuni (2012) explained that on one hand, reality is seen as external and independent by objectivist, on the other hand, reality is seen as dependent by subjectivist (nominalist). Also, McLaughlin (2012, pp. 24-25) identifies the two main ontology assumption (**objectivism & subjectivism**) and referred to them as: (1) Realism "there is an external reality that exists independently of our views or understanding about it". (2) Idealism: "reality is only knowable through the human mind and through socially constructed meanings".

"Epistemology is concerned with the assumptions adopted by researcher on how to create, obtain and utilise knowledge, what is considered acceptable and valid knowledge, and the nature of the relationship between the researcher and the phenomenon studied" (Wahyuni, 2012, p. 69). There two main approaches to obtain knowledge: induction and deduction (Ritchie & Lewis, 2003). Induction starts with observation on a sample to collect evidence then extract conclusion which is generalized to the sample population, while, deduction starts with developing hypothesis then collecting evidence and it finally moves toward a conclusion through logical argument (Leedy & Ormrod, 2016). In social science a statement is considered as true and valid legitimate knowledge "If several reports confirm a statement then it can be considered 'true' as a representation of a socially constructed reality on the intersubjective or coherence theory of truth" (Ritchie & Lewis, 2003, p. 8). The relationship between the researcher and the phenomenon studied can be either objective (where researcher or examiner is independent and of the object studied) or subjective (where the researcher is connected to the research) (Guba & Lincoln, 1994). In general, epistemology represents a stance between the opposite extremes of **positivism and interpretivism**.

The role of researcher's values in the research process represents the **axiological** beliefs (Wahyuni, 2012). Saunders et al. (2019) explained that Axiology is concerned with the extent the researcher's own values impact the ethical grounds on which research ethical judgements are placed. Axiology is "encompassing the roles of values in the research and the researcher's stance in relation to the subject studied"(Wahyuni, 2012).

3.3.2 Philosophical Views or Positions

There is no one agreed on research philosophy to adopt in business research (Saunders et al., 2019). Likewise, Luyt (2012, p. 295) states that there are many paradigms that can be used by researchers such as "constructivism, postpositivism, and pragmatism" (Creswell & Clark, 2007) or alternatively, "constructivism, positivism, postpositivism, pragmatism, and transformative" (Teddlie & Tashakkori, 2009). Mkansi and Acheampong (2012) show that there is no general agreement on research philosophy labelling and categorizing between research philosophies scholars. According to these authors, the way the ontological and epistemological assumptions are introduced and categorised by Ritchie and Lewis (2003) is inconsistent with that of Saunders et al. (2009). Furthermore, Creswell and Creswell (2018, p. 6) used the phrase philosophical worldviews to refer to paradigms and discussed what they considered the popular four worldviews in the literature: "postpositivism, constructivism, transformative and pragmatism". Saunders et al. (2019, p. 143) discuss five prime

philosophies in business and management: positivism, critical realism, pragmatism, postmodernism and interpretivism, and highlight that ‘paradigms’ and ‘philosophies’ are occasionally used correspondingly. Similarly, Wahyuni (2012) discussed and provided correspondent titles for the following research philosophies (paradigms): positivism (Naive realism), postpositivism (critical realism), interpretivism (constructivism), and pragmatism.

Traditionally, positivism and interpretivism are the two main opposing philosophical views (Ragab & Arisha, 2018). **Positivism** (n**aive realism)** philosophical view assumes the views of natural science and apply it to social science using empirical scientific method where researcher reaches reliable and generalizable findings from independent reality while maintaining objectivity (Saunders et al., 2019). Thus, on the ontological dimension, positivism considers social reality as external and objective which sustains the phenomenon studied independently from the researcher (axiological view), and on the epistemological dimension, valid and legitimate knowledge is created using the scientific method (Wahyuni, 2012). Positivists ignore context and believe in absolute truth, and that similar findings will be generated by different researchers investigating the same phenomenon using similar processes and large sized sample (Wahyuni, 2012). Generally, positivist researchers adopt quantitative methodologies in their studies (Alharahsheh & Pius, 2020; Saunders et al., 2019).

Moving forward, “The thinking after positivism” is referred to as “**Post-positivism”** (Creswell & Creswell, 2018, p. 6)**. Post-positivism (critical realism)** is a philosophical position that shares the ontological views of positivism that social reality is independent, researchers are objectivists, and knowledge is created by employing the scientific method by constructing quantitative measures (Wahyuni, 2012). However, post-positivism challenges the positivism views of absolute truth realizing that truth is relative and absolute truth does not exist especially in social sciences (Bisman, 2010; Creswell & Creswell, 2018). While positivism implies single absolute reality, post-positivism emphasis that there are different perceptions to that single external truth (Bisman, 2010). Post-positivists acknowledge that “understanding social reality needs to be framed in a certain context of relevant law or dynamic social structures which have created the observable phenomena within social world” (Wahyuni, 2012, p. 71). Critical realism or post-positivism permit using both quantitative and qualitative methodologies for examining a research problem (Bisman, 2010).

On the opposing extreme of positivism, **Interpretivism (constructivism)** emphasises subjectivism and the existence of multiple socially constructed realities (Bisman, 2010; Wahyuni, 2012). Interpretivism implies that truth is based on personal experience and may vary from one individual to another (Alharahsheh & Pius, 2020). Interpretivist researchers try

to understand realities and create a theory through the interpretation of individual perceptions of a phenomenon (Creswell & Creswell, 2018; Wahyuni, 2012). This helps researchers to present the research topic and its conditions as distinctive (unique) in the view of individuals involved and the conditions surrounding it (Alharahsheh & Pius, 2020). Furthermore, Interpretivist researchers are subjective and involved in what is studied and their interpretations are crucial to knowledge development (Alharahsheh & Pius, 2020; Wahyuni, 2012).

Postmodernism challenges positivism far more than interpretivism and criticise objectivism and refuses reality (Saunders et al., 2019). They further explained that postmodernism highlights the importance of language and of the alternative views, refuses the constituted laws and principles, and questions dominate realities.

The **Pragmatism** paradigm emerged to end the idea that positivism and interpretivism cannot be merged (Ragab & Arisha, 2018). Rather than starting with determining the philosophical assumptions of ontology and epistemology, pragmatism researchers begin with the research problem to define the study framework (Creswell & Creswell, 2018; Wahyuni, 2012). Pragmatism view research philosophy as a continuum not as a position, which allows pragmatists to mix ontology, epistemology and axiology in order to select the research methods to best achieve an answer to the problem under study (Wahyuni, 2012).

Transformative paradigm is mainly used in social science with emphasis on specific topics especially ethics and social justice, it "directly engages members of culturally diverse groups with a focus on increased social justice" (Mertens, 2007, p. 470). Transformative researchers give priority to the neglected groups of society in order to empower them and accomplish social justice (Cooper, 2018).

3.3.3 Philosophy Determination

The philosophical view (paradigm) of this study is determined through the process of elimination as set out below:

This study explores Corporate Governance practices and disclosure practices in Jordan and aims to investigate the effect of Corporate Governance on Firm Value including the mediated impact of Risk Disclosure in the annual reports of Jordanian companies listed on ASE for five-year period (2015-2019). The aim of the research does not place emphasis on ethics and social justice and does not give priority to the neglected groups of society, which excludes adopting transformative paradigm in this research.

This study is carried out within the Jordanian regulatory context and particulars. Thus, listed companies in Jordanian follow Corporate Governance directives which are all legally enforceable. However, those directives provide room for different perspectives on how to apply them by different companies as explained earlier in Chapter 2 under the Corporate Governance Mechanisms Section. Ontologically, those regulations are the **independent reality** that is external to companies' impact, but different companies may develop slightly different **perceptions** of this reality. Yet, both interpretivism (constructivism) and postmodernism believe in the existence of multiple realities and that a reality is subjective and socially constructed (Bisman, 2010; Wahyuni, 2012), which eliminates both paradigms. This also eliminates the pragmatism paradigm which believes in multiple realities and views research philosophy as a continuum not as a position (Wahyuni, 2012).

Epistemologically, the findings of this study (knowledge) will be framed **within the context** of those regulations, laws and particulars of Jordan and **can be generalised** to other countries with similar conditions. However, Positivists ignore context and believe in absolute truth (Wahyuni, 2012), which means that positivism is excluded too. On the axiological side, the author's own values and beliefs are independent of research process because this study does not involve interaction with people and/or their values at any stage of the research process, and in this study, only the annual reports are considered as source data.

Furthermore, to examine the impact of Corporate Governance and Risk Disclosure practices on Firm Value, this research gathers data from the annual reports issued by the Jordanian listed companies. The data required to measure or calculate both Corporate Governance components and Firm Value can be discerned and obtained directly from those annual reports, which keeps **the author independent** throughout the empirical work. However, the data needed to determine Risk Disclosure practices in this study requires interaction with the annual reports narrative to discern, label, and categorize risk sentences, which implies **subjectivity** that may impact the research outcomes. Therefore, this research adopts the **Risk Disclosure decision rules** of Linsley and Shrives (2006) to minimise author involvement and to maintain research objectivity.

The previous discussion shows that the **post-positivism** (critical realism) philosophical position is a stance where the philosophical assumptions' combination for this study and the author subjective or objective position meet. Consequently, this study adopts the post-positivism paradigm, which values empirical evidence and considers researchers perception and interpretation and permits using quantitative and qualitative methods for examining a research problem (Alharahsheh & Pius, 2020; Bisman, 2010).

3.4 Research Methods

It is important to note that research methodology and research methods are two different terms, methodology is the general approach, while methods are more specific and includes all the procedures, tools and mechanisms used to collect research data and analyze it (Wahyuni, 2012). Chu and Ke (2017, p. 285) establish that "different scholars have different understandings and interpretations of what constitutes a research method". Yet, the two components that are always present in almost all research methods studies are data collection techniques and data analysis techniques (Chu & Ke, 2017). For example, Creswell and Creswell (2018, p. 16) explain that research methods consists of ways to collect, analysis, and interpretation of data. Therefore, Chu and Ke (2017) stress that the research process requires researchers to review the different methods available to conduct data collection, analysis and comprehension, and to decide on utilizing one or more of those research methods. A research choice between **quantitative methods, qualitative methods, or a mixed method** approach depends on the nature of data collected, and how data is analyzed and interpreted (Abutabenjeh & Jaradat, 2018; Walliman, 2017).

Data can be classified based on their nature into **quantitative data and qualitative data**; quantitative data deals with information that can be expressed in numbers and treated statistically, and qualitative data deals with data expressed in non-numerical information, words, letters or images (Walliman, 2017). William also points out that a research project may include either quantitative, qualitative, or both types of data. In addition, Data can be classified based on their source into **primary data and secondary data**, the primary data represents the original data collected directly by the researcher while the secondary data are publicly available statistically analyzed data which has been collected by other researchers (Kothari, 2004). "The primary data are the first and most immediate recording of a situation" (Walliman, 2017, p. 70). Primary data can be collected using the following main four methods: "observation method, interview method, through questionnaires, and through schedules" (Kothari, 2004, p. 96). In addition, Kothari (2004, p. 96) highlighted few other data collection methods which include: "warranty cards, distributor audits, pantry audits, consumer panels, using mechanical devices, through projective techniques, depth interviews, and content analysis". Walliman (2017) explained that it is very popular for research students to depend on secondary data rather than producing primary data to investigate their research questions. He adds that secondary data collections include written material (such as internal reports and annual reports), non-written material (such as tape recording, video recording), and survey data (such as government statistics).

Data can be collected in different way, Walliman (2017, p. 86) identified three methods that are appropriate to collect and analyze data:

1. **Content analysis**: The Content analysis method involves examining the content of documents wheither it is printed, spoken or audio recorded (Kothari, 2004). Content analysis is very common and can be applied with both secondary and primary data (Walliman, 2017). Bell et al. (2018, p. 281) define content analysis as "an approach to analysis of documents and texts that seek to qualify content in term of predetermined categories and in a systematic and replicable manner".
2. **Data mining**: Data mining is commonly used to generate relevant information from massive databases.
3. **Meta-analysis**: a statistical analysis of the outcomes of a group of analyses, and it is different from a literature review as it involves statistical analysis instead of comprehensive and critical analysis.

In this project, qualitative data collected from the annual reports' narratives are processed and converted into quantitative data. In order to collect, process, and transform the content of the annual reports' narrative, **Content Analysis Methods** are employed. Content analysis, as defined by Bell et al. (2018) is an analytical approach used to evaluate documents and text by categorizing their content based on predetermined criteria in a structured and repeatable way. In this research, content analysis is mainly used to locate risk information, which is usually disclosed within the narrative of the annual reports, using qualitative data (Beretta & Bozzolan, 2004). The adoption of content analysis is very common in analyzing disclosures in accounting studies (Campbell et al., 2014; Hussainey et al., 2003; Linsley & Shrives, 2006). Guthrie et al. (2004, p. 287) establish that "Content analysis of annual reports has been used and held to be empirically valid". It involves categorizing and labeling of quantitative and qualitative information, which should be constructed according to a reliable coder in order to enhance the reliability of the content analysis (Guthrie et al., 2004). This study adopts risk categories and decision rules from Linsley and Shrives (2006), which is utilised in many studies (Abraham & Cox, 2007; Amran et al., 2009; Konishi & Mohobbot, 2007).

3.5 Research Methodology

Creswell and Creswell (2018, p. 11) refer to research design as "types of inquiry within qualitative, quantitative, and mixed methods approaches that provide specific direction for procedures in a research study". Bouma et al. (1993) lists five main research designs: the case study, the longitudinal study, the comparison study, the longitudinal comparison, and the

experiment. Likewise, Creswell and Creswell (2018) classify research designs under three main groups as follows:

1. Quantitative designs: experimental, non-experimental (surveys), and longitudinal.
2. Qualitative: narrative phenomenology, grounded theory, ethnographies, and case study.
3. Mixed methods: convergent, explanatory sequential, exploratory sequential, complex designs with embedded core designs.

At this stage it is important to define and introduce each of these three research designs or Methodologies in order to determine the most suitable approach that aligns with the objectives of this study. Selecting the appropriate research methodology is important to ensure the validity and reliability of the research outcomes (Jones et al., 2019).

3.5.1 Quantitative research approach

Williams (2007) indicates that quantitative research can be traced back to a bout 1250A.D, when researchers began seeking ways to quantify data for analysis. “It deals with quantifying and analysing variables in order to get results. Taherdoost (2022) defines quantitative research as a way to understand a problem by collecting data in number form and using mathematical approaches to analyse. It is strictly “positivistic, objective, scientific, and experimental” (Mohajan, 2020). According to Holton and Burnett (2005) quantitative research encompasses experimental and **non-experimental methods**. In experimental research researchers can control the conditions to test hypotheses, while in non-experimental research the researcher use the existing situations to study phenomena. Other none-experimental methods includes, causal-comparative, **correlational**, and descriptive research. Holton and Burnett (2005) also indicate that in addition to its confirmatory role, quantitative research can serve exploratory purposes, to uncover relationships. Apuke (2017) indicates that, in quantitative research, data is usually gathered through structured tools such as surveys, questionnaires, or systematic tests, this data is then statistically analysed. The quantitative approach employs various statistical analyses, providing reliability, accuracy, consistency, and the ability to generalise (Creswell & Creswell, 2018; Jones et al., 2019; Mohajan, 2020).

3.5.2 Qualitative research approach

Qualitative research aims at understanding a research question by looking at it from a human perspective or through ideals, gathering data through observations, interviews, or

documents analysis, and is not involved in the use of numerical data (Anas & Ishaq, 2022; Bhangu et al., 2023; Jahja et al., 2021). According to Bhangu et al. (2023) qualitative approaches offer a reliable and logical ways to analyse complex and subjective phenomena that are hard to define or measure precisely. Taherdoost (2022) indicates that qualitative research seeks to gather original, direct textual data and interpret it through specialised analytical techniques, which is used to bring new insights, concepts, and develop new theories. In addition, Taherdoost (2022) presents five qualitative methodological approaches that can be utilised, these are: Narrative, phenomenological, grounded theory, ethnography case studies, and content analysis.

3.5.3 Mixed Methods Research approach

Srnka and Koeszegi (2007) review the mixed research design approaches in the social science literature and classify those under two main groups: the integrated designs, and the two studies-designs. “In a two studies-design, the researcher collects and analyses qualitative and quantitative data respectively in separate (either sequential or concurrent) studies” (Srnka & Koeszegi, 2007, p. 33). However, in an integrated design research the data (both quantitative and qualitative) is transformed into either quantitative data or qualitative themes, if the research begins with quantitative data then integrates it in qualitative analysis, the research applies integrated elaboration model (Srnka & Koeszegi, 2007). The integrated generalisation model by contrast involves transforming qualitative data into numerical form in order to be utilised in quantitative analysis. Srnka and Koeszegi (2007) establish that the generalisation model offers valuable and additional deep understanding of the study questions and enables generalising the results of the study. Similarly, Creswell and Creswell (2018) highlight three core mixed methods designs and explain that these core designs can be embedded into larger research processes, methodology, theoretical framework and complex applications resulting in an embedded or complex mixed methods design that “collects and analyses both quantitative and qualitative data within a traditional quantitative or qualitative design” (Creswell & Clark, 2011, p. 71). The Creswell and Creswell (2018) core designs are: (1) Convergent mixed methods designs that collects data for the same variable in both forms (quantitative and qualitative) to investigate and compare. (2) Explanatory sequential mixed methods: this design collects data on two stages, in the first quantitative data are collected and analysed. In the second stage qualitative data is collected and analysed to further explain and understand the results in the first stage. (3) Exploratory sequential mixed methods: this design collects data in two stages, in the first stage qualitative data are collected and analysed and the findings are used to find the best instruments for the study sample. In the second stage

quantitative data is collected and analysed. Stressed is placed on the importance of the following factors in selecting a mixed method design: the timing of data collection (concurrently or sequentially), the emphasis given to data type (could be equal or priority given to one type over the other), and the way data are integrated.

3.5.4 Methodology Choice

According to Pilcher and Cortazzi (2023) quantitative research is aligned with positivism, focuses on numbers and experiments to find cause and effect, while qualitative research leans toward constructivism, seeks to understand why things happen, primarily utilising textual analysis, recognizing the researcher's role in the process. This study aims to investigate the impact of Corporate Governance on Firm Value via Risk Disclosure. This research aims to test the related theories rather than develop new ones, which aligns this research with the quantitative research approach. Studies that seek to examine established theories rather than to forge new ones places them within the framework of quantitative research (Creswell & Creswell, 2018; Jones et al., 2019).

The design of this research is such that it systemically analyses the Jordanian Corporate Governance directives of 2017 (qualitatively) to determine the Corporate Governance mechanisms (quantitative variables) that will be used. Examining the Jordanian directives qualitatively provides justification for incorporating certain Corporate Governance variables into this research and while excluding others it provides a scale or numerical measure for the variables. For example, the directives in article 4 (c) requires a minimum of one third to be independent members. This article provides a room for variation in its application by different companies, which justifies the inclusion of Board Independence variable in this research, which enhances the reliability and the validity of the research analysis and results. This qualitative analysis of the Jordanian directives does not change the aim of this research of examining Corporate Governance impact on Firm Value based on the predictions derived from the Agency theory. This aligns with Zattoni et al. (2013) where quantitative methods have traditionally been employed in Corporate Governance research to examine the predictions of the Agency theory.

The data for the respective research variables are sourced from the annual reports of companies listed on Amman Stock Exchange using content analysis. Annual reports include both quantitative and qualitative information. Typically, both Corporate Governance components and Firm Value are of quantitative nature. However, the data needed to determine Risk Disclosure variables, in this research, are of a qualitative nature, which

requires manual reading of annual reports to spot and categorise risk sentences. The qualitative risk information is identified and classified following Risk Disclosure decision rules used by Linsley and Shrives (2006). The sentences categorised as containing risky elements are counted providing a numerical representation for Risk Disclosure variables. This transformation of the qualitative data into quantitative data to allow for further quantitative analysis does not imply that a qualitative research approach is incorporated into this research. According to Taherdoost (2022) non-numerical data can be transformed into numerical formats using special and systematic ways, enabling the use of quantitative research approach in subjects that traditionally yield qualitative information. However, Nassaji (2020) stresses that the ability to analyse qualitative data quantitatively simply offers additional tools for exploring patterns or evaluating predictions within qualitative research approaches. Furthermore, White and Marsh (2006) highlight that content analysis can be utilized across quantitative, qualitative, and mixed methods research. according to Nicmanis (2024) the widespread adoption of content analysis as a qualitative method often creates confusion when differentiating between qualitative content analyses from quantitative.

To differentiate between quantitative content analysis and qualitative content analysis, Devi (2009) explains that quantitative content analysis facilitates the quantification of specific words, phrases, subjects, or concepts within contemporary text, while qualitative content analysis allows examining the meanings and semantic connections among words and concepts. Despite the confusion surrounding differentiation between quantitative and qualitative utilization of content analysis, the quantitative orientation of this research remains clear, as evidenced by the use of content analysis to locate, categorise and count number of occurrences of risk sentences in the annual reports, and by the systematic application of Structural Equation Modelling (SEM) for data analysis. Accordingly, this research adopts a quantitative approach, even though qualitative data is collected. The collected qualitative data is quantified and analysed using SEM, which serves as a primary method of analysis. By employing SEM, this research aligns itself with a quantitative research paradigm, and emphasises the use of statistical techniques to explore the relationships within the data. Additionally, the utilization of content analysis in this research as a quantitative tool for categorizing risk sentences aligns with Nicmanis (2024) indicating that content analysis was originally designed as quantitative tool to spot patterns and categorise content of qualitative data.

In summary, Table 3-1 presents an overview of the research methodology analysis, which shows that this empirical accounting research aims to test hypotheses rather than create

new theory. It is a deductive explanatory study shaped by Critical realism (Postpositivism) philosophical views that allow using content analysis to collect both quantitative and qualitative data, transforming the qualitative data into numerical values. This transformation process enables the application of quantitative methods in analysing the data and interpreting the results to examine and solve the research problem. In agreement with Taherdoost (2022), this research selects a **quantitative research approach** to investigate the impact of Corporate Governance Variables on Firm Value including the impact mediated through Risk Disclosure. Furthermore, this research adopts content analysis method to collect and develop the data from the annual reports of Jordanian listed companies for the period 2015-2019.

Table 3-1 *Overview of methodology analysis*

Science	Natural science		
	Social science		
Research purpose	Exploratory research		
	Descriptive research		
	Explanatory research		
Continuum opposite extremes	Objectivism		
	Subjectivism		
Research assumptions	Ontological assumptions:		
	Epistemological assumptions:		
	Axiological assumptions:		
Philosophical positions (paradigms)	Based on Saunders et al. (2019, p. 143) 1. Positivism 2. Critical realism 3. Interpretivist 4. Postmodernism 5. Pragmatism		Based on Creswell and Creswell (2018, p. 6) 1. Postpositivism 2. Constructivism 3. Transformative 4. Pragmatism
Research Designs based on Creswell and Creswell (2018, p. 12)	Qualitative Narrative Phenomenology Grounded theory Ethnographies Case study	Quantitative Experimental Non-experimental (surveys) Longitudinal	Mixed methods Convergent Explanatory sequential Exploratory sequential Complex designs with embedded core designs
Research methods - techniques used for:	Qualitative	Quantitative	Mixed methods
1. Data collection	Qualitative data Interviews Observation Document Audio-visual	Quantitative data Performance Attitude Observations Census data	Mixed data A mix of both forms of data.
2. Data Analysis approach	Text and image analysis	Statistical	Statistical and text analysis
3. Data interpretation	Themes and Patterns	Statistical	Across databases
Research methodologies (The general approach)	Qualitative approach		
	Quantitative approach		
	Mixed methods approach		

3.6 Research Causal Model

This research establishes a casual model to examine the impact of Corporate Governance on Firm Value, considering the mediated impact through risk disclosure. According to Judd and Kenny (1981), a mediation impact, also known as an indirect impact, occurs when the impact of one variable on another variable is transmitted through a third variable. Based on the research objectives, hypotheses, and assumptions, the causal model proposes that certain Corporate Governance variables have a direct impact on Firm Value. In

addition, it assumes that Risk Disclosure, both in term of quantity and quality, act as a mediator in this relationship, affecting the strength of Corporate Governance impact on Firm Value.

Wang and Mueller (2015, p. 3) state that "the goal of causality analysis is to build a causal graph". To construct a causal graph representing the relationships between the respective research variables, this research starts with Figure 3-1 that shows the total effect of Corporate Governance (CG) on Firm Value (FV) through path C, without considering any intermediary variables or mediators. Then, the mediator, Risk Disclosure (RD), is introduced to the visual representation of the research variables relationships in Figure 3-2 which illustrates the indirect effect that involves the intermediate contribution of Risk Disclosure to relationship between Corporate Governance and Firm Value.

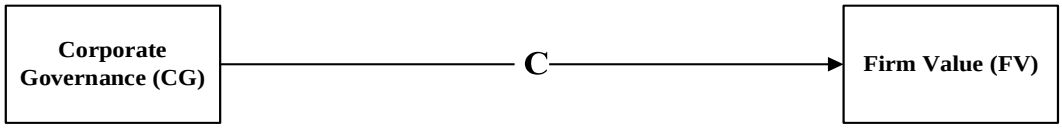


Figure 3-1

Corporate Governance predicting Firm Value

For this study Figure 3-1 shows the total effect of Corporate Governance on Firm Value through path C. This figure provides a visual representation of how Corporate Governance influences Firm Value through a direct path (C). This is a simple representation of the complex relationship between Corporate Governance variables and Firm Value. In addition, this representation does not include all relevant pathways or interactions between the respective research variables.

To extend beyond this direct relationship and to incorporate the potential indirect impact mediated by risk disclosure, Figure 3-2 illustrates the hypothesized causal chain for this study, which shows that Corporate Governance affects Firm Value directly through path C`. Figure 3-2 also shows the indirect effect that involves the potential intermediate contribution of Risk Disclosure to relationship between Corporate Governance and Firm Value. Basically, this basic model shows that the influence of Corporate Governance on Firm Value is partially transmitted via the quantity and the quality of Risk disclosure of the company.

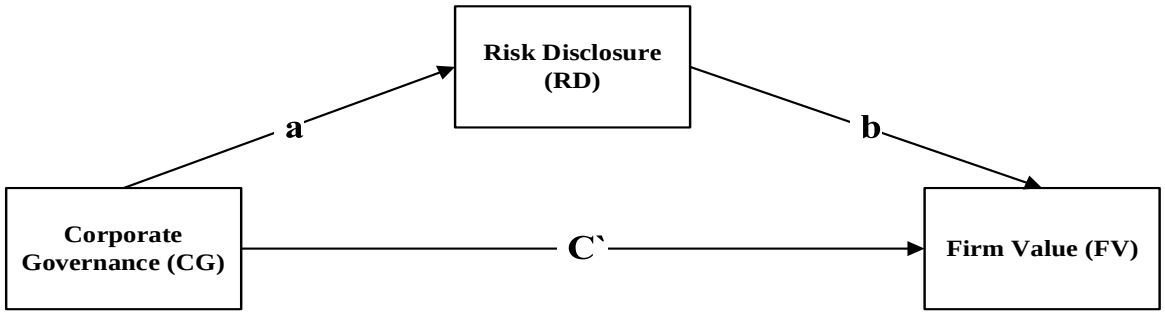


Figure 3-2

The Hypothesized Causal Chain

Corporate Governance affects Risk Disclosure (path a), which in turn affects Firm's Value (path b), resulting in a total indirect effect of the product of paths (a & b) as shown in Figure 3-2. Carrión et al. (2017) refer to this indirect effect as mediation, indicating that the mediating variable (Mediator) is the variable that mediates the effect of an independent variable on the dependent variable. Mathematically, the indirect effect (ab) is calculated by multiplying the coefficient of path (a) with the coefficient for path (b). This calculation provides an estimate of the total indirect effect, which shows the extent to which changes in Corporate Governance variables impact Firm Value through their impact on Risk Disclosure. In this study, Risk Disclosure serves as mediator in the relationship between Corporate Governance (independent variable) and market value (dependent variable). This basic representation of the causal relationships between the research variables provides the base to construct a detailed research model incorporating all the respective research variables

3.7 Initial Research Model

The main objective of this study is to explore the effect of Corporate Governance on Firm Value considering the mediating impact of Risk Disclosure. To achieve this objective, the research constructs a comprehensive model that reflects the interrelationships among the respective variables of this thesis. The objective and aims of this study determine that Corporate Governance variables serve as the initial variables, with Risk Disclosure variables acting as mediators (mediating variable) and Firm Value is the outcome. Based on the review of the literature and the analysis of Jordanian Corporate Governance directives of 2017 conducted in chapter 2, this thesis determines that Corporate Governance variables include the following: board Characteristics (Quality) variables (Board Independence, directors level

of education, Board Size, Board Meetings), Committees' Effectiveness (Nomination Committee, remuneration committee, Risk Management Committee, Audit Committee), Ownership Structure (Managerial Ownership and Block-Holding Percentage) and external audit (external auditor, Audit Fees, and Non-Audit Fees). In addition, literature analysis conducted in Chapter 2 under Risk Disclosure Section stresses that Risk Disclosure, the mediating variable, is categorized into two main categories, Risk Disclosure Quantity, and Risk Disclosure Quality. Further, Firm Value, labelled the outcome as per the purpose of this research, is represented by Tobin's Q ratio which is a common factor in the previous literature (Antonczyk & Salzmann, 2014). In addition, this study considers several control variables (Company Size, Company Age, Leverage, Liquidity, and Profitability) following previous studies which controlled all or some of these variables considering them to be Non-Corporate Governance variables that may have a direct impact on the dependent variables (Akhtaruddin & Haron, 2010; Al-Khouri, 2006; Bandanuji & Khoiruddin, 2020; Wijaya et al., 2010; Zuhroh, 2019).

By considering the research goals and integrating the previous discussion of the causal model, prior studies and the theoretical framework, this research draw a comprehensive picture for the potential relationships among the respective research components, providing an initial insight into the potential directions of correlations between the research variables. Consequently, Figure 3-3 presents the research Initial Detailed Model detailing the potential indirect and direct pathways between the respective research variables. This initial model provides a visual representation of the complex relationships among the variables understudy, showing how Corporate Governance Variables (The Initial Variables), Risk disclosure quantity and quality (Mediating Variables, and Control Variables may influence Firm Value represented by Tobin's Q ratio (The outcome variable). The impact of Corporate Governance on Risk Disclosure is represented with paths extending from each Corporate Governance variable to each of the Risk Disclosure Quantity variables and Risk Disclosure Quality. The direct impact of Corporate Governance on Firm Value is shown with paths extending from each of the Corporate Governance variables to Tobin's Q ratio. The impact of Risk Disclosure on Firm Value, including mediation from Corporate Governance, is represented with paths extending from each Risk Disclosure variable to Tobin's Q ratio. In addition, the impacts of the control variables are presented based on the prior studies. Leverage and Liquidity each have one path impacting Tobin's Q ratio. While Company Size have two paths impacting Risk Disclosure Quantity and Risk Disclosure Quality, Company Age and

Profitability each have three paths representing their impact on Tobin's Q, Risk Disclosure Quantity and Risk Disclosure Quality

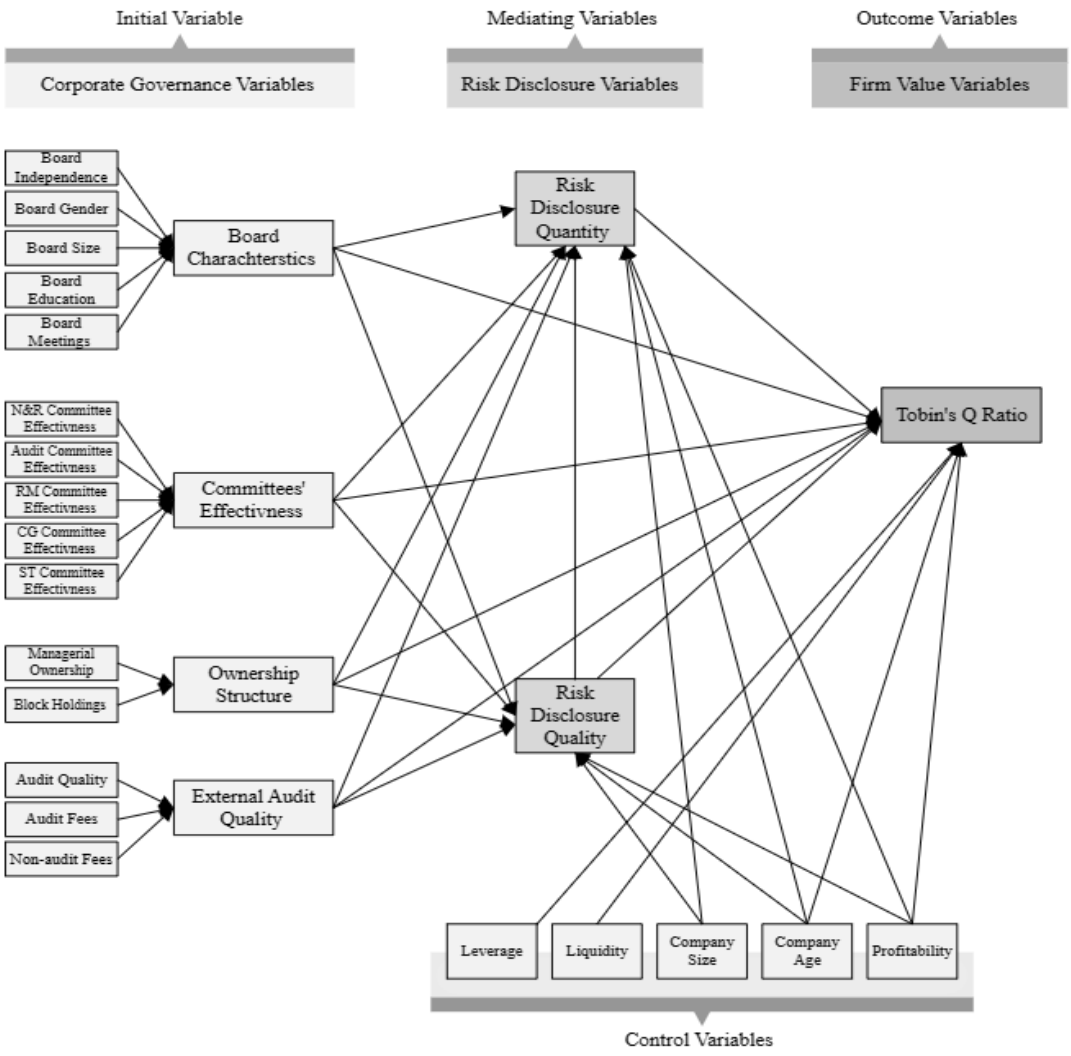


Figure 3-3

Initial Detailed Research Model

By mapping out these pathways, Figure 3-3 provides a detailed structured framework or path diagram for further analysis and interpretation. Analysing the paths in this model can facilitate deeper exploration of the respective research variables. The use of path analysis research methods to investigate correlations between variables is based on Sewall Wright's proposal in 1916 (Bollen, 1990). According to Lleras (2005, p. 25) path analysis can be defined as "a methodological tool that helps researchers using quantitative (correlational) data to disentangle the various (causal) processes underlying a particular outcome". Path analysis is commonly employed in business and corporate governance related research (ANIK et al.,

2021; Ariyani, 2020; Ekasari & Noegroho, 2020; Putu et al., 2014). An example is found in Putu et al. (2014) who used the path analysis method to study the impact of "social responsibility", "Corporate Governance" and "firm size" on corporate Profitability and Firm Value, with Profitability mediating the relationship to Firm Value, in manufacturing firms listed on the Indonesia Stock Exchange. Figure 3-4 below shows the interconnections of the variables in Putu et al. (2014) study.

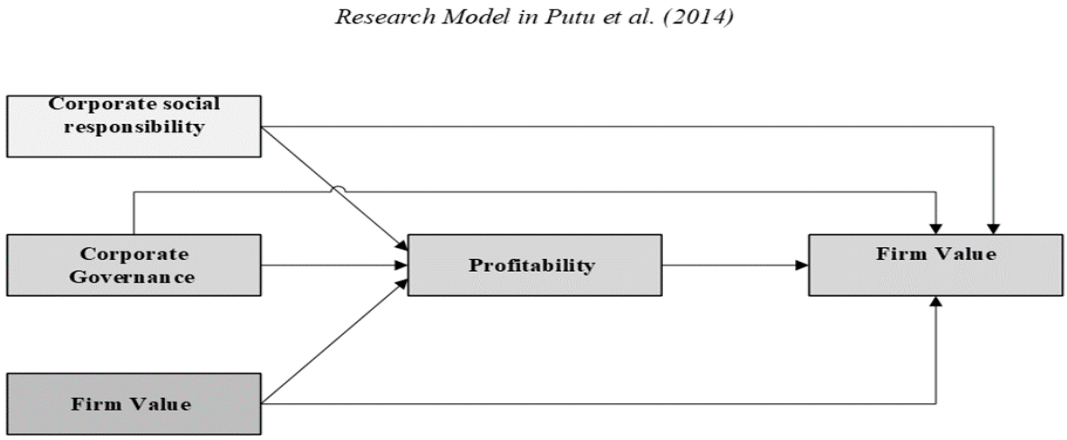


Figure 3-4

Research Model in Putu et al. (2014)

In line with the Lleras (2005, p. 25) definition of path analysis, and inspired by its application in Putu et al. (2014), path analysis is utilized in this research to investigate the direct and indirect effect of Corporate Governance (CG) variables on Firm Value including the impact mediated via Risk Disclosure (RD). This approach aims to examine the significance of the pathways through which Corporate Governance variables influence Firm Value both directly and indirectly via Risk Disclosure. This allows for a comprehensive understanding of the complex interrelationships between Corporate Governance practices, Risk Disclosure and Firm Value.

3.7.1 Testing for Mediation

This research model out forward in Figure 3-3 shows all the respective variables and the correlations among them including a series of control variables that also have the potential to impact Firm Value. This model shows how Corporate Governance variables impact Firm Value (Tobin's Q ratio) including the indirect impact mediated through Risk Disclosure

(Quantity and Quality). This research adds to literature in the field of Mediation studies, which according to Cheung and Lau (2008) and Rasoolimanesh et al. (2021) have attracted significant attention due to their importance in understanding the way variables correlate. This necessitates finding the best approach to statistically test the mediation effects. Commonly utilized statistical approaches in mediation studies include zero-order and partial correlation, hierarchical regression models, and Structural Equation Modelling (SEM) (Cheung & Lau, 2008). Judd and Kenny (1981) suggest calculating the difference between two regression model coefficients and a regression analysis to find the indirect effect (mediation) of an independent variable on a dependent variable via a mediator. However, Azim (2012) indicates that employing multiple regression techniques is deemed to be limiting when the researcher is investigating multiple governance techniques and considering some control variables. Hair Jr et al. (2021) and Cheung and Lau (2008) highlight the limitations of firs-generation multivariate analysis tools including multiple regression and promotes the utilization of Structural Equation Modelling (SEM) in analysing mediation impact highlight because of several apparent advantages. First, Structural Equation Modelling is a useful statistical method for examining latent variables. Second, Structural Equation Modelling allows accounting for errors in variables measurements when assessing the interactions between research variables, which help ensuring more accurate estimations of mediation impacts. Third, Structural Equation Modelling enables the analysis of complex models with multiple mediators and dependent variables simultaneously. Fourth, Structural Equation Modelling provides a clear visual representation of the model structure, making it easier to include and test all relevant paths.

Structural Equation Modelling (SEM) technique emerged as an alternative option for researchers as easy to use computer systems emerged and more complex studies are conducted (Azim, 2012; Hair Jr et al., 2021). SEM is used in business research especially in Corporate Governance studies such as (Saha et al., 2020; Sahnoun & Zarai, 2011; Tam & Tan, 2007; Zaman et al., 2022; Zhang, 2010). Structural Equation Modelling is "a comprehensive statistical approach to testing the nature of relationships among observed and latent variables" (Hoyle, 1995, p. 4). SEM reflects on the causal relationships between research variables and enables a comprehensive illustration of the research model (Byrne, 2016; Hair Jr et al., 2021). In addition, SEM examines these series of linear relationships between parameters by calculating the covariance between them enabling the source and the amount of impact on variables to be analysed simultaneously (Byrne, 2016; de Marco et al., 2009; Hair Jr et al., 2021). Accordingly, this research uses the SEM technique to examine

simultaneously the amount and direction of the relationships between Corporate Governance variables (Board of Directors' Characteristics, Committees' Effectiveness, Ownership Structure and External Audit Factors), Risk Disclosure (Quantity and Quality) and Firm Value (Tobin's Q ratio).

For this research, initial analysis of the nature of respective variables and the relationships between these variables is carried out using the SPSS v26 program. To explore the interrelationships between the variables (Figure 3-3) path analysis is employed adopting Structural Equation Modelling (SEM) using AMOS 26 computer software.

3.8 Sample and Sampling

At this stage, it is important to state that ethics approval is not required for this research as the information needed is archival data that is publicly available. This research covers Jordanian companies listed on Amman stock exchange, which consist of three main sectors: the Financial Sector, Services Sector and Industrial Sector see Figure 3-5. All companies under the financial sector are excluded from this study, as explained previously in Chapter 2 under the Research Objectives Section, making the population of this study companies from the Services and Industrial Sectors. This research collects data from the annual reports of the listed Jordanian companies. To minimize and avoid errors the researcher double-checked the data during the collection process and the research supervisors completed spot check audits during the data collection phase. According to ASE (2018, p. 39), the number of listed companies from all sectors at the end of 2018 was 195.

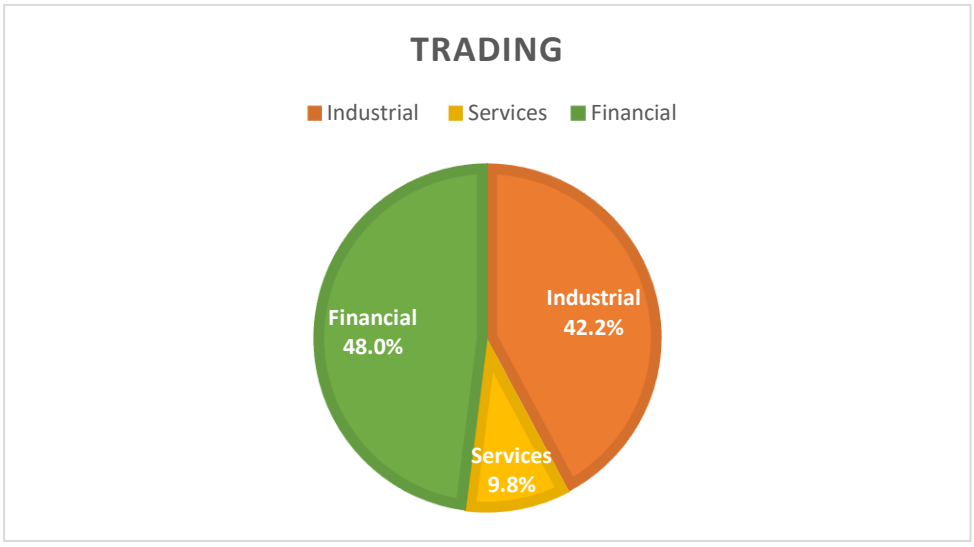


Figure 3-5

Trading value at Amman Stock Exchange by Sector in 2018 / Source: Amman Stock Exchange annual report ASE (2018, p. 35).

Based on the list of shares listed on the ASE (2020) website page, there are (181) companies currently traded on the market and (84) of those are non-financial (Services and industrial). The sample size for this research collects data from the annual reports of 84 companies over a period of five years creating a pool of more than 400 companies' annual reports across different years. For a reliable SEM analysis, it is recommended to have a sample size exceeding 200 subjects, with more accurate calculations requiring 20 subjects for every variable incorporated into the research model (Balboni, 2006; Hair Jr et al., 2021; Kusurkar et al., 2013). The sample of this research satisfies the requirements of more than more than 200 subjects, as the sample of this research is planned to have 400 subjects. It will therefore also satisfy the condition of having 20 subjects for every variable as this study incorporates only 16 variables which means having 25 subjects for each variable (400/16=25). This large sample size enhances the statistical power of the study, enabling finding meaningful patterns and association between the research variables. The sample size chosen for this research is considered adequate to find true real relationships in the data.

A summary of the population of Services and industry sectors is illustrated in Table 3-2 below.

Table 3-2

Summary of the study population

Sector	Industry	Number of firms
Services	Health Care Services	4
	Educational Services	5
	Hotels and Tourism	9
	Transportation	9
	Technology and Communication	2
	Media	1
	Utilities and Energy	5
	Commercial Services	10
Industrial	Pharmaceutical and Medical Industries	3
	Chemical Industries	6
	Food and Beverages	8
	Tobacco and Cigarettes	2
	Mining and Extraction Industries	8
	Engineering and Construction	7
	Electrical Industries	3
	Textiles, Leathers and Clothing	2

Total	84

**This table is based on the listed shares on (ASE, 2020)*

3.9 Data Collection Method

The data for this research is sourced from the annual reports of Jordanian listed companies in both the Industrial and the Services sectors for the period 2015-2019. According to Stanton and Stanton (2002), corporate annual reports serve as official public document issued by publicly traded companies, mainly to respond to compulsory disclosure requirements. Leo (2020) indicates that annual reports serve as crucial source of information for shareholders and other market stockholders, as they offer both historical and future related information especially with regards to business strategies and key risks. Stanton and Stanton (2002, p. 479) add that, "annual reports commonly comprise quantitative information, narratives, photographs and graphs". These reports can be considered a valuable source of information shared between company management and stakeholders (Leo, 2020; Luo et al., 2018). This research accesses these annual reports through the official website of the Jordanian Securities Commission, which is a reliable platform from which to retrieve companies' annual reports.

This research uses a mixed methods approach, incorporating both quantitative and qualitative methods to gather and develop data. Through content analysis, the reported data with regards to Corporate Governance practices, Risk Disclosure practices, and the financial figures of companies are reviewed and examined. The textual content of the annual reports is systemically reviewed; with specific attention paid to sections addressing the respective research variables. This method allows for extraction, classification, and using the relevant information to represent the research variables. Content analysis can be carried out through manual methods, as demonstrated in Abraham and Cox (2007); Torelli et al. (2020) and Linsley and Shrives (2006), or through computerized approaches as in Elshandidy et al. (2013); Elshandidy and Neri (2015), Berger (2011) and Ntim et al. (2013). This study, in line with Grimmer and Stewart (2013, p. 268), acknowledges that the automated content analysis can never fully substitute for attentive comprehensive reading through the text. Therefore, this research adopts the manual content analysis technique. An additional reason for choosing the manual content analysis in this research is the fact that most of annual reports available on the Jordanian Securities Commission is in a scanned Portable Document Format (scanned

PDF) or image-based PDF. Some of these scanned annual reports contain duplicated and/or unclear pages, which can affect the accuracy of the analysis.

In this research, manual content analysis is conducted as follows. Firstly, locating the Textual information, this begins with reading through the annual reports of each company to locate the relevant information. This involves reading through five annual reports for each company under study, representing the period 2015-2019. Once information is identified as relevant to one or more of the respective research variables, it is extracted into a structured data collection tool. In this research, an excel spread-sheet is used to organise and store the extracted data. The extracted textual information is coded and categorised according to the pre-defined research variables including, Board Independence, Board Education, Board Size, Board Gender, Board Meetings, Board Committees' effectiveness, Ownership Structure, External Audit Factors, Risk Disclosure Quantity, Risk Disclosure Quality, Firm Value, and the respective control variables including Company Size, Company Age, Leverage, Liquidity, and Profitability. This process is straightforward when dealing with quantitative data. It becomes more complex when handling qualitative data, especially risk information. For example, information about the company's board of directors, including a list of their names, ages, education levels, experiences, appointment dates, executive roles, and the independence status for each one of them, is typically found in the Governance section of the annual reports. This research locates this textual information, extracts it into an excel spread-sheet (collection tool), then categorises it according to the pre-defined research variables. After categorising the data, it is quantified based on the predefined criteria. For instance, the number of independent directors on the board may be found and counted, the frequency of annual meetings may be located and recorded. However, dealing with risk information reported requires more interaction with annual reports narrative, for each company and each year, which involves seeking out the relevant sentences, identifying whether to consider the sentence as a risk sentence or not based on the predefined Risk Disclosure decision rules adopted from of Linsley and Shrives (2006), see appendix (A). The sentences identified as risk sentences are classified under six Risk Disclosure categories according to the criteria adopted of Haj-Salem et al. (2020) and Linsley and Shrives (2006), and extracted into the risk disclosure content analysis tool, see appendix (B). After that, the categorised sentences within this collecting tool are counted, quantified, and recorded in the risk disclosure matrix, See appendix (C). Finally, the quantified data is entered into the main collecting tool according to the predefined variables of Risk Disclosure Quantity and Risk Disclosure Quality ready to be

subjected to further analysis using (SEM & AMOS 26) to explore the relationships between variables.

The data collection process for this research primarily involves obtaining and analysing publicly available information from the annual reports of companies listed on the Amman Stock Exchange. Since, the nature of the data collection process which involves extracting and analysing information already available to the public, it doesn't involve any direct interaction with human subjects. Therefore, the research is conducted in accordance with ethical guidelines governing the use of publicly available data for academic research purposes. As a result, formal ethical approval is not required. All data obtained from the annual reports are handled, analysed, and interpreted with care and adherence to ethical standards. While using publicly available data from annual reports proves valuable for this research, several limitations were encountered during the data collection process. Firstly, some annual reports were incomplete, with missing information, which could potentially affect the comprehensiveness of the analysis. Additionally, there were variations in the presentation of annual reports across different companies, making it challenging to ensure consistency in data extraction and interpretation. Another limitation arises from the fact that most annual reports are available only in Arabic, posing a barrier for researchers who do not understand the language. To address these limitations, rigorous validation and quality assurance measures were implemented. While the research primarily utilized the Arabic versions of the annual reports, a sample of the content analysis was translated into English and validated against the original Arabic documents to ensure the accuracy of the translation and maintain consistency in the analysis process. Furthermore, the data underwent thorough validation, including crosschecking by the research supervisors against the collection tool to ensure the accuracy and reliability of the coding process.

3.10 Data Measurement

The variables used in this research are classified under the following four areas: Corporate Governance, Risk Disclosure, Firm Value and control variables. In this research, Corporate Governance is represented by four categories: Board of Directors' Characteristics, Committees' Effectiveness, Ownership Structure and External Audit Factors. Each of these categories consists of a number of mechanisms. This study adopts previous studies' practices in determining how to proxy or measure these individual mechanisms (variables). In addition, this research also considers the Jordanian Corporate Governance directives issued by JSC

(2017) when determining the scaled measures for the variables and when constructing composite measures for each Corporate Governance category.

3.10.1 Corporate Governance Variables

This research captures Corporate Governance through the following four diminutions:

1) Board of directors' Characteristics (Quality) which evaluates the composition, meetings frequency, diversity, expertise, and independence.
2) Board Committees' Effectiveness which involves analysing the efficiency of board committees assessing by reviewing their presence, meetings frequency, composition, expertise, and independence.
3) Ownership Structure which measures the concentration of ownership within the firm with a focus on block holding and Managerial Ownership.
4) External Audit Quality which evaluates the independence and the reliability of the External Audit process.

3.10.1.1 Board of Directors' Characteristics (Quality)

This research employs five individual measures of Board Characteristics (Board Independence, Board members' level of education, Board Size, Board Gender Diversity and the Number of Board Meetings). These individual variables are set on a scale of (1-5) in order to calculate a composite measure for the characteristics of the Board of Directors.

Board Independence: The directives in article 4 (b) and (c) indicates that the majority of the board should be non-executives and requires a minimum of one third to be independent members. According to Kok et al. (2023) the Board independence measure represent the proportion external directors of the board. Similarly, numerous prior studies measure Board Independence as the proportion of independent directors of the total number of directors on the board (Alshirah et al., 2020; Black & Kim, 2012; Kanakriyah, 2021; Rouf & Hossan, 2021). Beasley (1996) reported that the boards that consist of 60% of non-executive directors are considered independent. The majority of the literature indicate that more independent boards have better monitoring capabilities (He et al., 2009). Consequently, this research considers the following decision role in Table 3-3 to scale Board Independence percentage on a scale of 1 to 5.

Table 3-3

Board Independence Scores

Board Independence	Score
Greater than or equal to 70%	5
Less than 70% and greater than or equal to 60%	4
Less than 60% and greater than or equal to 50%	3
Less than 50% and greater than or equal to 30%	2
Less than 30%	1
* if the board independency is not disclosed then the score = 1	

Board members' level of education: Article 4 (h) of Jordanian Corporate Governance directives issued by JSC (2017) states that board directors must be both qualified and experienced. This indicates that a higher percentage of education among the Board of Directors is desired. Higher level of education of companies' board members enhance members' information processing abilities which in turn increases the effectiveness of the board (Magnanelli et al., 2021; Pereira & Filipe, 2022). The members' level of education is measured as a percentage of directors with a master's or doctoral degree consistent with the findings of Kim and Lim (2010). Accordingly, the Board members' level of education scaled score is determined by multiplying percentage of directors holding a master's degree or higher by (5), then rounded to the nearest while number.

Board Size: An optimal Board Size and the perfect mix of independent executives and non-executives directors can increase board efficiency and effectiveness (Gulati et al., 2020). This research follow prior studies that Board Size represents the total number of directors on the board (Rouf & Hossan, 2021). To establish a scaled measure for Board Size, this research determines the optimal Board Size based on the Jordanian Corporate Governance directives issued by JSC (2017).The directives in article 4 (a) state that the number of the directors on the board should be a minimum of five members and up to thirteen members. Consequently, the average Board Size is nine (5+13/2) which can be considered as an optimal Board Size in this study and scores (5) on a scale of (1-5). Table 3-4 shows the decision role that determines the score attached to different sizes of boards.

Table 3-4

Board Sizes scores

Board Size	Score
9 Directors	5
8 or 10 Directors	4
6,7, 11 or 12 Directors	3
5 or 13 Directors	2

less than 5 or more than 13 Directors	1
*If the Board Size is not disclosed in the annual report then the score = 1	

Board Gender Diversity reflects the existence of females on the Board of Directors (Dutta & Bose, 2006). Board Gender Diversity is referred to as the existence of females on the Board of Directors and can be measured as a dummy variable that equals 1 if females present on the board otherwise the variable equals 0 (Brahma et al., 2021; Dutta & Bose, 2006). Accordingly, following prior research, the scaled Board Gender diversity in this research is a dummy variable that scores (5) if females exist on the Board of Directors otherwise the score is (1).

Board Meetings: This research follows prior studies and measures Board Meetings as the yearly total number of Board Meetings (Magnanelli et al., 2021; Ntim & Osei, 2011). According to article 11 (d) in the Jordanian Corporate Governance directives issued by JSC (2017) Board meetings are required to be conducted at least 6 times a year. Consequently, to establish a scaled measure for Board Meetings, this research considers the following decision role in Table 3-5 to set the number of annual Board Meetings on a (1-5) scale. This is based on prior research highlighting that Higher number of board meeting reflects higher board activities and leads to better monitoring and corporate performance (Ntim, 2009; Ntim & Osei, 2011). Accordingly, this research gives higher scores for more annual meetings conducted with companies meeting the minimum requirements of article 11 (d) in the Jordanian Corporate Governance directives issued by JSC (2017) given a score of 3 on a scale of 1 to 5 as Table 3-5 presents.

Table 3-5

Board's annual meetings scores

Board's annual meetings	Score
Greater or equal to 9 meetings	5
Less than 9 and greater than 6 meetings	4
6 meetings	3
Less than 6 and greater than or equal to 3 meetings	2
Less than 3 meetings	1
* if the board annual meetings are not disclosed then the score = 1	

3.10.1.2 **Board committees' effectiveness**

Board committees gradually gained ground in companies to handle complex business environment and regulatory demands (Kolev et al., 2019). Appiah and Chizema (2016)

measured Nomination Committees' Effectiveness by a composite index consisting of the Nomination Committee's size (number of its members), independence (percentage of independent members/number of members), and the number of meetings conducted yearly. Similarly, the Remuneration Committee (RC) and the Risk Management Committee (RMC) effectiveness are measured by a composite index consisting of the committee's size, independence, and frequency of meetings (Abdullah et al., 2017). Audit Committee (AC) Effectiveness is measured by a composite index consisting of the Audit Committee's size (number of its members), independence (percentage of independent members/number of members), frequency of meetings (number of meetings conducted yearly) and the existence of financial expert (members with a qualification in accounting or finance) (Abdullah et al., 2017).

Article 6 (a) of Jordanian Corporate Governance directives issued by JSC (2017) requires Jordanian listed companies to form four committees: Audit Committee (AC), Nomination and Remuneration Committee (NRC), Corporate Governance Committee (GC), and Risk Management Committee (RMC). In addition, the same Article of directives section (b) requires board committees to consist of a minimum of three non-executives, two of them must be independent in each of these AC, NRC and GC, and only one of them shall be independent in RMC. Again, the same article section (g) of the directives requires the board committees to conduct a minimum of two meeting per year excluding the AC that shall conduct a minimum of four meetings per year. Considering the above directives requirements, this research constructs an aggregate measure on a scale of (1-5) to reflect the effectiveness of the board committees which is termed as Board Committees' Effectiveness (COMTSEFF). This measure comprises a composite evaluation of the effectiveness of each individual committee and the presence of Special Task Committees. Two factors determine the effectiveness of each committee: Existence (Presence) and Quality. A committee's effectiveness is calculated by adding its Existence rating and its Quality rating. The Existence rating takes 5 if the committee exists and 1 if otherwise. The committee Quality is determined by its Size, Independence, Number of Meetings and the Existence of expertise when required. In addition, the Board Committees' Effectiveness accounts for the existence of any Special Task Committees as section (h) of the Jordanian directive gave the board the ability to form Special Task Committees. The existence of any Special Task Committee variable is determined by the existence of a committee and takes a value of (5) if the company forms a standalone Special Task Committee and (1) otherwise. Justification for using un-weighted items in calculating the index score is adopted from Atanasovski et al. (2015, p. 186) who

explained that un-weighted items indicates equal importance of all items which could be an unrealistic assumption, still “the resulting bias is smaller than the one that would result from assigning subjective weights to the items”. The following decision roles in Table 3-6 are applied to scale for the board committees’ Quality.

Table 3-6

Decision Roles for Board Committees' Quality

Nomination and Remuneration Committee Quality = (Size Score + independence score + Meeting Score) /3	
Size	Takes a value of (3) if the committee consisted of (3) members (the minimum), takes the value of 5 if the committee consisted of more than (3) members, and takes the value of (1) if the members of the committee are less than (3).
Independence	Takes a value of (5) if more than two third of the committee members are independence, takes a value of (3) if two third of the members are independence, and takes a value of (1) if less than two third of the committee members are independence.
Meetings	Takes a value of (5) if the committee conducted more than two annual meetings, takes a value of (3) if the committee conducted two annual meetings, and takes a value of (1) if the committee conducted less than two annual meetings
Audit Committee Quality = (Size Score + independence score + Meeting Score+ Financial expert score) /4	
Size	Takes a value of (3) if the committee consisted of (3) members (the minimum), takes the value of 5 if the committee consisted of more than (3) members, and takes the value of (1) if the members of the committee are less than (3).
Independence	Takes a value of (5) if more than two third of the committee members are independence, takes a value of (3) if two third of the members are independence, and takes a value of (1) if less than two third of the committee members are independence.
Meetings	Takes a value of (5) if the committee conducted more than four annual meetings, takes a value of (3) if the committee conducted four annual meetings, and takes a value of (1) if the committee conducted less than four annual meetings
Financial expert	Takes a value of (5) if at least one member of the Audit Committee is a financial expert and (1) otherwise.
Risk Management Committee Quality = (Size Score + independence score + Meeting Score+ Policy score) /4	
Size	Takes a value of (3) if the committee consisted of (3) members (the minimum), takes the value of 5 if the committee consisted of more than (3) members, and takes the value of (1) if the members of the committee are less than (3).
Independence	Takes a value of (5) if more than one third of the committee members are independence, takes a value of (3) if one third of the members are independence, and takes a value of (1) if less than one third of the committee members are independence.
Meetings	Takes a value of (5) if the committee conducted more than two annual meetings, takes a value of (3) if the committee conducted two annual meetings, and takes a value of (1) if the committee conducted less than two annual meetings
Policy	Takes a value of (5) if the company implements a risk management policy and (1) otherwise.
Corporate Governance Committee Quality (Size Score + independence score + Meeting Score) /3	
Size	Takes a value of (3) if the committee consisted of (3) members (the minimum), takes the value of 5 if the committee consisted of more than (3) members, and takes the value of (1) if the members of the committee are less than (3).
Independence	Takes a value of (5) if more than two third of the committee members are independence, takes a value of (3) if two third of the members are independence, and takes a value of (1) if less than two third of the committee members are independence.

Meetings	Takes a value of (5) if the committee conducted more than two annual meetings, takes a value of (3) if the committee conducted two annual meetings, and takes a value of (1) if the committee conducted less than two annual meetings
* Any Individual Committee Effectiveness Score = Committee existence score + Committee Quality score * Committees' Effectiveness = Average of all Committees' Effectiveness scores and the score of the existence of Special Task Committee.	

3.10.1.3 **Ownership Structure**

Many prior studies suggest that firms can be labelled under two categories: companies controlled by managers and companies controlled by owners (Kang & Sorensen, 1999). A company is assumed to be controlled by managers if share ownership concentration is low, where the largest Block Holdings percentage is no more than five percent (Kang & Sorensen, 1999; Pfeffer & Salancik, 2003). This research uses two variables to capture Ownership Structure (OWNST). The first variable is Managerial Ownership which represents the percentage of ownership by managers and executive directors or their families (Al-Fayoumi et al., 2010; Karathanassis & Drakos, 2004), and the second variable is ownership concentration or Block Holdings (BLK) which can be measured as a dummy variable following (Marimuthu, 2017) which takes the value of (1) when two or more external stockholders own 5% or more of the shares, and (0) otherwise.

This research measures Managerial Ownership (MANO) on a scale of (1-5) where Managerial Ownership takes the value of 1 when Managerial Ownership percentage equal to or less than 10%, and it takes the value of 5 when the percentage is 50% or more, and the scores for percentages between 10% and 50% are calculated by multiplying the Managerial Ownership percentage by 10 and then rounded to the nearest number. Also, this research measures Block Holdings (BLK) as a dummy variable which takes the value of (5) when two or more external stockholders own (5% or more each) of the shares, and (1) otherwise.

Owusu-Ansah (1998) confirmed that more widely spread ownership implies higher demand for proper information by shareholders. However, according to Munisi (2023), higher Managerial Ownership implies less information disclosure as managers holding of company stock give them more power over critical decisions including decisions concerned with disclosure, which encourages them to overlook good corporate governance practices and tend to disclose less information. This indicates that Managerial Ownership and Block Holdings are likely to affect Risk Disclosure in opposite ways, and to ensure that the measure of Ownership Structure captures both Managerial Ownership (MANO) and Block Holdings

(BLK) and add up their contrasting effects, the scale used to measure Managerial Ownership is reversed and labelled (newMANO) where a score of 5 revered to 1, 4 reversed to 2, 1 reversed to 5, 2 reversed to 4 and 3 does not change. This amended Ownership structure variable is labelled as (newOWNST) and calculated by adding the score of the reversed Managerial Ownership (new MANO) to the score of Block Holdings (BLK).

3.10.1.4 **External Audit Quality**

This research employs three variables to measure External Audit Factors: Audit Fees, Non-Audit Fees, and Auditor Quality. Audit fees representing the cost of audit and firms tend to agree to pay higher Audit Fees for a better-quality audit (Cohen et al., 2004; Dye, 1993). For the purpose of this research, Audit Fees variable will take the value of 5 if the Audit Fees are above average, and 1 if otherwise. Non-Audit Fees represent the cost of Non-Audit Fees by the auditor and they are considered as a risk to auditor independence (Cohen et al., 2004; Lennox, 1999). Accordingly, Non-Audit Fees will take a value of (1) if the company paid Non-Audit Fees to the auditor and takes the value of (5) if otherwise. DeAngelo (1981) highlights that bigger audit-companies deliver more quality audit, therefore, in this research Auditor Quality takes the value (5) if employed a Big-4 audit firm, and takes the value (1) if otherwise. According to Abdullah et al. (2017), The Big-4 auditing firms in the industry are: PricewaterhouseCoopers (PwC), Deloitte, Ernst & Young, and KPMG. This research captures External Audit Quality (EXAQUAL) as an average of the above three variables' scores (Audit Quality: Audit Fees, Non-Audit Fees, and Auditor Quality).

3.10.2 Risk Disclosure Variables

Hassan and Marston (2019) in their review study of disclosure measurement verified more than 25 different measures for disclosure concluding that the choice of a particular disclosure measure varies with the aim of the study. One of the most used of those measures is content analysis (Alshirah et al., 2021; Campbell et al., 2014; Haj-Salem et al., 2020; Hussainey et al., 2003; Ibrahim & Aboud, 2023; Linsley & Shrives, 2006; Rajab & Schachler, 2009). Ntim et al. (2013, p. 370) states that "the use of sentence is a well-established line of coding Risk Disclosures". Jordan adopts International Financial Reporting Standards (IFRS) which requires both qualitative and quantitative disclosure (Tahat et al., 2016). Therefore, this study employs content analysis to measure the level of Risk Disclosure in both Quantity and Quality.

This research utilises content analysis and adopts the criteria of Haj-Salem et al. (2020) and Linsley and Shrives (2006) where risk sentences are to be classified under six Risk Disclosure categories (Operational Risk, Empowerment Risk, Information Processing and Technology Risk, Integrity Risk, Strategic Risk and Financial Risk, see Appendix C: Disclosure Matrix) and then coded according to the items listed under each category. There is a possibility for additional items might be included in the index after analysing data collected from the first few companies in the sample to reflect the Jordanian context as consistent with Al-Maghzom et al. (2016), Elshandidy and Neri (2015) and Haj-Salem et al. (2020). Risk Disclosure Quantity (RiskQun) is measured by the number of disclosed risk sentences, while Disclosure Quality is measured by disclosure coverage over the risk items where each disclosure item is scored (1) when a risk sentence included in the annual report which is classified under this item and (0) if the item is not disclosed. To identify and classify Risk Disclosures this research is following Risk Disclosure decision rules used by Linsley and Shrives (2006) see Appendix A: Risk Disclosure Decision Rules.

This research constructs a tool to keep records of the risk-related sentences identified in the annual reports. These sentences are systematically categorized into the respective risk categories and subcategories (risk items) introduced above. Termed as the Risk Disclosure Content Analysis Tool, this instrument not only records identified risk sentences but also cross-references their location within the annual reports of the studied companies, see Appendix B: Risk Disclosure Content Analysis tool. Subsequently, the data gathered using this tool is employed to populate the Risk Disclosure Matrix, which is developed in this research using Microsoft Excel as a form to track the count of risk-related sentences and the coverage of risk items within the annual reports of each company.

In this research, the level of Risk Disclosure is determined by counting the total number of sentences discussing risk within companies' annual reports. To calculate Risk Disclosure Quality (RiskQul), the following formula is utilized: $RiskQul = \sum R$. In this formula each R represents a sentence identified as Risk Disclosure sentence in the annual report according to the risk disclosure decision rules.

The quality of Risk Disclosure represents the coverage of Risk Disclosure over the risk items. In this research, Risk Disclosure Quality is computed as the total number risk items addressed in the annual reports. The following formula is utilized to calculate Risk Disclosure Quality (RiskQual): $RiskQul = \frac{\sum_{i \geq 1} i}{n}$ where i represents the number of Risk

Disclosure items, with $i \geq 1$ indicating that the disclosure item i is covered in one or more risk sentences in the annual reports according to the risk disclosure decision rules.

It is worth mentioning that some of the annual reports are prepared in Arabic language only, thus, the list of items is translated from English into Arabic to run the content analysis.

3.10.3 Firm Value Variables

Tobin's Q ratio has been broadly used as a measure for Firm Value in previous literature (Antonczyk & Salzmann, 2014; Brahma et al., 2021). This research is adopting Tobin's Q ratio as a measure of Firm Value following the common practice of many previous studies (Batten & Vo, 2019; Brahma et al., 2021; Fang et al., 2009; Nguyen et al., 2016). Tobin's Q ratio is defined as "the market value of a firm divided by the replacement cost of the firm's assets" Singhal et al. (2016, p. 1). Silva et al. (2018, p. 691) explained that the replacement costs of assets are hard to calculate and book value of assets can be used instead which makes Tobin's Q ratio equals to "the market value of equity plus the book value of liabilities, divided by the book value of assets at the end of each year". Accordingly, this research assumes that the year-end shares closing prices, as published on Amman Stock Exchange (ASE), reflects the market values of shares. Subsequently, to calculate market value of equity, the research multiplies the year-end closing prices of shares by the total number of shares. This research calculates Tobin's Q ratio, as a measure of Firm Value, using the following formula:

$$Tobin's\ Q\ ratio\ = \frac{(\text{Shares Closing price} \times \text{Number of shares}) + \text{Book value of Liabilities}}{\text{Book value of Total Assets}}$$

3.10.4 Control Variables

In order to capture the impact generated by the change in Corporate Governance, several measurable control variables are considered in this study. These control variables are included to account for Non-Corporate Governance variables that previous research has proven to have direct impact on the dependent variables Firm Value. Therefore, the below control variables below are considered in this study based on the review of prior studies introduced earlier in Chapter 2 under the Control Variables Section. Studies which incorporate some or all of these variables, or provided an empirical evidence that these variables have a direct impact on Firm Value include (Gupta et al., 2009; Kartika, 2021;

Loncan & Caldeira, 2014; Musa & Yahaya, 2023; Saona Hoffmann et al., 2019; Strang, 2015; Tiep Le & Nguyen, 2022; Uddin et al., 2021).

3.10.4.1 **Company Size**

Doğan (2013, p. 55) highlights three widely used indicators for Firm Size in the literature, total assets, total sales and number of employees, citing that Khatap et al. (2011), Saliha and Abdessatar (2011) used total assets, Akbaş and Karaduman (2012), Shubita and Alsawalhah (2012) used total sales, and Becker et al. (2010), Banchuenvijit (2012) utilized number of employees. Company size is referred to by Magnanelli et al. (2021), Ridloah (2010) and (Fosu et al., 2016) as the size of the firm which can be quantified through its total assets. It is one of the factors considered in prior studies to predict the value of a firm (Bandanuji & Khoiruddin, 2020; Carter et al., 2003; Zuhroh, 2019). Reschiwati et al. (2020) indicate that larger firms usually find it easier to access diverse funding sources which affects Firm value. In addition, larger firms in term of assets are usually matured and stable with greater ability to make profits which can be seen as a good sign for investors that may increase the share price (Bandanuji & Khoiruddin, 2020). In addition, Reschiwati et al. (2020) highlight that large sized companies usually have revenue growth and low information asymmetry. Larger companies can afford the cost of producing information to comply with disclosures requirements (Elzahar & Hussainey, 2012). Beretta and Bozzolan (2004) stated that larger sized company usually imply stability, growth and Profitability which have a big effect on disclosure quantity.

In this study, in consistence with many prior studies including Fosu et al. (2016), (Bandanuji & Khoiruddin, 2020) and Reschiwati et al. (2020), Firm size will be measured as the book value of the company's total assets to provide a reliable and consistent method for evaluating firm size across the sampled companies.

3.10.4.2 **Company Age**

According to Stangler and Kedrosky (2010, p. 2) new or young companies are "those less than five years old", and are usually smaller than the older ones. Age is referred to by Ilaboya and Ohiokha (2016) as the duration of existence of a person or object. Hence, firms are considered as a legal entity, a firm age can be defined as the number of years since the firm was established or founded (Ilaboya & Ohiokha, 2016; Khaniya et al., 2023; Pickering,

1968). However, Shumway (2001) prefers using the listing age (trading age) approach to capture Company Age, which is calculated as the numbers of years since listing on the financial market. This research, following Ilaboya and Ohiokha (2016) and Khaniya et al. (2023), measures Company Age as the number of years since establishment to the year under investigation. This research investigates the annual reports for the period of 2015-2019. Company Age for each year in this period is calculated as the number of years passed since the company was founded until the specific year under study.

3.10.4.3 **Leverage**

Leverage is the ratio of a company's "book value of total debt to book value of total assets" following (Bhatt & Bhatt, 2017; Fosu et al., 2016; Kok et al., 2023). The Leverage ratio shows the proportion of debt in the company's capital structure (Markonah et al., 2020). It was established that Firm Value is impacted by financing decisions, and Leverage used in investment leads to a constructive impact on Firm Value according to Wijaya et al. (2010).

Following previous studies, particularly (Bhatt & Bhatt, 2017; Fosu et al., 2016), this research calculates Leverage by determining the ratio of a company's book value of total debt to its book value of total assets.

3.10.4.4 **Liquidity**

The amount of influence Leverage on firm value is highlighted in prior research (Akhtaruddin & Haron, 2010; Gupta et al., 2009; Haj-Salem et al., 2020; Kartika, 2021; Markonah et al., 2020; Musa & Yahaya, 2023). Zuhroh (2019, p. 208) defines Liquidity as "the ability of a firm to fulfill its obligations" which can be measured using the current ratio (Current assets/current liabilities). The Liquidity Ratio provides insight into the company's ability to fulfill its current obligations by comparing current assets to current liabilities (Markonah et al., 2020).

This research is consistent with prior studies which assess Liquidity through the current ratio. This ratio is calculated by dividing current assets by current liabilities, as demonstrated in Zuhroh (2019).

3.10.4.5 **Profitability**

Jihadi et al. (2021, p. 425) states that "Profitability ratios indicate a company's ability to generate earnings against cost during a given period". In addition, Markonah et al. (2020) highlights that Profitability can serve as an indication of the competency of the company's

management. However, Ilaboya and Ohiokha (2016) argue that Profitability doesn't always guarantee effective management. According to Ilaboya and Ohiokha (2016) there are various measures of profitability in the accounting literature including, return on capital employed, return on assets, return on equity, net profit margin, earnings before interest and tax, and gross profit margin. The Return on equity and return on assets appears as a proxy for profitability and is widely used in prior research (Doğan, 2013; Owolabi & Alu, 2012; Zuhroh, 2019).

In line with common practices this research adopts Return On Assets (ROA) to calculate profitability, particularly the approach of Zuhroh (2019) which measures Profitability by evaluating the return generated by the firm's assets which is equal to net profits over total assets.

A summary of all the variables discussed above, their labels, and their measurements are provided in Table 3-7 and Table 3-8 below.

Table 3-7

Corporate Governance Variables Labels and Measurements Descriptions

Variable		Label	Measurement
Corporate Governance variables	**Board Quality**	BOARDQUL	An aggregate composite measure incorporating Board Size, Independence, Education, Number of Annual Meetings and Gender Diversity
	Board Size	BoardSiz	Total number of the directors on the board
	Board Independence	IndepDir	The proportion of independent directors to total board
	Board Members' level of education	DirEdu	The percentage of directors with a master's degree or doctoral degree
	Number of Board Meetings	BMeetngs	The yearly total number of Board Meetings
	Board Gender Diversity	GNDR	A dummy variable which takes 5 if a female exists on the board 1 otherwise
	Board Committees' Effectiveness	COMTSEFF	An Aggregate composite measure combines the scores of nomination and remuneration committee effectiveness, audit committee effectiveness, risk management committee effectiveness, corporate governance committee effectiveness, and the score for the existence of special task committees.
	Committee Effectiveness	CEFF	A composite measure incorporating the Committee existence, Size, Members Independence, and Number of annual meetings.
	Committee Size	CSIZ	The total count of committee members
	Committee Independence	CIND	The proportion of independent directors to the total number of committee members
	Committee Meetings	CMET	The total number of committee meetings conducted yearly.
	RMC Policy	RMCPLC	Takes the value of 5 if a policy exists, and 1 otherwise.
	Special Task Committees Existence	STCEXT	A dummy variable which takes 5 if a standalone STC exist and 1 otherwise.
	Managerial Ownership	MANO	The percentage of shares owned by executive directors of the total number of shares
	Block Holdings ownership	BLKO	Takes the value of 5 when two or more external stockholder own 5% or more (each) of the shares, and 1 otherwise.
	External Audit Quality	EXAQUL	A composite measure consists of Audit cost, Non-Audit Fees, and Audit Quality.
	Audit Fees	AUDFE	The Cost of Audit.
	Non-Audit Fees	NAUDFE	The cost of non-audit services by auditor.
	Auditor Quality	AUDQUL	For Big-4 audit firms, assign a score of 5, otherwise, assign a score of 1.

Table 3-8

Risk Disclosure, Firm Value, and Control Variables Labels and Measurements Descriptions

Variable		Label	Measurement
Risk Disclosure	Risk Disclosure Quantity	RiskQun	Total number of disclosed risk sentences in the annual report
	Risk Disclosure Quality (Coverage)	RiskQul	The total number of items covered by a risk sentence or more
Firm Value	Firm Value	FV	Represented by Tobin's Q ratio
	Market Capitalization	MC	Closing share price multiplied by the number of shares
	Tobin's Q ratio	TQRatio	(MC + Book value of total Debts) /Book value of total assets
Control variables	Company Size	Size	The book value of the company total assets
	Company Age	Age	Number of years since the company was founded
	Leverage	Leverage	The ratio of a company's book value of total debt to book value of total assets
	Liquidity	Liquidty	The ratio of current assets to current liabilities
	Profitability	Profity	The ratio of net profits over total assets (ROA)

3.11 Research Model Evolution

This research is using Structural Equation Modelling (SEM) to capture the strength and the direction of the relationship between the variables understudy. Balboni (2006) and Kusurkar et al. (2013) assert that the general guideline for adequate sample size to carry out SEM analysis is to have a sample size larger than 200 subjects, and for a more precise estimate, it is required to have 20 sample elements for every parameter in the research model. This research collects data from the annual reports of 84 companies over a period of five years creating a pool of more than 400 companies – year elements. This means that this research can use 20 variables or less to conduct SEM analysis. However, the initial research model Figure 3-3 shows 27 different research variables. These 27 variables are reduced to 16 variables as three composite indices are constructed by aggregating multiple variables. This means the sample size for this research meets the above requirements. These three indices are constructed based on prior studies as discussed in the previous section of this chapter relating to data measurement. These are:

1. Committees' Effectiveness index: consists of Nomination Committees' Effectiveness, Remuneration Committees' Effectiveness, Risk Management Committee Effectiveness, and Audit Committee Effectiveness.
2. Ownership Structure index: consist of Managerial Ownership and Block-Holding Percentage.
3. External audit index: external auditor, Audit Fees, and Non-Audit Fees.

To incorporate this adjustment into the initial model with the respective variables (Corporate Governance, Risk Disclosure and Firm Value) resulted in the development of the final theoretical pathway model shown in Figure 3-6. This final theoretical model shows how Corporate Governance variables impact, directly and indirectly, Firm Value (Tobin's Q ratio). In addition, this model shows the mediated effect (RD Quantity and Quality) through which CG variables impact FV. Moreover, this model contains a series of control variables that also have the potential to impact Firm Value.

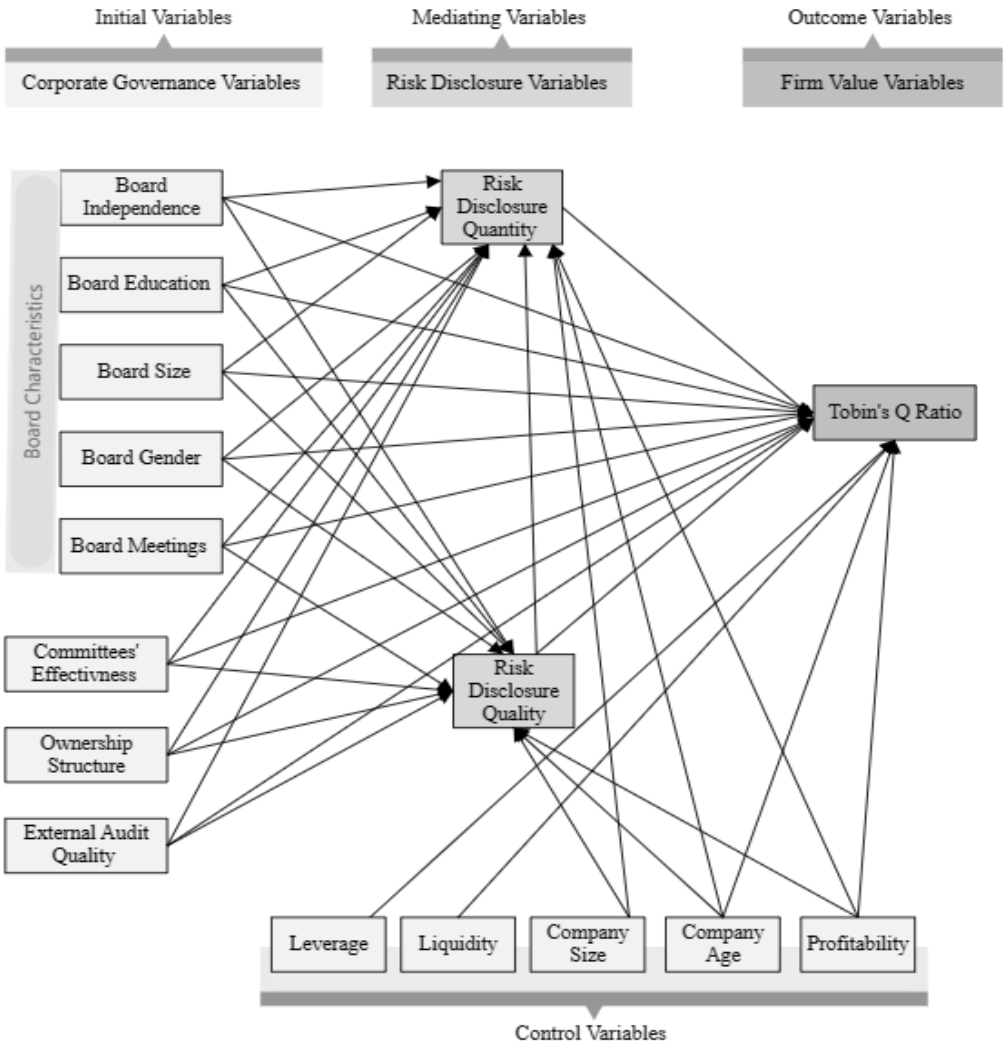


Figure 3-6

Final Theoretical Mediating Research Model

3.11.1 Trimmed Empirical Model

Testing the final theoretical model against the empirical data enables the derivation of an optimal model by eliminating non-significant paths from the model, leaving only those that are statistically significant at the 0.05 level and the theoretical relevant paths make up the model (Jöreskog & Sörbom, 1993). This research assesses the final theoretical model presented in Figure 3-6 against the empirical data of each sector using SEM analysis in AMOS 26 software. This generates an initial empirical model of the Industrial Sector and the Services Sector.

3.11.1.1 **Trimmed Empirical Model of the Industrial Sector**

Figure 3-7 shows the initial industrial empirical model. This model is the output of testing the theoretical model (Figure 3-6) using the empirical data generated from the annual reports of the Jordanian Industrial companies.

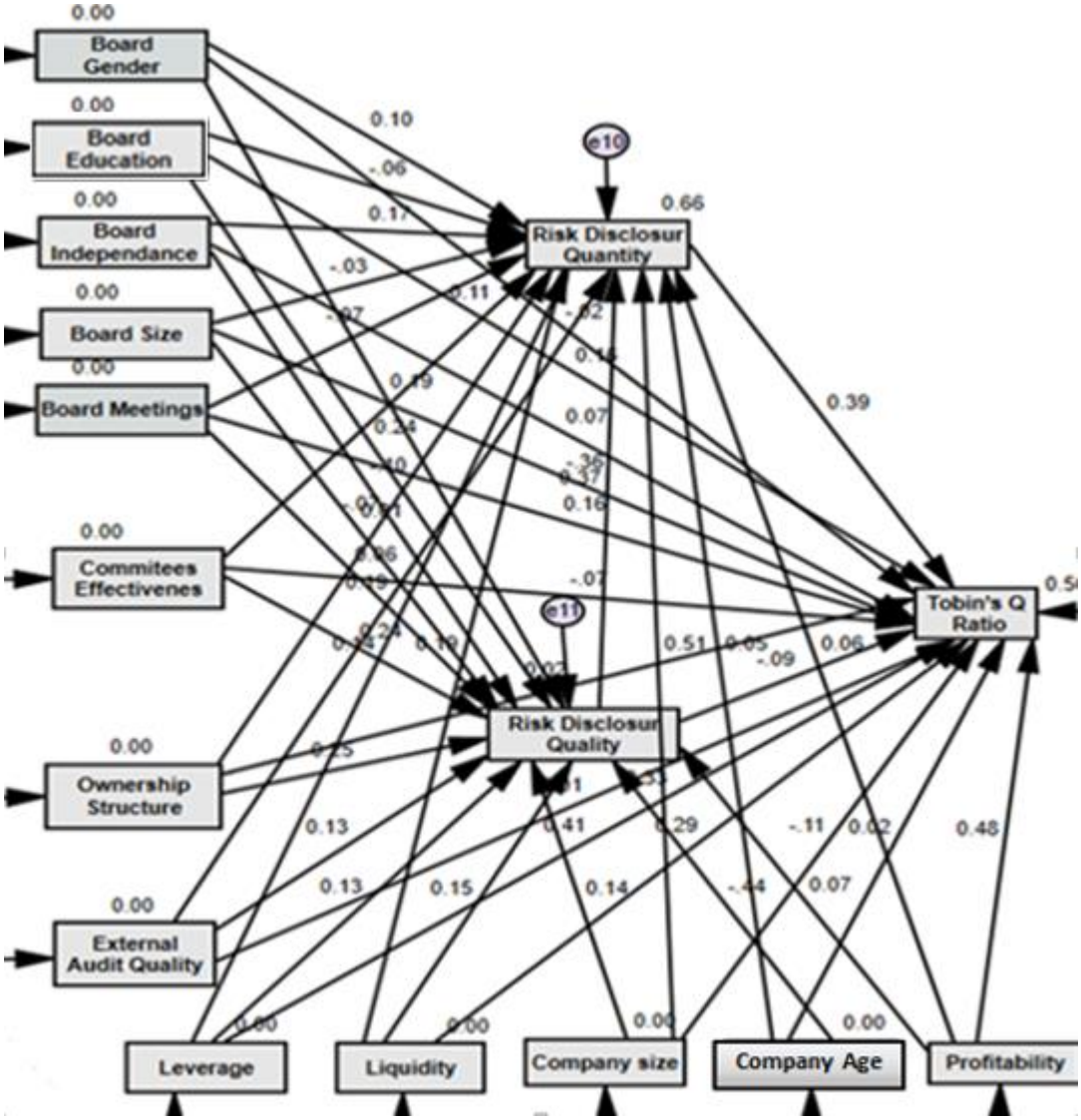


Figure 3-7

The Initial Industrial Empirical Model

This initial empirical model shows the direction (negative or positive) and the strength (Standardized Regression Weights) of the paths between the variables in the model. Table 3-8 provide a list of the paths Standardized Regression Weights of the Industrial Model showing

directions and the exact strengths of the paths between variables of the initial industrial model.

Table 3-9

Paths Standardized Regression Weights of the industrial Model Variables

Correlation		Estimate	Correlation		Estimate
RiskQul_1	Size_1	.135	RiskQun 1	IndepDir_1	.136
RiskQul_1	Age_1	-.455	RiskQun 1	BMeetngs 1	-.062
RiskQul_1	Profity_1	.047	RiskQun 1	newOWNST_1	-.074
RiskQul_1	Size_1	.141	RiskQun 1	IndepDir_1	.166
RiskQul_1	Age_1	-.440	RiskQun 1	BMeetngs 1	-.070
RiskQul_1	Profity_1	.071	RiskQun 1	newOWNST_1	-.068
RiskQul_1	Liquidty 1	.150	RiskQun 1	Profity 1	.061
RiskQul_1	EXAQUL_1	.127	RiskQun 1	RiskQul 1	.371
RiskQul_1	GNDR 1	.193	RiskQun 1	Leverage 1	.142
RiskQul_1	DirEdu_1	.237	TQRatio_1	Profity 1	.482
RiskQul_1	IndepDir_1	-.105	TQRatio_1	DirEdu 1	.165
RiskQul_1	BoardSiz_1	.013	TQRatio_1	Leverage 1	.409
RiskQul_1	BMeetngs_1	.062	TQRatio_1	RiskQul 1	-.090
RiskQul_1	COMTSEFF 1	.238	TQRatio_1	Age_1	.022
RiskQul_1	newOWNST 1	.247	TQRatio_1	EXAQUL 1	.006
RiskQul_1	Leverage_1	.128	TQRatio_1	GNDR_1	-.020
RiskQun_1	EXAQUL_1	.194	TQRatio_1	IndepDir_1	.065
RiskQun_1	Size_1	.508	TQRatio_1	BoardSiz_1	-.360
RiskQun_1	COMTSEFF_1	.114	TQRatio_1	BMeetngs_1	.157
RiskQun_1	Age_1	.051	TQRatio_1	COMTSEFF 1	-.065
RiskQun_1	Liquidty 1	.189	TQRatio_1	newOWNST_1	.020
RiskQun_1	BoardSiz_1	-.026	TQRatio_1	Size 1	-.112
RiskQun_1	GNDR 1	.097	TQRatio_1	RiskQun 1	.392
RiskQun_1	DirEdu_1	-.059	TQRatio_1	Liquidty_1	.292

Eliminating non-significant paths from the model, leaving only those that are statistically significant at the 0.05 level generates a trimmed model. For example, the path from External Audit Quality (EXAQUL) to Firm Value (TQRatio), score of 0.006, is trimmed from the model. Similarly, the path from Board Size (BoardSiz) to Risk Quality (RiskQul) with coefficient of .013, and the path from Board Gender (GNDR) to Firm vlaue (TQRatio) with a coefficient of -.020 are trimmed. The SEM analysis is run again testing this trimmed model against the data, trimming those insignificant paths if any found in the model

generating an evolved trimmed model. This evolved model is checked against the SEM model fit indices, which determines if further trimming is required to reach a good Model fit. If required, the trimming process is repeated until the optimal model is established. SEM analysis assesses the model fit, which shows how well the model represents the relationships between the research variables using the empirical data. West et al. (2012) highlight the following Model fit indices: Chi square (x^2) / degrees of freedom ratio statistic, the Root Mean Squared Error of Approximation (RMSEA), the Normed Fit Index (NFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Tucker–Lewis Index (TLI). The statistical tests required to establish the model fit is discussed later in this chapter in. The Same process applies to the Services Sector testing the theoretical model against the data generated from the Services companies. This is demonstrated and discussed below.

3.11.1.2 **Trimmed Empirical Model of the Services Sector**

Similarly, Figure 3-8 displays the initial empirical model for the Services Sector. This model emerges from applying the empirical data sourced from the annual reports of Jordanian service companies to the theoretical framework (Figure 3-6).

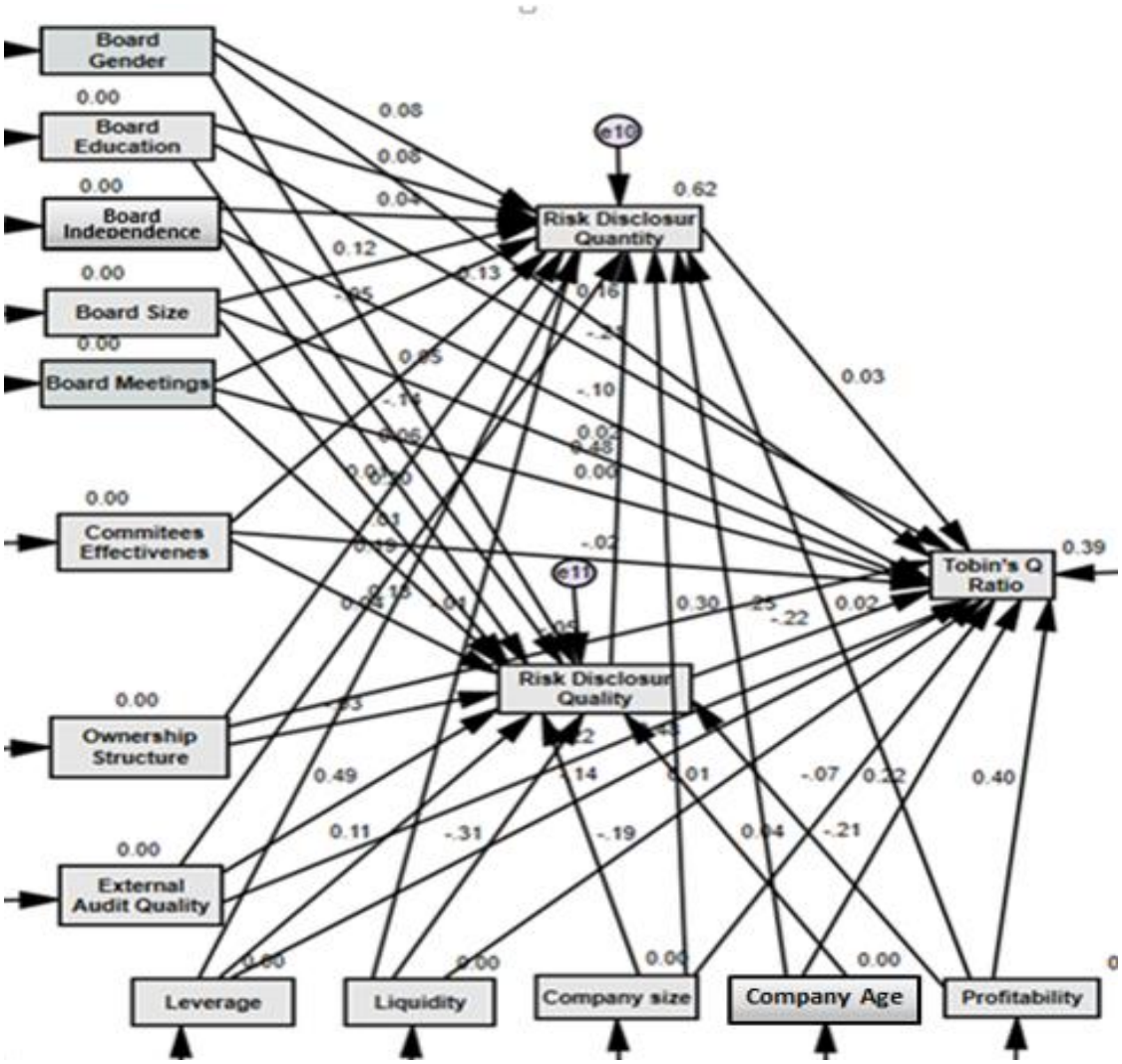


Figure 3-8

The Initial Services Empirical Model

This preliminary empirical model of the Services companies illustrates both the direction (negative or positive) and the strength (Standardized Regression Weights) of the paths among the variables in the model. The direction (negative or positive) and the strength of the paths between the model variables are listed in Table 3-9.

Table 3-10

Paths Standardized Regression Weights of the Services Model Variables

Correlation		Estimate	Correlation		Estimate
RiskQul_1	Size_1	-.191	RiskQun 1	IndepDir_1	.044
RiskQul_1	Age_1	.044	RiskQun 1	newOWNST_1	.007
RiskQul_1	Profity_1	-.209	RiskQun 1	BMeetngs 1	-.051
RiskQul_1	Liquidty 1	-.307	RiskQun 1	Profity 1	.015
RiskQul_1	EXAQUL_1	.489	RiskQun 1	RiskQul 1	.479
RiskQul_1	GNDR 1	.050	RiskQun 1	Leverage 1	.042
RiskQul_1	DirEdu_1	-.145	TQRatio_1	Profity 1	.397
RiskQul_1	IndepDir_1	.064	TQRatio_1	DirEdu 1	-.207
RiskQul_1	BoardSiz_1	.204	TQRatio_1	Leverage 1	-.138
RiskQul_1	BMeetngs_1	-.008	TQRatio_1	RiskQul_1	-.220
RiskQul_1	COMTSEFF_1	.126	TQRatio_1	Age_1	.222
RiskQul_1	newOWNST 1	-.028	TQRatio_1	EXAQUL 1	.222
RiskQul_1	Leverage_1	.111	TQRatio_1	GNDR_1	.159
RiskQun 1	EXAQUL_1	.194	TQRatio_1	IndepDir_1	-.099
RiskQun 1	Size_1	.302	TQRatio_1	BoardSiz 1	.021
RiskQun 1	COMTSEFF 1	.126	TQRatio_1	BMeetngs 1	.005
RiskQun 1	Age_1	-.247	TQRatio_1	COMTSEFF 1	-.021
RiskQun 1	Liquidty 1	-.007	TQRatio_1	newOWNST_1	-.046
RiskQun 1	BoardSiz_1	.115	TQRatio_1	Size 1	-.068
RiskQun 1	GNDR 1	.084	TQRatio_1	RiskQun 1	.025
RiskQun 1	DirEdu_1	.081	TQRatio_1	Liquidty_1	.009

This initial model is refined by removing non-significant paths and keeping only those statistically significant at the 0.05 level. However, trimming the path from Risk Disclosure Quantity to Tobin's Q ratio is statistically non-significant (estimate is 0.025 < 0.05) would stop passing (mediating) the impact of the variables impacting Risk Disclosure Quantity to Tobin's Q (Firm Value). This can be resolved by reversing the path between Risk Disclosure Quantity and Risk Disclosure Quality to flows from the Risk Disclosure Quantity to Risk Disclosure Quality considering that the path from Risk Disclosure Quality to Tobin's Q is significant at a weight of (-.22). This would allow the impact of those variables with paths to the Risk Disclosure Quantity to be mediated to Firm Value through Risk Disclosure Quality. Figure 3-9 shows the refined empirical model of the Services Sector. This refined model is then tested against the data again using SEM analysis and eliminates the non-significant paths

from the evolved model leaving only those that are statistically significant at the 0.05 level. This process is repeated until the optimal model is reached.

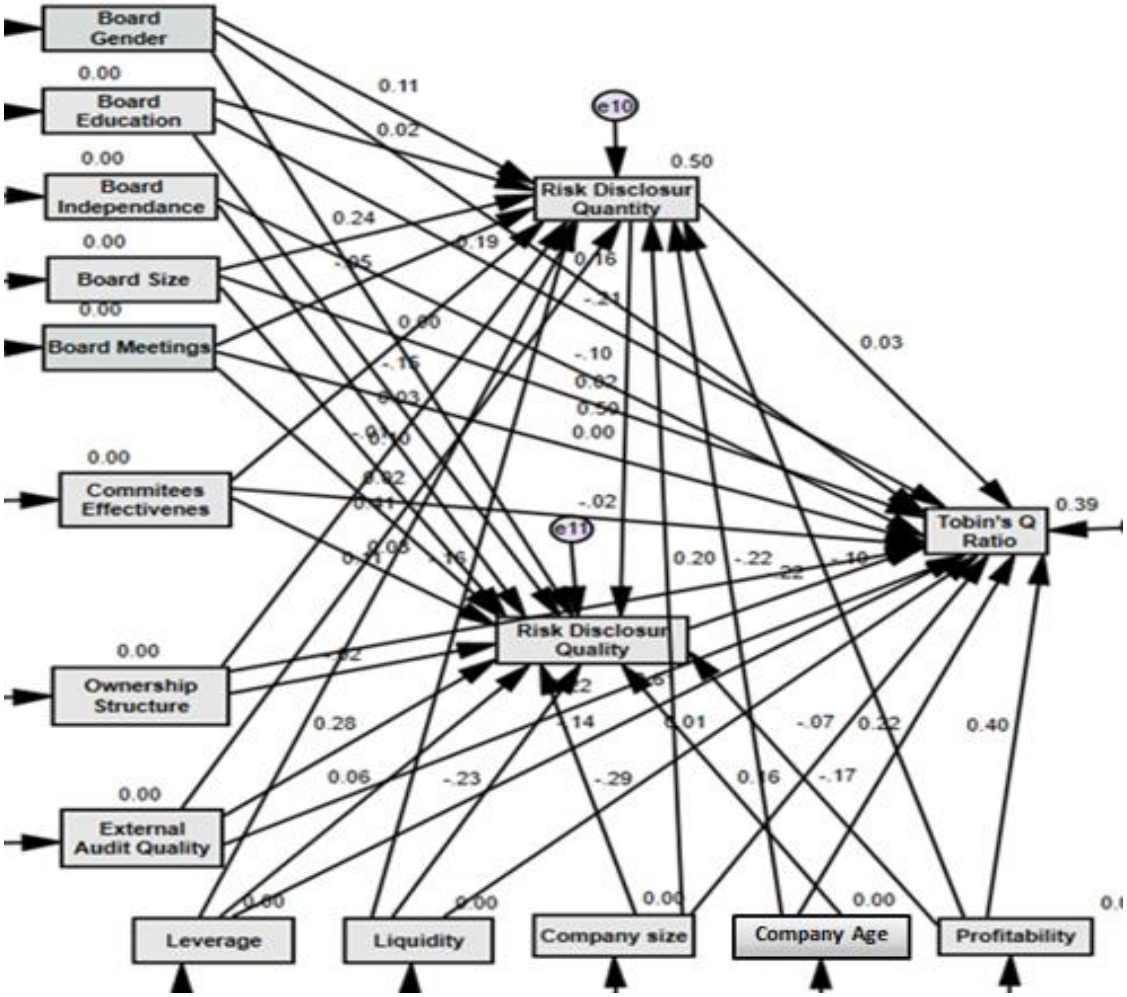


Figure 3-9

Refined Services empirical Model

Figure 3-9 shows the refined empirical model for the service sector. This model shows the path between Risk Disclosure Quantity and Risk Disclosure Quality flows from Risk Quantity toward Risk Quality with other paths remaining the same.

3.11.2 Model Fit

This research uses path analysis and employs SEM to explore the indirect and direct paths between Corporate Governance and Firm Value, and the impact of the mediating variable Risk Disclosure on these pathways. SEM enabled the simultaneous examination of the strength and direction of multiple relationships between variables (Hair Jr et al., 2021). An optimal model can be reached through the process of validating the theoretical model against empirical data and methodically removing non-significant path coefficients until only

statistically significant (at the .05 level) and theoretically relevant paths remain in the model (Hair et al., 2012). This research applied SEM analysis using the empirical data, of both industrial and Services Sectors, and assessed the final theoretical model of this research presented earlier in this chapter as Figure 3-3. This research repeated the process of trimming the non-significant paths and reran the SEM analysis resulting in an evolved model every time the process is applied. Every time the trimming process is applied, the evolved model generated is examined against the following fit statistics until the optimum models of both sectors are reached. These fit statistics are, Chi square (x^2) / degrees of freedom ratio statistic with a value less than 2 indicating a good fit, the root mean squared error of approximation (RMSEA) with values less than 0.08 indicating a close fit, and the Normed Fit Index (NFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Tucker–Lewis Index (TLI) with values 0.90 or greater indicating a good fit (Byrne, 2010). As the sample size strongly impacts the decision to accept or reject a model based on statistical findings these fit indices were chosen over other indices because they are known to be least affected by sample size, model misspecification and parameter estimates (Hooper et al., 2008).

3.11.3 Optimum Model

The process of assessing the final theoretical model with empirical data facilitates the derivation of an optimum model. This involves discarding non-significant paths and retaining those statistically significant. In addition, the process involves examining the model generated against several statistical fit tests.

Figure 3-10 presents the trimmed empirical path model for the Industrial Sector showing only those paths deemed significant at good model fit. The Incremental Fit Measures demonstrated a good overall model fit: NFI = .916, IFI = 0.958, TLI = 0.870, CFI = 0.954 and RMSEA = 0.074. Furthermore, the maximum likelihood estimates for the model parameters using covariance matrices were calculated for the sample data (n=170). This model meets minimum requirement of 100-200 parameters (Kline, 2005). For the purpose of this study, this model forms the final Empirical Mediating Research Model for the Industrial companies.

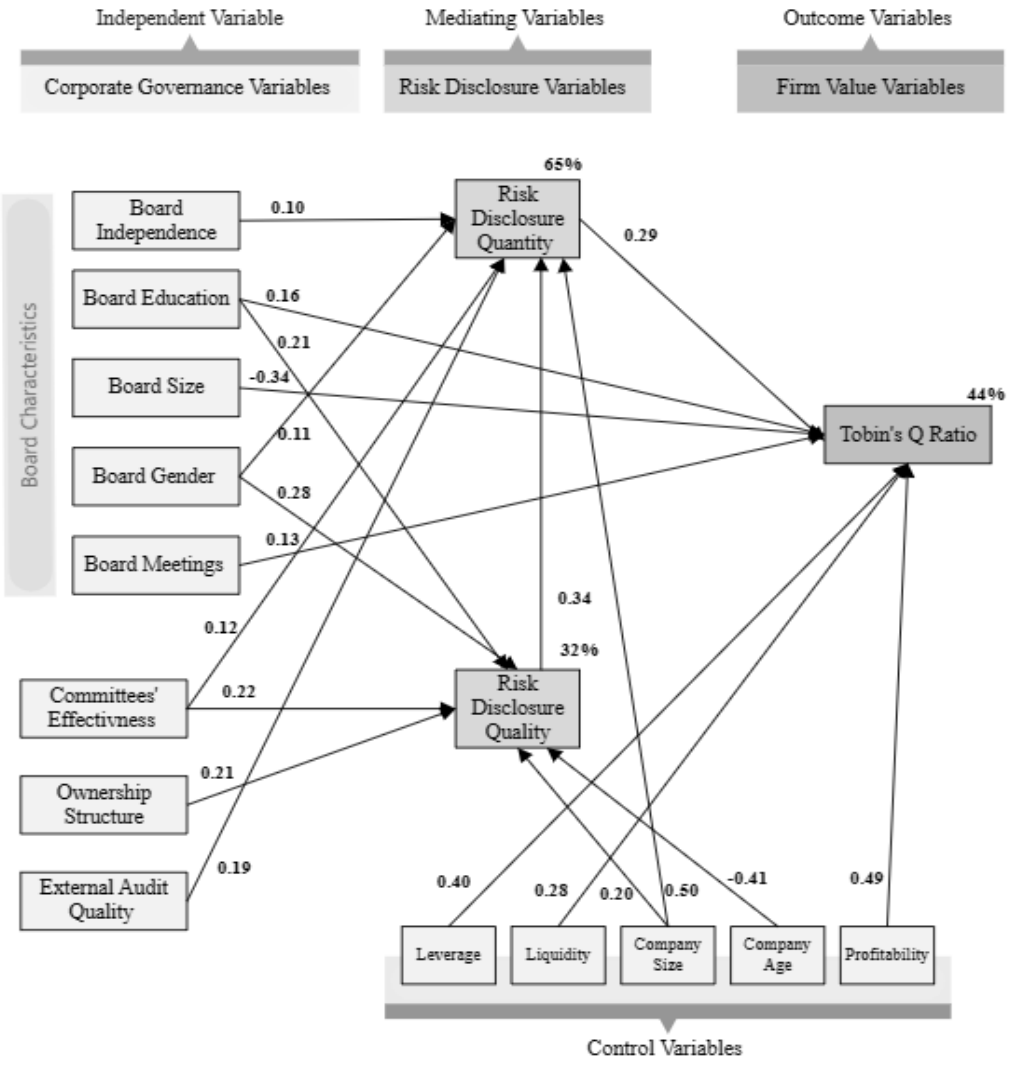


Figure 3-10

Trimmed Empirical Path Model including Control Variables (Industrial companies)

Figure 3-11 presents the trimmed empirical path model for the Services Sector with significant standardized path coefficients derived from the final Theoretical research model as a good model fit. The Incremental Fit Measures demonstrated a good overall model fit: NFI = .916, IFI = 0.967, TLI = 0.923, CFI = 0.965 and RMSEA = 0.056. Furthermore, the maximum likelihood estimates for the model parameters using covariance matrices were calculated for the sample data (n=185). This model meets minimum requirement of 100-200 parameters (Kline, 2005). For the purpose of this study, this model represents the final Empirical Mediating Research Model for the Services companies.

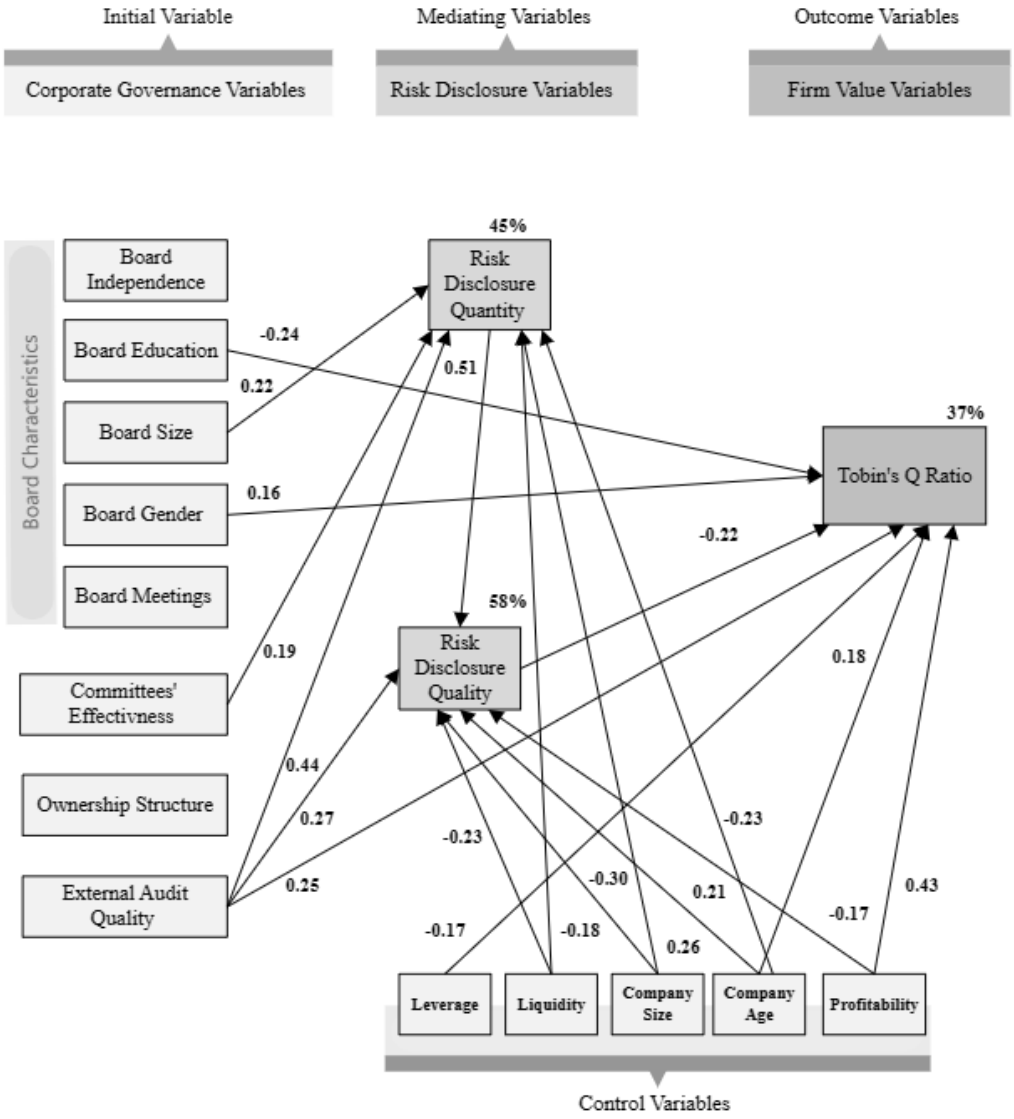


Figure 3-11 *Trimmed Empirical Path Model including Control Variables (Services Companies)*

3.12 Chapter Summary

This study aims to investigate the effect of Corporate Governance on Firm Value including the mediated impact of Risk Disclosure in the annual reports of Jordanian companies listed on ASE for five-year period (2015-2019). This chapter introduces and establishes the research methodology determining the research philosophy, design, and methods. This research adopts deductive explanatory approach framed with post-positivism philosophical views. The common research designs are explored in which the embedded mixed methods design allows the use of both quantitative and qualitative methods are

employed for examining the research problem. After that, the chapter introduces the research causal model where Corporate Governance variables (independent variables) impact Firm Value (Dependent variable) considering the mediated impact through Risk Disclosure (mediator). Building on the causal relationship and on the objectives and aims of this research, this chapter also constructs a comprehensive model that reflects the interrelationships among the respective variables of this research, employing path analysis and Structural Equation Modelling (SEM) to show and to capture the strength and the direction of the relationships between the respective research variables. This chapter introduces the research sample and the research source of data, where the data is collected from the annual reports of the services and industrial Jordanian listed companies. In addition, this chapter establishes the measurement methods for each of the research variables (Corporate Governance variables, Risk Disclosure variables, Firm Value, and Control variables). Finally, this chapter presents how the research model is constructed and developed through testing the initial theoretical model using the empirical data, and trimming the non-significant paths of the model until only statistically significant paths make up the model, which is tested against fit statistics. The optimum model is presented which is statistically rated as a good fit. Data analysis, results and discussion are explored in the following chapter.

CHAPTER 4: DATA RESULTS AND ANALYSIS

4.1 Introduction

The objective of this empirical study is to quantitatively examine Corporate Governance practices and their effect on Firm Value and Risk Disclosure practices, the intention is to further explore the intermediate contribution of Risk Disclosure to the relationship between Corporate Governance and Firm Value of the Jordanian companies listed on ASE for five-year period (2015-2019).

This research adopts, as part of its approach, a numerical analysis to explore the research question. This numerical analysis initially consists of generating the respective Corporate Governance variables (Board of Directors' characteristics, Committees' Effectiveness, Ownership Structure and External Audit Quality), Risk Disclosure variables (Risk Disclosure Quantity and Risk Disclosure Quality), Firm Value variables (Tobin's Q Ratio) and control variables (Leverage, Liquidity, Company Size, Years Listed and Profitability). Descriptive statistics are used to inform the reader about the nature of these research variables. Analysis of Variance (ANOVA's) and t test are employed to determine differences in variables across various contexts and between research variables. Finally, path analysis using SEM is used to explore the indirect and direct paths between Corporate Governance and Firm Value, and the impact of the mediating variable Risk Disclosure has on these pathways. This chapter presents the descriptive statistics of the research variables, providing an insight into the dataset's characteristics across both the Industrial and the Services sectors. The structure of this chapter proceeds as follows. It presents an overview of the statistical composition of research sample and reports the descriptive outcomes for each of the research variables for each sector. The chapter then presents path analysis for each sector and explores the indirect and direct paths between Corporate Governance and Firm Value and explores the impact that the mediating variable (Risk Disclosure) has on these pathways. Finally, the chapter concludes by providing an overview of key points discussed.

4.2 Sample and Data Collection

This research covers Jordanian companies listed on Amman stock exchange, which consist of three main sectors, the Financial Sector, Services Sector and Industrial Sector. All companies under the financial sector were excluded from this study, such that the population of this study consist of the listed companies under the Services and Industrial Sectors

excluding those companies that were not listed for any year during 2015-2019. This research started with a sample size of 84 listed on the ASE (2020) and after excluding those companies that were not listed for any year during 2015-2019, the final sample size became 71 companies. In 2023, the number of Jordanian listed companies on Amman Stock exchange in both Services and Industrial Sectors are 75 companies, 41 Service companies and 34 Industrial companies (ASE, 2023). From those Jordanian companies listed on ASE in 2023, this study collected data from 34 (100 % of the total) Industrial companies and 37 (90 % of the total) Services companies. Using the stock exchange as the resource, this research collects data from the annual reports of the listed Jordanian companies. The data is then gets transferred to a SPSS database for the generation of specific research variables and descriptive statistics.

4.3 Research Variables: Descriptive Statistics

The sample for this research is divided into two sectors. Sector one consists of Jordanian industrial public listed companies (Industrial). Sector two consists of Jordanian services public listed companies (Services). The descriptive statistics for each Corporate Governance, Risk Disclosure, Firm Value and Control type variables within each sector are presented below, offering insight into the dataset's characteristics including its central tendency, variability and distribution.

Jordan Corporate Governance directives, benchmarked against best practice of the UK and Australia, were introduced as compulsory in 2017. To evaluate the impact of introducing these directives, this research compares the research variables (Corporate Governance variables, Risk Disclosure variables, and Firm Value variables) before and after the implementation of the directives in each sector. Each of the respective research variable's ratings was further compared across the two sectors to enable identification of sector specific Corporate Governance and Risk Disclosure practices.

In summary, comparing the descriptive statistics before and after the enforcement of the 2017 Jordanian Corporate Governance directives and also between the industrial and services sectors provides a comprehensive view of corporate governance practices across different sectors of the Jordanian market, offering valuable insights for practitioners, policymakers, and researchers.

4.3.1 Board of Directors' Characteristics

This research employs five individual measures of board characteristics (Board Independence, Board members' level of education, Board Size, Board Gender Diversity and the number of Board Meetings). Also, a composite measure consisting of these individual measures is employed as a measure for the Board of Directors' Quality.

4.3.1.1 Board Independence

This research measures Board Independence (IndepDir) as the proportion of independent directors to the total board. An independent director is defined in the second article of the Jordanian Corporate Governance directives issued by JSC (2017, pp. 3-4) as a board member who does not has any material connections to the company or its subsidiaries or its directors, executives, or the external auditor. Board Independence ranges from low independence of 0% to a high independence of 100%. For both sectors, industrial and the Services, no company reached the independence score of 100% and only few scored 0% on the independence measure. The Board Independence has a relatively normal distribution between (0 - 86) % with a mean of 34.13% and a standard deviation of 18.685% for the Industrial Sector, and between (0 – 71) % with a mean of 30.79% and a standard deviation of 19.66% for the Services Sector.

The two sectors were compared using a t-test and it was found that there was a non-significant difference (.05 level) between the mean level of Board Independence for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly larger mean for Board Independence (34.13%) than the Services Sector (30.79%).

4.3.1.2 Board Members' Level of Education

This research measures Board Members' Level of Education (DirEdu) as the percentage of directors holding a master's degree or higher. The Board level of education ranges from low education level of 0% to a high education level of 100%. For the industrial sector no company reached a board level of education score of 100% and some scored 0% on the education level measure. On the Services Sector side a few reached the Board Education level score of 100% and a few scored 0%. The Board Education level has a relatively normal distribution between (0 - 80) % with a mean of 31.37% and a standard deviation of 19.626% for the Industrial Sector, and between (0 – 100) % with a mean of 35.47% and a standard deviation of 20.938% for the Services Sector.

The two sectors were compared using a t-test and it was found that there was a non-significant difference between the mean board level of education for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly smaller mean for Board level of education (31.37%) than the Services Sector (35.47%).

4.3.1.3 **Board Size**

Board Size (BoardSiz) is measured as the total number of the directors on the board. The Corporate Governance directives of 2017 say in article 4 (a) that the number of the directors on the board should be a minimum of five members and up to thirteen members. The Board Size should range from a small size of 5 members to a large size of 13 members. For the Industrial Sector, a few companies did not comply with the directives and formed a board of a small size of only 4 members. The Board Size scale had a relatively normal distribution between the 4-13 members with a mean of 7.56 and a standard deviation of 2.284. For the Services Sector all the companies complied with the directives, some companies formed small sized boards of 5 members and a few formed large sized boards of 13 members. The Board Size had a relatively normal distribution between 5-13 directors with a mean of 8.19 and a standard deviation of 2.573.

The two sectors were compared using a t-test and it was found that there was a significant difference between the mean Board Size for the Industrial Sector and the Services Sector [$t(353) = 2.410$, $p < .05$]. The Industrial Sector has a significantly smaller mean Board Size (7.56) than the Services Sector (8.19).

4.3.1.4 **Board Gender Diversity**

This research follows (Dutta & Bose, 2006) and refers to Board Gender Diversity (GNDR) as the presence of females on the Board of Directors and measures board's gender diversity as a dummy variable which takes 5 if a female is present on the board, 1 if otherwise. The Board Gender Diversity measure has a binary (binominal) distribution of either 1 or 5 ratings, having a mean of 1.447 and a standard deviation of 1.264 for the Industrial Sector. In contrast, for the Services Sector, the measure has a mean of 2.164 and a standard deviation of 1.813.

The two sectors were compared using a t-test and it was found that there was a significant difference between the mean Board Gender Diversity for the Industrial Sector and the Services Sector [$t(353) = -4.178$, $p < .001$]. The Industrial Sector has a significantly smaller mean gender diversity (1.447) than the Services Sector (2.146).

4.3.1.5 **Board Meetings**

The Jordanian Corporate Governance directives issued by JSC (2017) requires Jordanian companies to conduct at least 6 meetings a year as indicated in article 11 (d). This research refers to Board Meetings (BMeetngs) as the yearly total number of Board Meetings. If a company did not disclose the number of meetings in their annual report, this research assumes that the company would comply with the directives and a value of 6 meetings would be used to compensate for the missing values of board annual meetings. This assumption is based on the above mentioned article 11 (d) of the directives.

For both the industrial and the Services Sectors a few companies reviewed did not comply with the directives and conducted less than 6 meetings a year, and some companies reached a high number of yearly conducted meetings of 16 for the Industrial Sector, and 20 for the Services Sector. The number of Board Meetings has a relatively normal distribution between 0-16 meetings per year with a mean of 7.45 and a standard deviation of 1.9308 for the Industrial Sector, and 1-20 meetings per year with a mean of 8.77 and a standard deviation of 3.382 for the Services Sector. What is noticeable is the large difference in the standard deviations between the two sectors. The Services Sector has an extreme range of number of yearly Board Meetings, with some board having very few meetings and other boards having a large number of yearly Board Meetings.

The two sectors were compared using a t-test and it was found that there was a significant difference between the number of yearly Board Meetings for the Industrial Sector and the Services Sector [$t(307) = 4.044$, $p < .001$]. The Industrial Sector has a significantly smaller mean number of yearly Board Meetings (7.45) than the Services Sector (8.77). Moreover, the annual Board Meetings in the Industrial Sector are more consistent across the companies compared to these in the Services Sector. Table 4-1 is a summary of the Board Characteristics variables descriptive statistics for both industrial and Services Sectors as determined above.

Table 4-1

Board Characteristics Mean Differences between Sectors

Board Characteristics	**Sector**	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
							p
	Industrial	170	34.13%	18.685%	1.634	353	.052

Board Independence	Services	185	30.79%	19.666%			
Board Members' Level of Education	Industrial	170	31.37%	19.626%	1.899	353	.029
	Services	185	35.47%	20.939%			
Board Size	Industrial	170	7.56	2.284	-2.410	353	.008
	Services	185	8.19	2.573			
Board Gender Diversity	Industrial	170	1.447	1.264	-4.178	353	<.001
	Services	185	2.146	1.813			
Number of Board Meetings	Industrial	150	7.45	1.995	-4.044	307	<.001
	Services	159	8.77	3.499			

4.3.1.6 **Pre- and Post- 2017 Change in Board Characteristics**

For the Industrial Sector the change in each of the board characteristics before and after the introduction of the Corporate Governance directives 2017 are analysed. The mean percentage of independent directors on the board before the introduction of the directives was 31.06 with a standard deviation of 19.38 which is statistically significantly lower than the post directives percentage of 36.17 and a standard deviation of 18.01 [t (168) = 1.757, p <0.05]. Before the introduction of the directives both the mean size of the board and the mean percentage of directors holding a master's degree or higher showed a slight and non-significant decrease. The mean Board Size (Number of directors on the board) before the introduction of the corporate directives was 7.63 and a standard deviation 2.356 which is statistically insignificantly higher than the post directive mean size of 7.52 and a standard deviation 2.356. The mean Percentage of directors who have a master's degree or higher before the introduction of the corporate directives was 31.97 and a standard deviation 20.89 which is statistically insignificantly higher than the post directive percentage of 30.97 and a standard deviation 18.82.

On the other hand, the mean for both Board Gender Diversity (The existence of females on the board) and Number of Board Meetings shows slight and non-significant increase after the directives' introduction in 2017. The mean Board Gender Diversity before the introduction of the directives was 1.35 with a standard deviation of 1.14 which is statistically insignificantly lower than 1.5 and a standard deviation 1.34. The mean Number of

Board Meetings before the introduction of the directives was 7.04 with a standard deviation of 1.91 which is statistically insignificantly lower than 7.43 and a standard deviation 1.93. A summary of the differences in board characteristics Pre- and Post- the government 2017 directives are shown in Table 4-3.

Table 4-2

Board Characteristics' Statistics Before and Post the Directives – Industrial

Board Characteristics	**Financial Year**	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig p**
Board Independence	>= 2017	102	36.17	18.01	1.757	168	.040
	< 2017	68	31.06	19.38			
Board Members' Level of Education	>= 2017	102	30.97	18.82	-.324	168	.373
	< 2017	68	31.97	20.89			
Board Size	>= 2017	102	7.52	2.246	-.314	168	.377
	< 2017	68	7.63	2.356			
Board Gender Diversity	>= 2017	102	1.51	1.34	.792	168	.215
	< 2017	68	1.35	1.14			
Number of Board Meetings	>= 2017	102	7.43	1.93	1.28	168	.201
	< 2017	68	7.04	1.91			

For the Services Sector the change in each of the board characteristics before and after the introduction of the Corporate Governance directives 2017 are analysed. The mean for Board Independence, Board level of education, Board Gender Diversity and Number of Board Meetings post the introduction of the directives shows a non-significant slight increase. However, the mean Board Size (Number of directors on the board) before the introduction of the corporate directives was 8.22 and a standard deviation 2.59 which is statistically insignificantly higher than the post directive mean size of 8.17 and a standard deviation 2.57. A summary of the differences in board characteristics Pre- and Post- the government 2017 directives are shown in Table 4-4.

Table 4-3

Board Characteristics' Statistics Before and Post the Directives – Services

Board Characteristics	Financial Year	N	Mean	Std. Dev	t	df	Sig p
Board Independence	>= 2017	111	31.36	19.30	.478	183	.317
	< 2017	74	29.95	20.30			
Board Members' Level of Education	>= 2017	111	35.77	22.70	.239	183	.406
	< 2017	74	35.02	18.10			
Board Size	>= 2017	111	8.17	2.57	-.116	183	.454
	< 2017	74	8.22	2.59			
Board Gender Diversity	>= 2017	111	2.19	1.83	.396	183	.346
	< 2017	74	2.08	1.78			
Number of Board Meetings	>= 2017	111	8.66	3.54	1.424	183	.078
	< 2017	74	7.94	3.10			

4.3.1.7 **Board Quality**

This research measures Board Quality (BOARD-QUL) using an aggregate composite measure for the characteristics of the Board of Directors (Board Size, independence, education, number of meetings and gender diversity). These individual variables are scaled on a scale of (1-5) in order to calculate a composite measure for the quality of the Board of Directors. The composite measure, for the characteristics of the board of director's, ranges from a low quality of 1 to a high quality of 5. For both the Industrial and the Services sectors, no companies reached the quality score of 5 and only a few rated 1 on the Board Quality scale. Table 4-2 demonstrates that, for the Industrial Sector, the Board Quality scale took a relatively normal distribution from1 to 4 ratings with a mean of 2.3129, and a standard deviation of 0.5490. The Board Quality scale for the services companies had a relatively normal distribution from 1 to 3.8 ratings with a mean of 2.4541 and a standard deviation of 0.67316. The two sectors were compared using a t-test and it was found that there was a significant difference between the mean Board Quality index for the Industrial Sector and the Services Sector [$t(353) = 2.513$, $p < .05$]. The Industrial Sector has a significantly smaller mean Board Quality index (2.3129) than the Services Sector (2.4541).

Table 4-4

Board Quality Mean Differences between Sectors

Board Quality						
Sector	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
						p
Industrial	170	2.3129	.5490	1.634	353	.032
Services	185	2.4541	.6731			

For the Industrial Sector the mean BOARD-QUL before the introduction of corporate directives was 2.1618 with a standard deviation of 0.4889 which was statistically significantly lower than the post directive BOARD-QUL rating of 2.4137 and a standard deviation 0.5658 [t (168) = 3.000, p < 0.05]. For the Services Sector the mean BOARD-QUL before the introduction of corporate directives was 2.3081 with a standard deviation of 0.67373 which was statistically significantly lower than the post directive BOARD-QUL rating of 2.5514 and a standard deviation 0.65794 [t (183) = 2.440, p < 0.05]. A summary of the differences in Board Quality Pre- and Post- the government 2017 directives is shown in Table 4-5

Table 4-5

Board Quality Statistics Before and Post the Directives

Board Quality							
Sector	**Financial Year**	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
							p
Industrial	>= 2017	102	2.413	.5658	3.000	168	.02
	< 2017	68	2.161	.4889			
Services	>= 2017	111	2.551	.6579	2.440	183	.008
	< 2017	74	2.308	.6737			

4.3.2 Board Committees' Effectiveness

Jordanian Corporate Governance directives issued by JSC (2017) requires Jordanian listed companies to form four committees: Audit Committee (AC), Nomination and Remuneration Committee (NRC), Governance Committee (GC), and Risk Management Committee (RMC). Committee Effectiveness (Committees-EFF) for these committees is calculated by adding the committee existence rating to its quality rating. The existence rating takes 5 if the committee exists and 1 if otherwise. Committee quality is determined by its size, independence, number of meetings and the existence of expertise when required. The final measure for the Board Committees Effectiveness (Committees-EFF) ranges from a low quality of 1 to a high quality of 5, and is determined as the sum of the average score of all Committees' Effectiveness (1-5) and the score of the Existence of Special Task Committee (1 or 5). It is worth mentioning that previous studies usually investigate the impact of each board committee individually or focus on one or two board committees (Alhossini et al., 2021). However, this research involves constructing a unified index to measure Board Committees' Effectiveness', this research assumes that all Board Committees are of equal importance and contributes equally to the effectiveness of the board, thereby, each committee is assigned equal weighting. This ensures a comprehensive evaluation of the overall effectiveness of board committees.

Table 4-6 shows, for the Industrial Sector that the Board Committees' Effectiveness scale has a relatively normal distribution between 1 and 4.57 ratings with a mean of 2.8351 and a standard deviation of 1.0006. For the Services Sector the Board Committees' Effectiveness scale has a relatively normal distribution between 1 and 4.78 with a mean of 2.7818 and a standard deviation of 1.05462.

The two sectors were compared using a t-test and it was found that there was a non-significant difference between the mean Board Committees' Effectiveness index for the Industrial Sector and the Services Sector. The Industrial Sector has a slightly higher mean Board Committees' Effectiveness index (2.8351) compared to the Services Sector (2.7818), though the difference is not statistically significant.

Table 4-6

Board Committees Mean Differences between Sectors

Board Committees' Effectiveness

Sector	N	Mean	Std. Dev	t	df	Sig
						p
Industrial	170	2.8351	1.00063	.487	353	.626
Services	185	2.7818	1.05462			

A summary of the differences in Board Committees' Effectiveness (Committees-EFF) Pre- and Post- the government 2017 directives is shown in Table 4-7. For the Industrial Sector the mean Committees-EFF rating before the introduction of corporate directives was 1.9221 with a standard deviation of 0.6616 which was statistically significantly lower than the post directive Committees-EFF rating of 3.4438 and a standard deviation 0.67042 [t (168) = 14.574, $p < 0.001$]. For the Services Sector the mean Committees-EFF rating before the introduction of corporate directives was 1.8181 with a standard deviation of 0.66395 which was statistically significantly lower than the post directive Committees-EFF rating of 3.4243 and a standard deviation .72563 [t (183) = 15.527, $p < 0.001$].

Table 4-7

Board Committees Statistics Before and Post the Directives

Board Quality							
Sector	Financial Year	N	Mean	Std. Dev	t	df	Sig
							p
Industrial	>= 2017	102	3.4438	.67042	14.574	168	<.001
	< 2017	68	1.9221	.66167			
Services	>= 2017	111	3.4243	.72563	15.527	183	<.001
	< 2017	74	1.8181	.66395			

4.3.3 Ownership Structure

This study captures Ownership Structure (OWNST) using the following two variables: Managerial Ownership (MANO) and Block Holdings (BLK). Managerial Ownership represents the percentage of ownership by managers and executive directors or their families (Al-Fayoumi et al., 2010; Karathanassis & Drakos, 2004). Managerial

Ownership (MANO) is determined on a scale (1-5), it takes the value of 1 when Managerial Ownership percentage equal to or less than 10%, and it takes the value of 5 when the percentage is 50% or more, scores for Managerial Ownership percentages between 10% and 50% are calculated by multiplying the percentage by 10 and then rounded to the nearest number. Block Holdings (BLK) is measured as a dummy variable following (Marimuthu, 2017), and it takes the value of (5) when two or more external stockholders own (5% or more each) of the shares, and (1) otherwise.

As explained in the previous Chapter 3, Managerial Ownership and Block Holdings are likely to affect Risk Disclosure in opposite ways, and to ensure that the measure of Ownership Structure variable captures both effects of Managerial Ownership (MANO) and Block Holdings (BLK), a transformation factor is applied to the Managerial Ownership variable. This transformation involves reversing the scale used measure Managerial Ownership, labelled as (newMANO). For instance, a score of 5 is reversed to 1, 4 reversed to 2, 1 reversed to 5, 2 reversed to 4 and 3 remains unchanged. Subsequently, a new Capital structure variable labelled as (newOWNST) is derived by adding the score of the reversed Managerial Ownership (new OWNO) to the score of Block Holdings (BLK). This combined total is then divided by 2 to keep consistency with other scales, ensuring that the variable ranges between 1 and 5.

The percentage of ordinary shares owned by managers ranges between 0% and 97.40% with a mean of 19.06% and a relatively large standard deviation of 24.7406% in the Industrial Sector. Similarly, for the Services Sector, the percentage ranges between 0% and 92.21% with a mean of 18.641% and a relatively large standard deviation of 23.413%. High standard deviation in both sectors indicates a substantial diversity in the percentage of shares owned by managers, directors and their direct family members. Also, the Number of majority shareholders who hold 5% or more of the company shares has a relatively normal distribution ranging between 1 and 7 shareholders with a mean of 3.14 and a moderate standard deviation of 1.649 for the Industrial Sector, and ranges between 1-8 shareholders with a mean of 3.49 and a moderate standard deviation of 1.691 for the Services Sector.

Ownership Structure (newOWNST) ranges between 1 and 5 with a high mean of 4.432 and a moderate standard deviation of 0.898 for the Industrial Sector, on the other hand, for the Service sector, the Ownership Structure ranges between 2.5 and 5 with a relatively high mean of 4.259 and a moderate standard deviation of 0.931. Table 4-8 shows the two sectors compared using a t-test and it was found that there was a non-significant difference between the mean Ownership Structure (newOWNST) for the Industrial Sector and the

Services Sector. The Industrial Sector has a non-significantly larger mean Ownership Structure (4.4324) than the Services Sector (4.2595).

Table 4-8

Ownership Structure Mean Differences between Sectors

Variable	Sector	N	Mean	Std. Dev	t	df	Sig p
Percentage of ordinary shares owned by managers	Industrial	170	19.0696%	24.74064%	-.167	352	.867
	Services	185	18.641%	23.41348%			
Number of majority shareholders who hold 5% or more of company shares	Industrial	170	3.14	1.649	1.968	352	.05
	Services	185	3.49	1.691			
Ownership Structure	Industrial	170	4.4324	.89863	1.77	353	.076
	Services	185	4.2595	.93118			

A summary of the differences in mean Ownership Structure Pre- and Post- the government 2017 directives is shown in Table 4-9. For the Industrial Sector the mean Ownership Structure (newOWNST) rating before the introduction of corporate directives was 4.4412 with a moderate standard deviation of 0.96401 which was statistically non-significantly much higher than the post directive Ownership Structure rating of 4.4265 and a standard deviation 0.85711.

For the Services Sector the Ownership Structure (newOWNST) rating before the introduction of corporate directives was 4.3176 with a moderate standard deviation of 0.89356 which was statistically non-significantly slightly higher than the post directive Ownership Structure rating of 4.2207 and a standard deviation 0.95747.

Table 4-9

Ownership Structure Statistics Before and Post the Directives

Ownership Structure							
Sector	Financial Year	N	Mean	Std. Dev	t	df	Sig p
Industrial	>= 2017	102	4.4265	.85711	-.104	168	.917

	< 2017	68	4.4412	.96401			
Services	>= 2017	111	4.2207	.95747	-.692	183	.490
	< 2017	74	4.3176	.89356			

4.3.4 External Audit Quality

This research measures External Audit Quality (EXAQUL) as an average score of three variables: Audit Fees, Non-Audit Fees, and Auditor Quality. Audit Fees variable will take the value of 5 if the Audit Fees are above average, and 1 if otherwise. Non-Audit Fees will take a value of (1) if the company paid Non-Audit Fees to the auditor and takes the value of (5) if otherwise. Auditor Quality takes the value (5) if a Big-4 audit firm was employed, and takes the value (1) if this is not the case.

For the Industrial Sector, External Audit Quality (EXAQUL) ranges from low quality of 1 to a high quality of 5 with a mean of 3.0314 and a moderate level standard deviation of 1.0379 that implies a fairly normal distribution around the mean. Similarly, for the Services Sector, External Audit Quality (EXAQUL) ranges from low quality of 1 to a high quality of 5 with a mean of 3.1766 and a moderate level standard deviation of 1.16721 implying a fairly normal distribution around the mean.

Table 4-10 summarises EXAQUAL statistics and shows the External Audit Quality mean differences between the two sectors. The two sectors were compared using a t-test and it was found that there was a non-significant difference between the mean External Audit Quality for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly smaller mean External Audit Quality score (3.0314) than the Services Sector (3.1766).

Table 4-10

External Audit Quality Mean Differences between Sectors

External Audit Quality (EXAQUAL)						
Sector	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
						p
Industrial	170	3.0314	1.03791	-1.234	353	0.11763

Services	185	3.1766	1.16721			

A summary of the differences in the External Audit Quality mean (EXAQUAL) Pre- and Post- the government 2017 directives is shown in Table 4-11. For the Industrial Sector the mean External Audit Quality (EXAQUAL) rating before the introduction of corporate directives was 3.0196 with a standard deviation of 0.99064 which was statistically non-significantly lower than the post directive External Audit Quality rating of 3.0392 and a standard deviation 1.07302. For the Services Sector the External Audit Quality rating before the introduction of corporate directives was 3.1802 with a standard deviation of 1.09404 which was statistically non-significantly very little higher than the post External Audit Quality rating of 3.1742 and a standard deviation 1.21842.

Table 4-11

External Audit Quality Mean Differences Before and Post the Directives

External Audit Quality (EXAQUAL)							
Sector	**Financial Year**	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
							p
Industrial	>= 2017	102	3.0392	1.07302	0.12	168	0.904
	< 2017	68	3.0196	0.99064			
Services	>= 2017	111	3.1742	1.21842	-0.034	183	0.973
	< 2017	74	3.1802	1.09404			

4.3.4.1 **External Audit Variables Descriptive Statistics**

For the Industrial Sector, yearly Audit Fees range from a low level of 1000 Jordanian Dinar (JD) to much higher level of 80000 JD with a mean of 15715.9 JD and a very high standard deviation 16252.90 which indicates that the Audit Fees vary significantly from the mean and a few companies are paying a significantly higher Audit Fee than the average companies. Non-Audit Fees scores took values of either 1 or 5 with a mean of 4.98 and low standard deviation of 0.307, this indicates that a larger number (Most) of the companies are not paying Non-Audit Fees. Auditor Quality scores took values of either 1 or 5 with a mean

of 2.36 and a relatively high standard deviation of 1.902, which indicates that some companies are using quality auditors (Big-4) and some are not, but larger number of the companies are not using one of the Big-4 companies.

For the Services Sector, yearly Audit Fees range from a low level of 1000 Jordanian Dinar (JD) to much higher level of 148,672 JD with a mean of 17154.5 JD and a very high standard deviation 24042.599 which indicates that the Audit Fees vary significantly from the mean, and a few companies are paying a significantly higher level of Audit Fees than the average companies. Non-Audit Fees scores took values of either 1 or 5 with a mean of 4.70 and relatively low standard deviation of 1.061, which indicate that a larger number of the companies are not paying Non-Audit Fees. Auditor Quality scores took values of either 1 or 5 with a mean of 2.97 and a relatively high standard deviation of 2.005, this indicates that some companies are using quality auditors (Big 4) and some are not, but larger number of the companies are not using one of the big 4 companies. Table 4-10 summarizes the descriptive statistics for the External Audit Quality variables.

Table 4-12

External Audit variables Descriptive Statistics

External Audit Variables	Sector	N	Min	Max	Mean	Std. Dev
Audit Fees	Industrial	168	1000	80000	15715.90	16252.903
	Services	183	1000	148672	17154.50	24042.599
Non-Audit Fees	Industrial	170	1	5	4.98	0.307
	Services	185	1	5	4.70	1.061
Auditor Quality	Industrial	170	1	5	2.36	1.902
	Services	185	1	5	2.97	2.005

4.3.5 Risk Disclosure

This research conducts manual content analysis of the annual reports of the Jordanian listed companies to measure Risk Disclosure determining values for both Risk Disclosure Quantity and Risk Disclosure Quality following Abraham and Cox (2007), Linsley and Shrives (2006) Alshirah et al. (2021), Al-Shammari (2014) and Elzahar et al. (2015). Risk

sentences are counted and classified under six Risk Disclosure categories (operational risk, empowerment risk, information processing and technology risk, integrity risk, strategic risk and financial risk). Each of these risk categories are subcategorized into number of risk items (subcategories) See Appendix B: Decision rules.

4.3.5.1 **Risk Disclosure Quantity**

The quantity of Risk Disclosure for a company in a specific year is measured by the total number of risk sentences in that year's annual report. Sentences to be considered as a risk sentence are the ones that comply with the Risk Disclosure decision rules in Appendix B.

Risk Disclosure Quantity ranges from low quantity of 4 sentences to a high quantity of 363 sentences for the Industrial Sector with a mean of 83.36 sentences and a high standard deviation of 43.138. For the Services Sector Risk Disclosure Quantity ranges from low quantity of 17 sentences to a high quantity of 195 sentences with a mean of 86.02 sentences and a high standard deviation of 32.282.

The two sectors are compared using a t-test in Table 4-13 and it was found that there was a non-significant difference between the mean disclosure quantity for the Industrial Sector and the Services Sector. The Industrial Sector has a non- significantly smaller mean Risk Disclosure Quantity (2.3129) than the Services Sector (2.4541).

Table 4-13

Risk Disclosure Quantity Mean Differences between Sectors

Risk Disclosure	Sector	N	Min	Max	Mean	Std. Dev	t	df	Sig P
Quantity	Industrial	170	4	363	83.36	43.138	-0.659	353	0.510
	Services	185	17	195	86.02	32.282			

A summary of the differences in Risk Disclosure Quantity Pre- and Post- the government 2017 directives are shown in Table 4-14. For the Industrial Sector the mean Disclosure Quantity before the introduction of corporate directives was 76.82 sentences with a standard deviation of 36.941 which was statistically non-significantly lower than the post directive mean Disclosure Quantity of 87.73 and a standard deviation 46.482. For the Services Sector the mean Disclosure Quantity before the introduction of corporate directives

was 78.74 sentences with a standard deviation of 28.805 which was statistically significantly lower than the post directive mean Disclosure Quantity of 90.86 and a standard deviation 33.663 [$t\ (183) = 2.539$, $p < 0.05$].

Table 4-14

Risk Disclosure Quantity Mean Differences Before and Post the Directives

Risk Disclosure	Sector	Financial Year	N	Mean	Std. Dev	t	df	Sig p
Quantity	Industrial	>= 2017	102	87.73	46.482	1.622	168	0.107
		< 2017	68	76.82	36.941			
	Services	>= 2017	111	90.86	33.663	2.539	183	0.012
		< 2017	74	78.74	28.805			

4.3.5.2 **Risk Disclosure Quality**

The quality of Risk Disclosure (coverage) for a company represents the number of risk items covered with one or more risk sentences in the company's annual report. This research adopts the criteria of (Haj-Salem et al., 2020; Linsley & Shrives, 2006) using 6 Risk Disclosure categories and 40 Risk Disclosure items (subcategories), Appendix A (Risk Disclosure matrix) shows all the Risk Disclosure categories and Risk Disclosure items (subcategories). Risk Disclosure Quality (coverage) can vary from a low Risk Disclosure Quality of 0 to a very high Risk Disclosure Quality of 40. For both sectors, Industrial and Services, no company achieved the Risk Disclosure Quality score of 40. For the Industrial Sector, Risk Disclosure Quality (Disclosure Coverage) ranges from low Quality (Coverage) of 2 to a high Quality (coverage) of 22 Risk Disclosure items covered with a mean of 15.38 items covered and a moderate standard deviation of 2.615. For the Services Sector Risk Disclosure Quality (Disclosure Coverage) ranges from a low Quality (coverage) of 9 Risk Disclosure items to a high Quality (coverage) of 20 items with a mean of 14.99 Risk Disclosure items covered and a moderate standard deviation of 1.974.

The two sectors are compared using a t-test in Table 4-15 and it was found that there was a non-significant difference between the mean Risk Disclosure Coverage for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly larger mean Risk Disclosure Quality (15.38) than the Services Sector (14.99).

Table 4-15

Risk Disclosure Quality Mean Differences between Sectors

Risk Disclosure	Sector	N	Min	Max	Mean	Std. Dev	t	df	Sig p
Quality	Industrial	170	2	22	15.38	2.615	1.560	353	0.120
	Services	185	9	20	14.99	1.974			

A summary of the differences in the Risk Disclosure Quality (Disclosure Coverage) Pre- and Post- the government 2017 directives are shown in Table 4-16. For the Industrial Sector the mean Risk Disclosure Quality (Disclosure Coverage) before the introduction of corporate directives was 15.09 items with a standard deviation of 2.508 which was statistically non-significantly lower than the post directive mean Disclosure Coverage of 15.57 and a standard deviation 2.679. For the Services Sector the mean Risk Disclosure Quality (Disclosure Coverage) before the introduction of corporate directives was 14.72 items with a standard deviation of 2.091 which was statistically non-significantly lower than the post directive mean Risk Disclosure Coverage of 18.18 and a standard deviation 1.879.

Table 4-16

Risk Disclosure Quality Mean Differences Before and Post the Directives

Risk Disclosure	Sector	Financial Year	N	Mean	Std. Dev	t	df	Sig p
Quality	Industrial	>= 2017	102	15.57	2.679	1.175	168	0.242
		< 2017	68	15.09	2.508			
	Services	>= 2017	111	18.18	1.879	1.572	183	0.118
		< 2017	74	14.72	2.091			

4.3.6 Firm Value

This research employs the Tobin's Q ratio as a measure of Firm Value, where higher Tobin's ratio indicates higher Firm Value (Maksimovic & Phillips, 2001). Tobin's Q ratio is calculated using the following formula:

$$Tobin's\ Q\ ratio\ = \frac{(\text{Shares Closing price} \times \text{Number of shares}) + \text{Book value of Liabilities}}{\text{Book value of Total Assets}}$$

Ali et al. (2016) stressed that Tobin's Q ratio can take a value equal to 1 (the market value reflects the book value of the company), less than 1 (the firm market value is less than its book value) or more than 1 (Market value is higher than the book value. For the Industrial Sector, Tobin's Q ratio ranges from a low ratio of 0.2004 to a high ratio of 2.3679 with a mean ratio of 0.9553 and a low standard deviation of 0.41387. For the Services Sector Tobin's Q ratio ranges from a low ratio of 0.3816 to a high ratio of 11.5528 with a mean ratio of 1.3366 and a moderate standard deviation of 1.24717.

The two sectors are compared using a t-test in Table 4-17 and it was found that there was a statistically significant difference between the mean Tobin's Q ratio for the Industrial Sector and the Services Sector. The Industrial Sector has a significantly smaller mean Tobin's Q ratio (0.95503) than the Services Sector (1.3366) [t (352) = -3.788, p <.001].

Table 4-17

Tobin's Q ratio Differences between Sectors

Tobin's Q ratio								
Sector	**N**	**Min**	**Max**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
								p
Industrial	169	0.2004	2.3679	0.955301	0.41387	-3.788	352	<0.001
Services	185	0.3816	11.5528	1.336606	1.24717			

A summary of the differences in Tobin's Q ratio Pre- and Post- the government 2017 directives are shown in Table 4-18. For the Industrial Sector the mean Tobin's Q ratio before the introduction of corporate directives was 1.0136 with a standard deviation of 0.4424 which was statistically non-significantly higher than the post directive mean with a Tobin's Q ratio

of 0.9160 and a standard deviation 0.3907. For the Services Sector the mean Tobin's Q ratio before the introduction of corporate directives was 1.2593 with a low standard deviation of 0.8486 which was statistically non-significantly lower than the post directive mean Tobin's Q ratio of 1.3881 and a moderate standard deviation 1.4550.

Table 4-18

Tobin's Q ratio Mean Differences Before and Post the Directives

Tobin's Q ratio							
Sector	**Financial Year**	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig p**
Industrial	>= 2017	101	0.9160	0.3907	-1.509	167	0.133
	< 2017	68	1.0136	0.4424			
Services	>= 2017	111	1.3881	1.4550	0.687	183	0.493
	< 2017	74	1.2593	0.8486			

4.3.7 Control Variables

The control variables set out below are considered in this study based on the review of prior studies including (Gupta et al., 2009; Kartika, 2021; Loncan & Caldeira, 2014; Musa & Yahaya, 2023; Saona Hoffmann et al., 2019; Strang, 2015; Tiep Le & Nguyen, 2022; Uddin et al., 2021; Zuhroh, 2019). These control variables are Non-Corporate Governance variables that have been proven in previous studies to have direct effect on all or some of the dependent variables.

4.3.7.1 Company Size

This research uses the company book value in Jordanian Dinar (JD) of total assets as a measure for the Company Size. For the Industrial Sector, Company Size ranges from a low value of 3,638,176 JD to a high value of 1,174,183,000 JD with a mean value of 98,894,189 JD and a substantial standard deviation of 245761979 JD. For the Services Sector, Company Size ranges from a low value of 918,837 JD to a high value of 1,440,221,599 JD with a mean value of 139,484,477 JD and a substantial standard deviation of 277,029,467 JD.

The two sectors are compared using a t-test in Table 4-19 and it was found that there was a non-significant difference between the mean Company Size for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly smaller mean Company Size (98,894,189 JD) than the Services Sector (139,484,477 JD).

4.3.7.2 **Company Age**

This research calculates the Company Age as the number of years since the company was established. For the Industrial Sector, Company Age ranges from a low age of 5 years to a high age of 66 years with a mean age of 32.32 and a relatively high standard deviation of 15.980. For the Services Sector Company Age ranges from a low age of 7 years to a high age of 81 with a mean age of 17.301 and a high standard deviation of 26.19.

The two sectors are compared using a t-test in Table 4-19 and it was found that there was a statistically significant difference between the mean Company Age for the Industrial Sector and the Services Sector. The Industrial Sector has considerable and statistically significant larger mean Company Age (32.324) than the Services Sector (17.301) [t (353) = 3.461, p <.001].

4.3.7.3 **Leverage**

Leverage is measured in this research as a ratio of the book value of total debt to book value of total assets. Jihadi et al. (2021) indicates that a Leverage ratio shows how much a company relies on debt to obtain assets. Higher Leverage ratio implies higher levels of risks to the shareholders (Jihadi et al., 2021). For the Industrial Sector, Leverage ranges from a low ratio of 3% to a high ratio of 77% with a mean value of 32.438% and a high standard deviation of 18.095%. For the Services Sector, Leverage ranges from a low ratio of 0% to a high ratio of 100% with a mean value of 34.90 % and a high standard deviation of 26.035%.

The two sectors are compared using a t-test in Table 4-19 and it was found that there was a non-significant difference between the mean Leverage ratio for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly smaller mean Leverage ratio (32.438%) than the Services Sector (34.90%).

4.3.7.4 **Liquidity**

The Current ratio is used in this research to define Liquidity which is represented by the ratio of current assets to current liabilities which represents that the a firm has the capacity

to pay debt during that one-year period (Jihadi et al., 2021; Zuhroh, 2019). For the Industrial Sector, Liquidity ranges from a low ratio of 2% to a very high ratio of 1,283% with a mean value of 275.041% and a high standard deviation of 227.995. For the Services Sector, Liquidity ranges from a low ratio of 5% to a high ratio of 90,217% with a mean value of 1397.23 % and a high standard deviation of 8824.718%.

The two sectors are compared using a t-test in Table 4-19 and it was found that there was a non-significant difference between the mean Liquidity ratio for the Industrial Sector and the Services Sector. The Industrial Sector has a non-significantly smaller mean Liquidity ratio (275.041%) than the Services Sector (1397.23%).

4.3.7.5 **Profitability**

This research measures Profitability as a ratio of net profits to total assets. Jihadi et al. (2021, p. 425) states that “Profitability ratios indicate a company’s ability to generate earnings against cost during a given period”.

For the Industrial Sector, the Profitability ratio ranges from a low ratio of -15% to a high ratio of 36% with a mean ratio of 2.218% and a relatively high standard deviation of 6.956. For the Services Sector Profitability ratio ranges from a low ratio of -25% to a high ratio of 39% with a mean ratio of 4.08% and a relatively high standard deviation of 7.025.

The two sectors are compared using a t-test in Table 4-19 and it was found that there was a statistically significant difference between the mean Profitability ratio for the Industrial Sector and the Services Sector. The Industrial Sector has a statistically significant smaller mean Profitability ratio (2.218%) than the Services Sector (4.08%) [t (353) = -2.507, p <.005].

Table 4-19

Control Variables Mean Differences between Sectors

Control Variables									
Variables	**Sector**	**N**	**Min**	**Max**	**Mean**	**Std. Dev**	**t**	**df**	**Sig p**
Company Size	Ind	170	3638176	1174183000	98894189	245761979	-1.455	353	0.146
	Ser	185	918837	1440221599	139484477	277029467			
Company Age	Ind	170	5	66	32.324	15.98	3.461	353	<0.001
	Ser	185	7	81	17.301	26.19			
Leverage	Ind	170	3%	77%	32.438%	18.095%	-1.027	353	0.305
	Ser	185	0%	100%	34.90%	26.035%			
Liquidity	Ind	170	2%	1283%	275.041	227.9	-1.657	353	0.98
	Ser	185	5%	90217%	1397.23%	8824.718%			
Profitability	Ind	170	-15%	36%	2.218	6.956	-2.507	353	0.013
	Ser	185	-25%	39%	4.08%	7.02%			

* Note: Ind is Industrial, and Ser is Services.

4.3.7.6 **Change in Control Variables Pre- and Post- 2017**

For the Industrial Sector the change in each of the Control Variables before and after the introduction of the Corporate Governance directives 2017 are analysed. Before the introduction of the directives the mean Company Size, the mean Company Age and the mean Leverage ratio show a slight and non-significant increase. The mean Company Size before the introduction of the directives was 98,624,578 JD with a high standard deviation of 246,571,569 which is statistically non-significantly lower than the post directives mean Company Size of 98,624,578 JD and a standard deviation of 246,571,569. The mean Company Age before the introduction of the corporate directives was 30.82 years and a standard deviation of 15.996 which is statistically insignificantly lower than the post directive mean Company Age of 33.32 and a standard deviation 15.970. The mean Leverage ratio before the introduction of the corporate directives was 30.95% and a standard deviation 17.711 which is statistically insignificantly smaller than the post directive mean Leverage ratio of 33.43% and a standard deviation 18.368.

On the other hand, the mean for Liquidity ratio and Profitability ratio shows a slight and non-significant decrease after the directives introduction in 2017. The mean Liquidity ratio before the introduction of the directives was 288.31% with a standard deviation of 246.011% which is statistically insignificantly higher than the post directives mean Liquidity

ratio of 266.19% and a standard deviation 215.949. The mean Profitability ratio before the introduction of the directives was 3.66% with a standard deviation of 7.659% which is statistically insignificantly higher than the post directives mean Profitability ratio of 1.26% and a standard deviation 6.303. A summary of the differences in Control Variables Pre- and Post- the government 2017 directives are shown in Table 4-20.

Table 4-20

Control Variables Mean Differences Before and Post the Directives – Industrial

Control Variables							
	Sector	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig p**
Company Size	>= 2017	102	99073931.22	246439583.66	0.012	168	0.991
	< 2017	68	98624578.04	246571569.01			
Company Age	>= 2017	102	33.32	15.970	0.999	168	0.319
	< 2017	68	30.82	15.996			
Leverage	>= 2017	102	33.43%	18.368%	0.873	168	0.384
	< 2017	68	30.95%	17.711%			
Liquidity	>= 2017	102	266.19%	215.949%	-0.619	168	0.537
	< 2017	68	288.31%	246.011%			
Profitability	>= 2017	102	1.26%	6.303%	-2.231	168	0.27
	< 2017	68	3.66%	7.659%			

Similarly, for the Services Sector the change in each of the Control Variables before and after the introduction of the Corporate Governance directives 2017 are analysed. Before the introduction of the directives the mean Company Size, the mean Company Age and the mean Leverage ratio showed slight and non-significant increase. The mean Company Size before the introduction of the directives was 129,556,642 JD with a standard deviation of 261,369,539 which is statistically non-significantly lower than the post directives mean Company Size of 146,103,034 JD and a standard deviation of 287,971,894. The mean Company Age before the introduction of the corporate directives was 24.69 years and a standard deviation of 17.321 which is statistically insignificantly lower than the post directive mean Company Age of 27.19 years and a standard deviation 17.294. The mean Leverage ratio before the introduction of the corporate directives was 33.21% and a standard deviation

25.615 which is statistically insignificantly smaller than the post directive mean Leverage ratio of 36.03% and a standard deviation 26.366.

On the other hand, the mean for Liquidity ratio and Profitability ratio shows a non-significant decrease after the directives introduction in 2017. The mean Liquidity ratio before the introduction of the directives was 2320.92% with a standard deviation of 13026.456% which is statistically insignificantly higher than the post directives mean Liquidity ratio of 781.44% and a standard deviation 4086.146. The mean Profitability ratio before the introduction of the directives was 4.35% with a standard deviation of 6.838% which is statistically insignificantly higher than the post directives mean Profitability ratio of 3.90% and a standard deviation 7.171. A summary of the differences in Control Variables Pre- and Post- the government 2017 directives are shown in Table 4-21.

Table 4-21

Control Variables Mean Differences Before and Post the Directives – Services

Control Variables							
	Sector	**N**	**Mean**	**Std. Dev**	**t**	**df**	**Sig p**
Company Size	>= 2017	111	146103034.23	287971894.34	0.397	183	0.692
	< 2017	74	129556642.32	261369539.18			
Company Age	>= 2017	111	27.19	17.294	0.963	183	0.337
	< 2017	74	24.69	17.321			
Leverage	>= 2017	111	36.03%	26.366%	0.721	183	0.472
	< 2017	74	33.21%	25.615%			
Liquidity	>= 2017	111	781.44%	4086.146%	-1.164	183	0.246
	< 2017	74	2320.92%	13026.456%			
Profitability	>= 2017	111	3.90%	7.171%	-0.418	183	0.676
	< 2017	74	4.35%	6.838%			

4.4 Path analysis

Structural equation modelling (SEM) was employed to examine the association between Corporate Governance variables (Board Size, Board Independence, board members' level of education, Board Gender Diversity and the number of Board Meetings) and the mediating Risk Disclosure variables (Quantity and Quality), and the outcome variables Firm Value (Tobin Q). SEM enabled the strength and direction of multiple relationships between variables to be simultaneously examined (Ho et al., 2014). An optimal model was derived by testing the theoretical model against the empirical data and systematically trimming non-significant path coefficients from the model until only significant (at the .05 level) and theoretical relevant paths make up the model (Jöreskog & Sörbom, 1993).

First, maximum likelihood estimates for the model parameters using covariance matrices were calculated for the sample data (n=170) for the Industrial Sector and sample data (n=185) for the Services Sector. Both of the samples meet the suggested minimum requirement of 100-200 (Kline, 2005). The overall fit of the model to the research data was tested by means of several fit statistics namely, Chi square (x^2) / degrees of freedom ratio statistic with a value less than 2 indicating a good fit: the root mean squared error of approximation (RMSEA) with values less than 0.08 indicating a close fit, and the Normed Fit Index (NFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI) and Tucker–Lewis Index (TLI) with values 0.90 or greater indicating a good fit (Byrne, 2010). As sample size strongly impacts the decision to accept or reject a model based on statistical findings these fit indices were chosen over other indices because they are known to be least affected by sample size, model misspecification and parameter estimates (Hooper et al., 2008).

4.4.1 Path Analysis: Industrial Sector

Figure 4-1 presents the trimmed empirical path model for the Industrial Sector sample regenerated from chapter 3 Figure 3-10. This model is the research final (optimum) empirical mediating model reached through the process of trimming the non- significant paths. This model accounts for the control variables. Overall, the model accounted for 44% of the variance in Firm Value (Tobin Q) as well 65% of the variance in Risk Quantity and 32% of the variance in Risk Quality. The Incremental Fit Measures indicated a strong overall model fit with NFI = .916, IFI = 0.958, TLI = 0.870, CFI = 0.954 and RMSEA = 0.074.

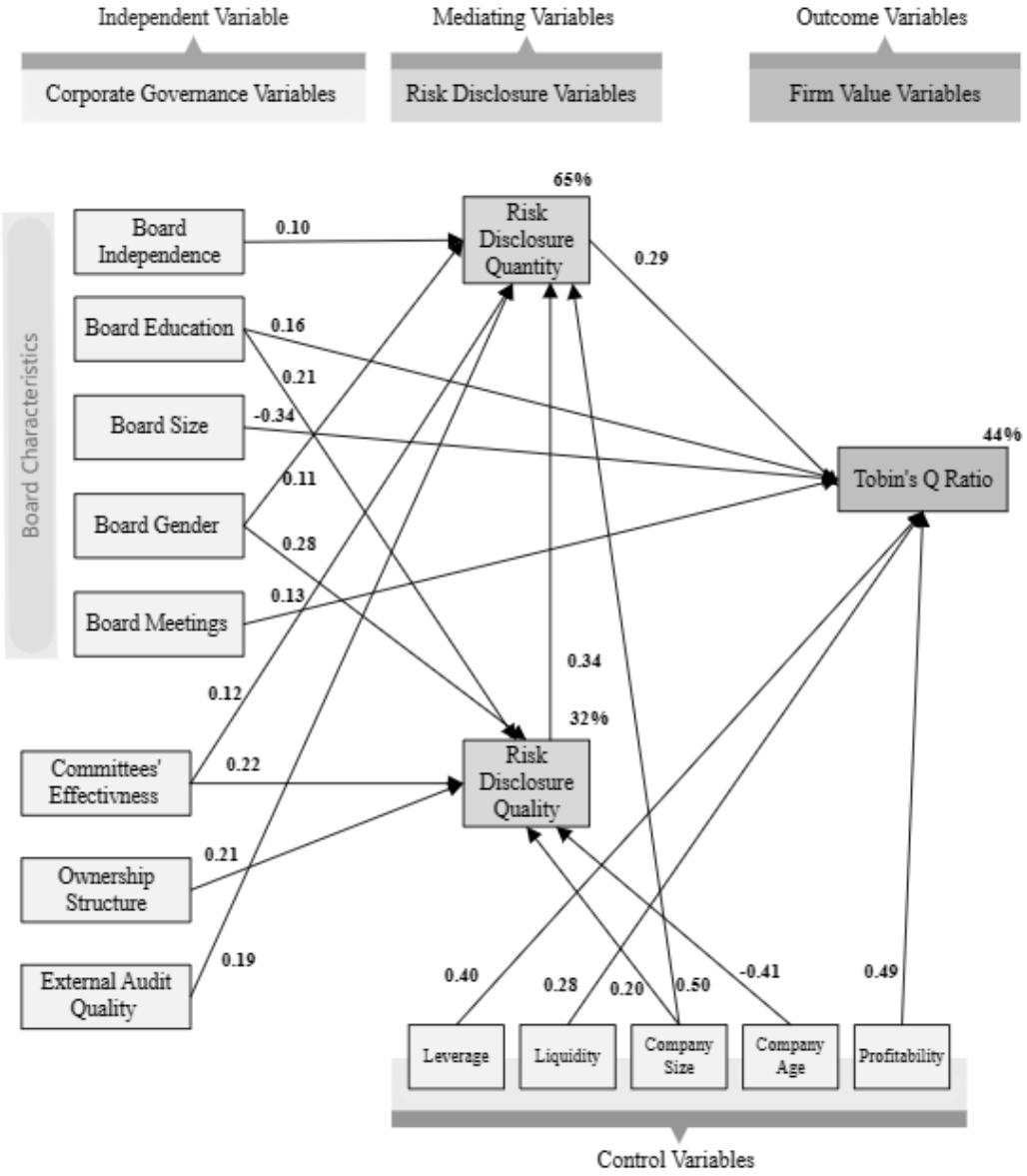


Figure 4-1

Industrial companies' Trimmed Empirical Path Model with Control Variables (Reproduced from Figure 3-10 in Chapter 3)

Based on the standardized path coefficients or the standardized regression weights (β) for the Jordanian Industrial companies the control variables; Leverage, Liquidity and Profitability have a direct association with Firm Value as measured with Tobin's Q ratio. As expected, Profitability has the greatest association with Firm Value followed by Leverage then Liquidity. On the other hand, both Company Size and Company Age do not have a direct link with Firm Value, but they are indirectly linked to Firm Value through Risk Disclosure.

Company Size is relatively strongly and positively linked to Risk Disclosure Quality (β = .20) and linked to Risk Disclosure Quantity (β = .50), generating a small indirect impact on Firm Value (β = .16) calculated by the sum of the indirect impact of Company Size on Firm Value via the first path through Risk Disclosure Quality (0.2*0.34*0.29 = 0.0197) and the indirect effect of Company Size on Firm Value via the second path through Risk Disclosure Quantity (0.5*0.29 = 0.145). In contrast, Company Age is acting in the opposite direction, as age increases the quality of the risk information disclosed reduces (β = -.41), generating a small negative indirect impact on Firm Value (β = -.04). This data indicates that as a company ages the Firm Value shows a small decrease. Furthermore, what is noticed is that the control variables Profitability, Leverage and Liquidity are not associated with Risk Disclosure variables.

Trimming the connections between the control variables and other variables in the final empirical model enables examining the final model against the empirical data without the impact of the control variables. This process isolates the relationships of interest for this research focusing solely on the relationships among the Initial Variables (Board of Directors' characteristics, Committees' Effectiveness, Ownership Structure and External Audit Quality), the mediating Variables (Risk Disclosure quantity and Risk Disclosure Quality), and the Outcome Variables (Tobin's Q Ratio). The inclusion of Control Variables (Company Size, Company Age, Leverage, Liquidity, and Profitability) helps to account for variables that may influence the relationships between the main variables of this research. However, by removing paths from the Control Variables in the empirical model provides a clear understanding of the interconnections between the Corporate Governance variables, Risk Disclosure variables and Firm Value.

Figure 4-2 presents the trimmed path model for the Industrial Sector sample with significant standardized path coefficients from the final Empirical Mediating Research Model without including the control variables. Overall, the model accounted for 26% of the variance in Firm Value (Tobin Q) as well 49% of the variance in Risk Quantity and 18% of the variance in Risk Quality. The Incremental Fit Measures demonstrated a good overall model fit: NFI = .949, IFI = 0.982, TLI = 0.923, CFI = 0.980 and RMSEA = 0.054. These data strongly support the theoretical model adopted for this analysis.

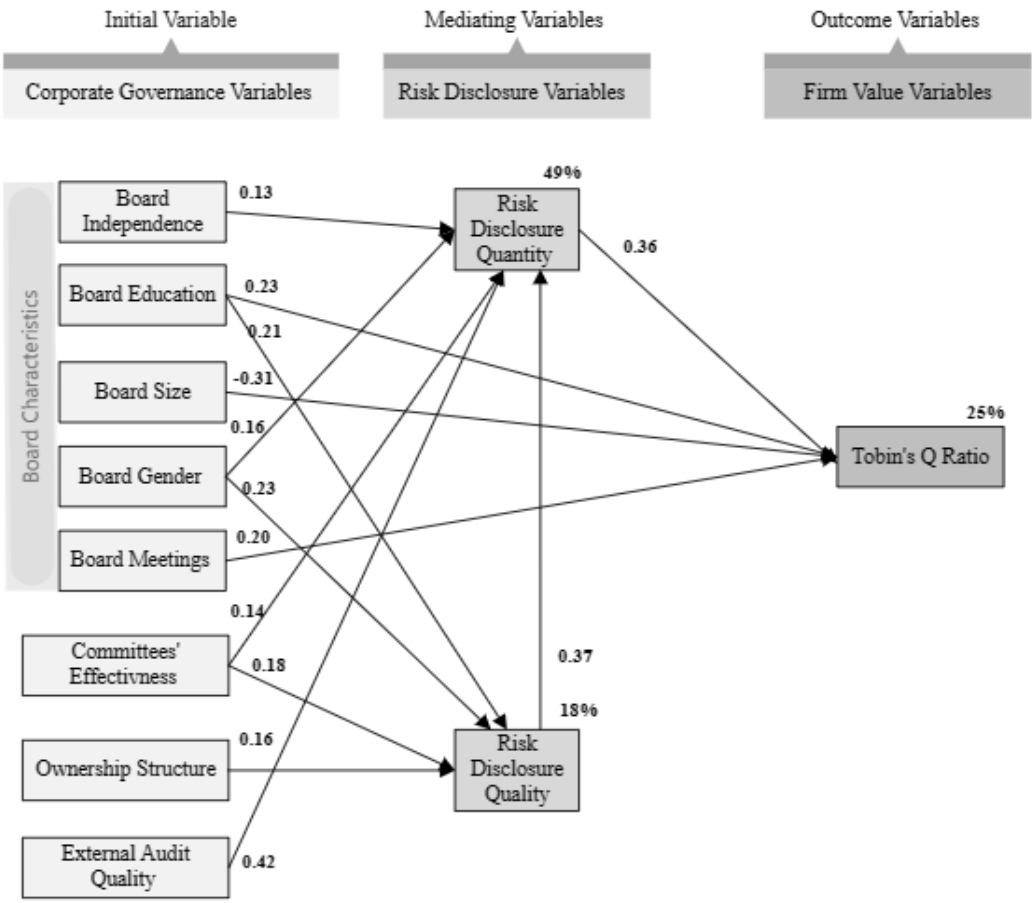


Figure 4-2

Trimmed Empirical Path Model without Control Variables (Industrial companies)

The model in Figure 4-2 suggests that Risk Disclosure Quantity is directly and positively associated with Firm Value (β =.36). In contrast, Risk Disclosure Quality is not directly linked with Firm Value but is indirectly linked with Firm Value though Risk Disclosure Quantity (β =.13). The model suggests that, both the Quantity and the Quality of risk information disclosed in the annual reports of the Jordanian Industrial companies can increase their Firm Value. However, the impact of the quantity of risk information disclosed is direct while it is indirect for the quality of information disclosed.

The model shows that Board characteristics variables exerted impact on Firm Value through direct paths, indirect paths and in some instances, through both direct and indirect paths. Board Size and Board Meetings have a direct impact on Firm Value, where the Board Size impact is negative and moderate (β =-0.31), that is boards with larger Board Size are associated with lower Firm Value. However, the direct impact of Board Meetings is positive

(β = 0.20) indicating that a higher number of yearly Board Meetings is correlated with higher Firm Value. Board Independence is indirectly linked to Firm Value through Risk Disclosure Quantity (β =.046). Board Education impact on Firm Value is a combination of both direct and indirect paths (β =.27) indicating that having more directors with a master's degree or more on the board has a positive moderate impact on Firm Value. Board Gender is not directly linked to Firm Value, but it is impacting Firm Value indirectly through Risk Disclosure Quantity and Risk Disclosure Quality (β =.09). That is, Females on the board have a small positive and indirect impact on Firm Value.

Moreover, the model in Figure 4-2 shows that the measures of Committees' Effectiveness, Ownership Structure and External Audit do not impact Firm Value directly. Committees Effectiveness impacts Firm Value indirectly through Risk Disclosure Quantity path with (β =0.05) and through Risk Disclosure Quality path with (β =0.023) accumulating a small positive impact of (β =.073) on Firm Value. Ownership Structure shows small positive indirect impact on Firm Value through Risk Disclosure Quality (β =.021). Similarly, External Audit Quality impacts Firm Value through Risk Disclosure Quantity path with (β =.16) showing moderate positive impact.

Finally, when comparing the industrial sector empirical path model incorporating control variables, presented in Figure 4-1, to the version without them in Figure 4-2, several differences are observed. With control variables, the model explains 44% of the variance in Firm value, indicating a moderate level of explanatory power. It also captures 65% of the variance in Risk Quantity and 32% of the variance in Risk quality. Conversely, without Control variables, the model account for 26% of the variance in Firm value, indicating a lower level of explanatory power compared to the model with control variables. It explains 49% of the variance in the Risk quality and 18% of the variance in the Risk Quality. Despite the reduced explanatory power, the incremental Fit Measures still demonstrate a good overall fit with NFI = .949, IFI = 0.982, TLI = 0.923, CFI = 0.980 and RMSEA = 0.054. Overall, this suggests that these Control Variables play an important role in shaping the relationships between Corporate Governance practices, Risk Disclosure practices and Firm Value. In addition, with control variables included changes in the estimated coefficients are observed across various relationships within the model. Notable changes include an increase in the coefficient for Board Independence to Risk Quantity path from 0.10 to 0.13, indicating a stronger positive relationship when control variables are not considered. Similarly, the coefficient for External Audit to risk quantity increases from 0.19 to 0.42, suggesting a more substantial impact of External Audit on risk quantity in the absence of control variables. This

suggests that the impact of External Audit on Risk Quantity is stronger when the analysis focuses solely on Corporate Governance variables and Risk Disclosure, without considering the broader financial characteristics of the firm. Conversely, the coefficient for Board Size to Firm Value decreases from -0.34 to -0.31, indicating a slightly weaker negative relationship between Board Size and Firm Value when control variables are not included. On the other hand, some coefficients show minimal changes between the models. For example, the coefficient for Board Education to Risk Quality is stable at 0.21 regardless of the inclusion of control variables. Table 4-22 compares the variations in the coefficients within the Industrial Sector Empirical Path Model when control variables are included as in Figure 4-1, versus when they are not as in Figure 4-2.

Table 4-22

Variations in Coefficients within the Industrial Sector Empirical Path Model with and without Control Variables

Relationship	Coefficient with Control Variables	Coefficients without Control Variables	Variation
Board Independence to Risk Quantity	0.10	0.13	Minimal changes
Board Education to Firm Value	0.16	0.23	Slightly stronger
Board Education to Risk Quality	0.21	0.21	Relatively Stable
Board Size to Firm Value	-0.34	-0.31	Minimal changes
Board Gender to Risk Quantity	0.11	0.16	Slightly stronger
Board Gender to Risk Quality	0.28	0.23	Slightly weaker
Board Meetings to Firm Value	0.13	0.20	Stronger
Committees' Effectiveness to Risk Quantity	0.12	0.14	Minimal changes
Committees' Effectiveness to Risk Quality	0.22	0.18	Slightly weaker
Ownership Structure to Risk Disclosure Quality	0.21	0.16	Weaker
External Audit Quality to Risk Quantity	0.19	0.42	Stronger
Risk Quality to Risk Quantity	0.34	0.37	Minimal changes
Risk Quantity to Firm Value	0.29	0.36	Stronger

4.4.2 Path Analysis: Services Sector

Figure 4-3 shows the trimmed empirical path model for the Services Sector sample regenerated from chapter 3 Figure 3-11. This model is from the final Theoretical Mediating

Research Model reached by the trimming process of keeping the significant standardized path coefficients and removing the non-significant paths. This model includes the control variables.

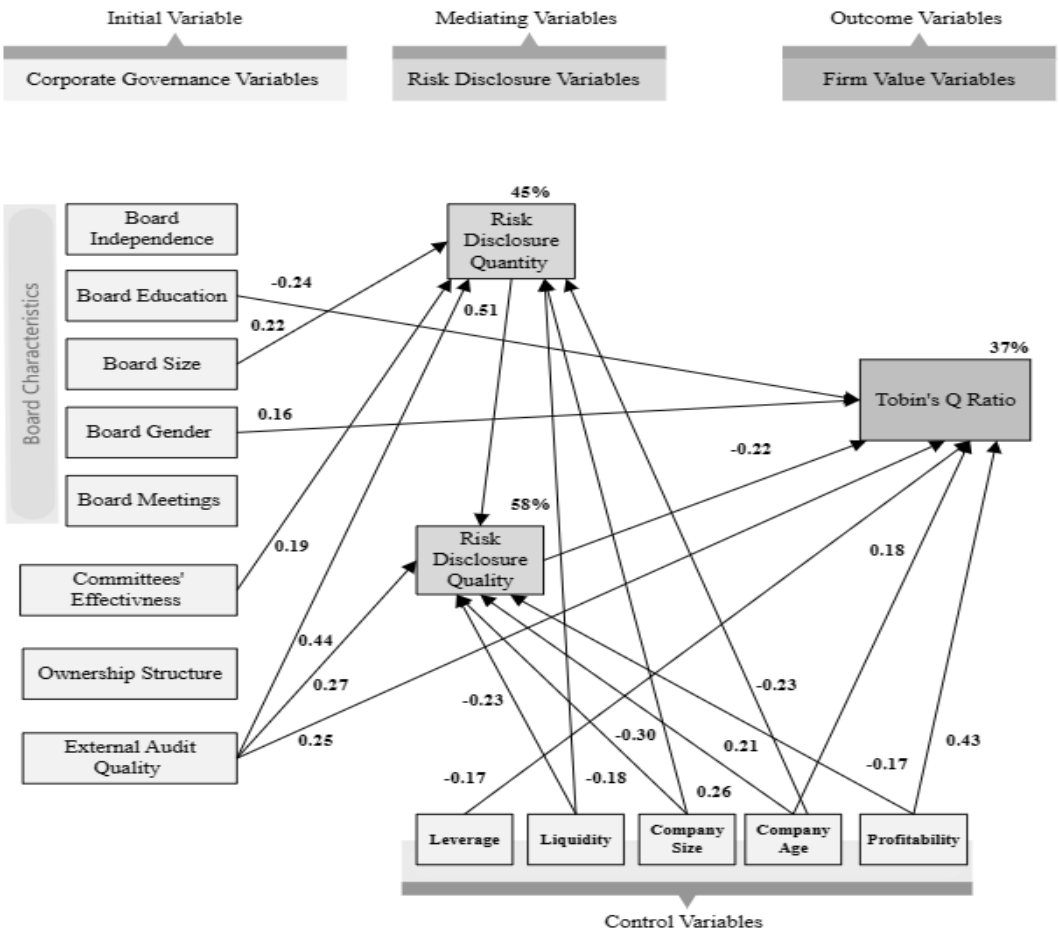


Figure 4-3

Trimmed Empirical Path Model including Control Variables (Services Companies)

Overall, the model accounted for 37% of the variance in Firm Value (Tobin Q) as well 45% of the variance in Risk Quantity and 58% of the variance in Risk Quality. The Incremental Fit Measures demonstrated a good overall model fit: NFI = .916, IFI = 0.967, TLI = 0.923, CFI = 0.965 and RMSEA = 0.056. Figure 4-3 above shows that the control variables for the Jordanian Services companies sample are associated with Firm Value differently compared to those of the Industrial companies. Three of the control variables (Leverage, Company Age and Profitability) have a direct impact on Firm Value while Liquidity and Company Size impact on Firm Value is mediated through Risk Disclosure. As

expected, Profitability has the greatest association with Firm Value both directly (β = 0.43) and indirectly through Risk Disclosure Quality (β = -0.17*-0.22=0.037) followed by Company Age directly (β = 0.18) and indirectly (β = -0.0436) calculated as ([0.21*-0.22=-0.0462] + [-0.23*0.51*-0.22]) then Leverage (β = -0.17) acting in the opposite direction, as Leverage increases the Firm Value reduces.

The model in Figure 4-3 also shows that Liquidity and Company Size do not have a direct link with Firm Value, but they are indirectly linked to Firm Value through Risk Disclosure Quantity and through Risk Disclosure Quality. Liquidity is associated negatively with both Risk Disclosure Quantity (β = -0.18) and Risk Disclosure Quality (β = -0.23) Company Size is positively associated with risk quantity as it is acting in the opposite direction with Risk Disclosure Quality, as Company Size increases the quantity of risk disclosed increases (β = 0.26) while the Quality of the risk information disclosed reduces (β = -0.30). Company Size is relatively strongly and negatively linked to Risk Disclosure Quality (β = -.30) and linked, generating a small positive indirect impact on Firm Value (β = 0.036) calculated as ([-0.30*-0.22] + [0.26*0.51*-0.22] = 0.066 -0.029 = 0.036). This data indicates that larger sized Service companies tend to release less quality information which tends to positively affect Firm Value. Further, what is noticed is that Leverage is the only control variable that is not associated with Risk Disclosure variables.

Trimming the paths linking the control variables to the other variables in the final empirical model allows testing the model against the empirical data without the interference of the control variable. Figure 4-4 below presents the trimmed path model for the Services Sector sample with significant standardized path coefficients from the final Empirical Mediating Research Model without including the control variables. Overall, the model accounted for 18% of the variance in Firm Value (Tobin Q) as well 41% of the variance in Risk Quantity and 46% of the variance in Risk Quality. The Incremental Fit Measures demonstrated a good overall model fit: NFI = .969, IFI = 0.986, TLI = 0.948, CFI = 0.985 and RMSEA = 0.066. These data strongly support the theoretical model adopted for this analysis.

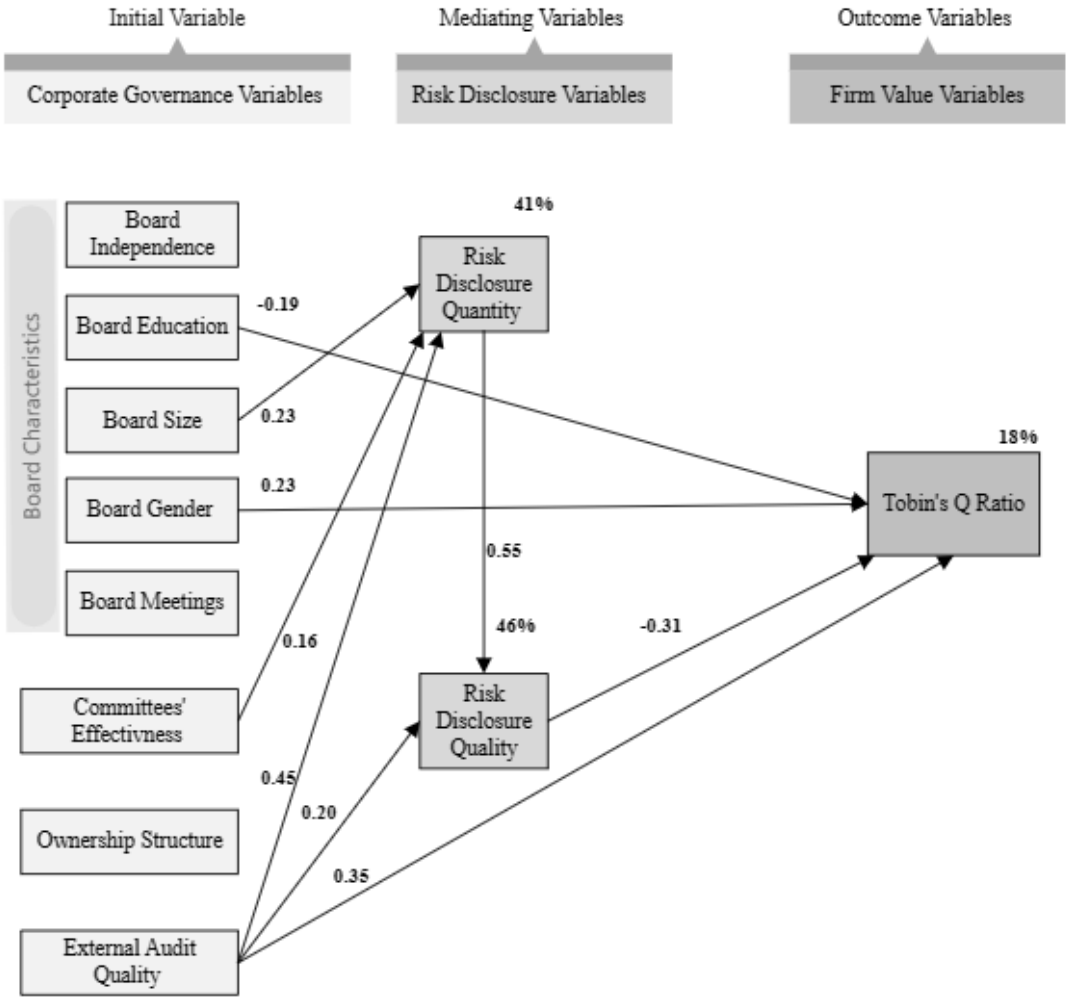


Figure 4-4

Trimmed Empirical Path Model without Control Variables (Services Companies)

The trimmed empirical path model presented in Figure 4-4 suggests that Risk Disclosure Quality is directly and negatively associated with Firm Value (β =-0.31). In contrast, Risk Disclosure Quantity is not directly linked with Firm Value but is indirectly linked with Firm Value though Risk Disclosure Quantity (β =.55*-0.31=-0.17). Based on the trimmed empirical path model for the Services Sector sample with significant standardized path coefficients Board Independence, Board Meetings and Ownership Structure paths has been trimmed as non-significant. In contrast to the expectations, the Board Education for the Jordanian Services companies has a direct negative moderate impact on Firm Value (β = -0.19), that is more directors on the board holding higher degrees is correlated with lower Firm Value (Tobin's Q). However, Board Size is not directly linked to Firm Value, but it is slightly

and indirectly impacting Firm Value through Risk Disclosure Quantity and Risk Disclosure Quality (β =.23*0.55*-0.31=-0.039). That is, larger Board Size has a slightly negative impact on Firm Value. Unlike Board Education, Females on the board have a moderate positive impact on Firm Value (β = 0.23) which means that the existence of female directors on the board of the listed Jordanian Services companies can add to the companies' value.

Moreover, the model suggests that Committees Effectiveness impact Firm Value indirectly through Risk Disclosure Quantity path with (β = -0.027) showing a small negative indirect impact. That is, Services companies with more effective committees are associated with lower Firm Value (Tobin's Q). But External Audit Quality impacts Firm Value both directly and indirectly. The External Audit Quality for the Jordanian listed Services companies has a positive moderate direct impact on Firm Value (β =.35), in addition to the indirect small negative impact through both Risk Disclosure Quantity and Quality (β =-0.138).

Finally, when comparing the Services sector empirical path model incorporating control variables, presented in Figure 4-3, to the version without them in Figure 4-4, the followings are observed. With control variables, the model explains 37% of the variance in Firm value, indicating a moderate level of explanatory power. It also captures 45% of the variance in Risk Quantity and 58% of the variance in Risk quality. Conversely, without Control variables, the model account for 18% of the variance in Firm value, 41% of the variance in the Risk quality and 46% of the variance in the Risk Quality, indicating a lower level of explanatory power compared to the model with control variables. Despite the reduced explanatory power, the incremental Fit Measures still demonstrate a good overall fit with NFI = .949, IFI = 0.982, TLI = 0.923, CFI = 0.980 and RMSEA = 0.054. Furthermore, the inclusion of the control variables in the Services sector empirical path model shows noticeable changes in the estimated coefficients of the relationship within the model. For instance, when control variables are not included, the coefficient for Board Education decreases from -0.24 to -0.19, suggesting a slightly weaker negative relationship between Board Education and Firm Value when control variables are not incorporated into the model. Similarly, the coefficient for External Audit Quality to Firm Value increased from 0.25 to 0.35 when control variables are not included, indicating a stronger positive relationship between External Audit Quality and Firm Value when the model focus on the main variables. On the other hand, some coefficients show minimal changes between the models. For example, the coefficient for Board Size to Risk Quantity remains stable at 0.22 with control variables and 0.23 without them, External Audit Quality to Risk Disclosure Quantity is

relatively stable at 0.44 with Control variables and 0.45 without them, suggesting that such relationships are strong regardless of the inclusion of control variables. Table 4-23 compares the variations in the coefficients within the Services Sector Empirical Path Model when control variables are included as in Figure 4-3, versus when they are not as in Figure 4-4.

Table 4-23

Variations in Coefficients within the Services Sector Empirical Path Model with and without Control Variables

Relationship	Coefficient with Control Variables	Coefficients without Control Variables	Variation
Board Education to Firm Value	-0.24	-0.19	Slightly weaker
Board Size to Risk Quantity	0.22	0.23	Minimal changes
Board Gender to Firm Value	0.16	0.23	Slightly stronger
Committees' Effectiveness to Risk Quantity	0.19	0.16	Slightly weaker
External Audit Quality to Risk Quantity	0.44	0.45	Minimal changes
External Audit Quality to Risk Quality	0.27	0.20	Weaker
External Audit Quality to Firm Value	0.25	0.35	Stronger
Risk Quantity to Risk Quality	0.51	0.55	Slightly weaker
Risk Quality to Firm Value	-0.22	-0.31	Stronger

In summary, the results of this comparison show that when control variables are incorporated into the model, the estimated coefficients show certain variations compared to when control variables are not incorporated. These variations highlight the importance of accounting for control variables to gain a deeper understanding of the interactions between research variables.

4.5 Chapter Summary

This chapter communicates the results of the empirical analysis for the research questions. This empirical analysis is conducted using SPSS and Structural equation modelling (SEM). This research employs SPSS ANOVA's and t test to provide descriptive statistics

about the nature of the research variables: Corporate Governance variables (Board of Directors' characteristics, Committees' Effectiveness, Ownership Structure and External Audit Quality), Risk Disclosure variables (Risk Disclosure Quantity and Risk Disclosure Quality), and Firm Value (Tobin's Q Ratio). This provides insight into the central tendency, variability, and distribution of the data. In addition, this chapter presents the differences in research variables descriptive statistics across the Industrial and the Services sectors contexts, as well as the variability in research variables statistics before and after the implementation of the Jordanian Corporate Governance directives of 2017. Further, this chapter presents, for the Industrial and the Services sectors, path analysis utilizing Structural equation modelling (SEM) to analyse the strength and the direction of these pathways between the respective research variables. The chapter also, presents, for both sectors, a comparison between the empirical path model incorporating control variables to the one without them. The next chapter will discuss these results in detail and will address the research questions and hypotheses.

CHAPTER 5: DISCUSSION OF THESIS OUTCOMES

5.1 Introduction

The main aim of this research is to investigate the effect of Corporate Governance on Firm Value both the direct effect and the indirect effect via Risk Disclosure. The study also explores the impact of the respective control variables (Company Size, Company Age, Leverage, Liquidity and Profitability) on Firm Value. This qualitative study adopted the use of descriptive statistics to assess the Corporate Governance variables and with ANOVA and t-test tools to determine difference in these variables across time and company type. Structural Equation Modelling (SEM) is used to explore the relationship between Corporate Governance variables, Risk Disclosure variables and Firm Value (Tobin's Q).

This chapter presents and discusses the outcomes of the respective Corporate Governance variables for both the industrial and the Services Sectors, and it also interprets the findings of the respective variables with regards to the previous studies and the relevant theories. The chapter also explores the outcomes of Risk Disclosure Quantity and Risk Disclosure Quality considering the existing studies and relevant theoretical framework. The chapter then summarises the changes in the research variables Pre- and Post- the implementation of the 2017 Jordanian directives, and discusses the Firm Value (Tobin Q) results for the Jordanian companies in both industrial and Services Sectors. After that the chapter explores the SEM analysis and discusses the trimmed empirical path models that show the strength and direction of the relationships between the research variables. Further, along the chapter compares the findings variations between the Industrial companies and the Service companies and addresses the impact of the control variables on the respective research parameters. The chapter ends with a summary presenting the key points of thesis chapter.

5.2 Summary of Corporate Governance Variables

5.2.1 Board Characteristics

The Board of Directors represent the shareowners and acts for their best interests, which makes the Board of Directors the heart of Corporate Governance (Hakovirta et al., 2020). The values for the respective board characteristics (Board Independence, Board

Education, Board Size, Board Gender, Board Meetings) for both the industrial and Services Sectors are expanded on below.

For Board Independence the Industrial Sector scored a mean of 34% indicating that 34% of the board members were independent, whereas the Services Sector only registered a mean score of 30%. These values were very close to the requirement of the Jordanian Corporate Governance directives for listed companies issued by JSC (2017) that one third of the board members should be independent. These results suggest that the average company in both sectors is doing the minimum to meet the regulatory requirements and not going beyond these requirements. This compliance only approach could be an indication that companies in both sectors do not recognise the value of going beyond the basic requirements of the Jordanian Corporate Governance directives that one third of board members should be independent.

With respect to Board Education, for the Industrial companies the level of education of board members registered a mean of 31% indicating that 31% of the board members of the Jordanian Industrial companies hold a masters' degree or above, whereas it was 35% for the Services Sector. These results indicate that on average one third of boards members are well educated. According to Hambrick and Mason (1984) a better level of education is correlated with better information processing and better decision making needed to promote performance. The results show that the Jordanian Services companies hire more educated board members compared to the Jordanian Industrial companies.

In terms of Board Size, the Industrial companies score a smaller mean of 7.56 members compared to the Services companies' mean of 8.19 members. This shows that on average the Jordanian companies in the service sector tend to form larger boards that consist of an average of 8-9 members while the Industrial companies' boards of directors are formed with a smaller number of members with an average of 7-8 members.

As for the aspects of Board Gender, 21% of the Jordanian Industrial companies integrated women directors during the period 2015-2019 scoring gender diversity mean of 1.447, while 29% of the companies in the Jordanian Services Sector had a woman on the Board of Directors and scoring gender diversity mean of 2.164. This means that the Jordanian Services companies tend to integrate more women directors when compared to the Industrial companies during the period under study in this research (2015-2019). In relation to Board Meeting Frequency, the average number of annual Board Meetings for the Industrial Sector is 7-8 meetings per year, and 8-9 meetings for the Services Sector.

The results discussed earlier show that Services companies' board characteristics mean scores are higher in Board Education, Board Gender, Board Size and Board Meetings. This difference may be explained by the variances in the nature between companies in different industries. The dynamic nature of Service industry may require specialized knowledge and expertise, innovation and quick decision making in response to market conditions changes, regulatory changes and competition. In addition, "relationships may be of greater importance to service industries where predominantly intangible products are being bought and sold than in manufacturing industries" (Leek et al., 2002, p. 3). This may necessitate that Services companies have larger and more diverse boards with female directors on board and members holding higher level of education to provide the needed knowledge, expertise and different perspectives. It is also may necessitate conducting more frequent Board Meetings to respond to the rapid changing environment. These results support Harrigan (1981) who indicates that the sector in which a company conducts its operations can drive the degree of diversity within the company Board of Directors. The results support the findings of Tyrowicz et al. (2020) indicating that the presence of women directors on companies board is sector driven, they report that in Knowledge-intensive sectors, there are significantly fewer women on private supervisory boards.

The Board Quality scale was calculated by combining all of the board characteristics as indicated above. The mean Board Quality score for the Industrial Sector is 2.312 and 2.454 for the Services Sector. The higher Board Quality value for the Services Sector could be a result of the requirements imposed by the nature of the Services Sector as explained earlier. Moreover, these values were then compared Pre- and Post- 2017 when Jordanian Corporate Governance directives were introduced. It was noted that the Board Quality for both sectors was significantly improved after 2017. This Board Quality improvement can be a result of companies' response to meet the regulatory requirements of the Jordanian directives of 2017.

5.2.2 Board Committees' Effectiveness

In this research, a company Board Committees' Effectiveness represents a composite measure for the effectiveness of all board committees on a scale of (1-5). The Jordanian Industrial companies scored a slightly higher Board Committees' Effectiveness mean of 2.8351 than the Services companies' score of 2.7818. Both sectors average scores tend to be closer to the upper end with some falling below the midpoint (2.5) which indicates that there is room for improvement in Board Committees' Effectiveness in both sectors. However, Committees Effectiveness in both sectors were substantially enhanced when compared Pre-

and Post- 2017 when the Jordanian Corporate Governance directives were introduced. After 2017 the Industrial companies Committees' Effectiveness mean score improved to 3.4438 from 1.9221 and the Services companies Committees' Effectiveness mean score increased to 3.4243 from 1.1881. This suggests that the implementation of the 2017 directives have had a meaningful impact on Board Committees' Effectiveness of the Jordanian companies in both Industrial and Services Sectors.

5.2.3 Ownership Structure

This research uses Managerial Ownership and Block Holdings to capture ownership structure. The results show that the mean percentage of ordinary shares owned by directors and their families in the Industrial Sector is 19.06%, with a substantial diversity across the sector ranging from low percentage of 0% to high percentage of 97.4%, which is slightly higher than the mean percentage for the Services Sector of 18.641% showing substantial diversity between 0 and 92.21%. This suggests that managers in Industrial companies tend to have a slightly higher ownership stake in the company compared to managers in Services companies. These results suggest that on average companies in both sectors have a high ownership stake which can align the managers' interests with those of shareholders and motivate the directors to make more efficient decisions that may drive company performance. Also, the number of majority shareholders in the Industrial Sector who hold 5% or more of the company shares ranges between 1 and 7 shareholders with a mean of 3.14, while it ranges between 1-8 shareholders with a mean of 3.49 for the Services Sector. This suggests that, on average, the Jordanian companies in the Services Sector tend to have a slightly higher number of majority shareholders holding 5% or more of the company shares compared to the companies in the Industrial Sector. The results indicates that 3-4 is the average number of Majority Shareholders of companies in both the Industrial and the Services sectors. This can be a control issue where power to make decisions lies in the hands of a small number of shareholders and may lead to a conflict of interest between the majority shareholders and the minority.

It is worth mentioning that the Ownership Structure variable, as explained in chapter 3, is calculated by adding the score of the reversed Managerial Ownership to the score of Block Holdings in order to add up their contrasting effects on Risk Disclosure. The results show that, for the Industrial Sector, Ownership Structure mean ranges between 1 and 5 with a high mean of 4.432 which is slightly higher than Ownership Structure mean for the Service sector that ranges between 2.5 and 5 with relatively high mean of 4.259. This indicates that,

on average, in order to protect the interests of minority shareholders companies in both the industrial and service sectors have high-concentrated ownership that necessitates having more independent directors on the board.

5.2.4 External Audit Quality

The quality of the external audit is an important Corporate Governance mechanism that ensures the quality of companies financial reporting (Sayyar et al., 2015). This research measures external Audit Quality by calculating the average score of Audit Fees, Non-Audit Fees, and Auditor Quality.

The results of this research show that external Audit Quality, ranges from 1 to 5 and is distributed around a mean of 3.0314 for the Industrial companies which is statistically non-significantly lower than the Services companies mean of 3.1766. This indicates that External Audit Quality for the Jordanian listed companies tend to be slightly and non-significantly higher for the Services companies than of those for Industrial companies. This may be explained by the larger size of Jordanian Services companies with a mean Size of (139,484,477 JD) compared to the Industrial mean Company Size of (98,894,189 JD) where larger sized companies tend to engage big audit firms who charge higher Audit Fees and who are known to produce better Audit Quality (Sayyar et al., 2015).

5.3 Summary of Risk Disclosure Variables

The disclosure of risk information provide an essential tool that can help stakeholders in taking decisions about the company (Kutum, 2014). Content analysis of the annual reports narrative is applied in determining the values for Risk Disclosure Quantity and Risk Disclosure Quality. The results for Risk Disclosure Quantity and Risk Disclosure Quality are discussed below.

5.3.1 Risk Disclosure Quantity

In his research, Risk Disclosure Quantity represents the total number of validated risk sentences in the company annual report narrative. Risk sentences are validated according to the Risk Disclosure decision rules shown in Appendix B.

Table 5-1

Risk Disclosure Quantity Mean Differences between Sectors (Reproduced from Table 4-13 in Chapter 4).

Risk Disclosure	Sector	N	Min	Max	Mean	Std. Dev	t	df	Sig
									p
Quantity	Industrial	170	4	363	83.36	43.138	-0.659	353	0.510
	Services	185	17	195	86.02	32.282			

Table 5-1 shows that Risk Disclosure Quantity in the Industrial Sector varies from a minimum of 4 sentences to a maximum of 363 sentences and the average industrial company would report 83 to 84 risk sentences in their annual report. On the other hand, the companies in the Services Sector reported a minimum of 17 risk sentences and a maximum of 195 with an average of 86 risk sentences. Although the results show that an average industrial company would disclose fewer risk sentences compared to an average services company, the variation in number of risk sentences between the companies in each sector is quite high. This can be related to the impact of other variables (Company Size, Company Age, Leverage, Liquidity and Profitability) on companies' risk perception and management decision on what, and how much risk information to publish.

Table 5-2 presents a summary of the differences in Risk Disclosure Quantity Pre- and Post- the 2017 government directives in both sectors. For the Industrial Sector, the average Disclosure Quantity post the 2017 government directives shows a little improvement from a mean of 76.82 sentences pre the 2017 directives to a mean of 87.73 sentences post the 2017 directives. For the Services Sector, the average Disclosure Quantity post the 2017 government directives improved significantly to a mean of 90.86 sentences from an average of 78.74 sentences pre the 2017 directives.

Table 5-2

Risk Disclosure Quantity Mean Differences Before and Post the Directives (Reproduced from Table 4-14 in Chapter 4).

Risk Disclosure	Sector	Financial Year	N	Mean	Std. Dev	t	df	Sig p
Quantity	Industrial	>= 2017	102	87.73	46.482	1.622	168	0.107
		< 2017	68	76.82	36.941			
	Services	>= 2017	111	90.86	33.663	2.539	183	0.012
		< 2017	74	78.74	28.805			

These results indicate that the 2017 Jordanian directives have a positive impact on the quantity of Risk Disclosure in both sectors. However, this impact is statistically significant for the Jordanian Services companies, but it is not significant for the Industrial companies. This variation in the results between the two sectors can be related to the difference in the nature and activities between industrial and service-based companies. Companies in different sectors may face specific risks related to the nature of operation for those companies, for instance, education organisations would face risks that are different from those faced by a manufacturing company. This indicates that the sector within which a company operates in can drive the quantity of risk information disclosed. This is especially when no comprehensive guidelines are provided with regards to risk disclosure.

5.3.2 Risk Disclosure Quality

This research adopts the criteria of Haj-Salem et al. (2020) and Linsley and Shrives (2006) and uses 40 Risk Disclosure items listed under 6 Risk Disclosure categories (operational risk, empowerment risk, information processing and technology risk, integrity risk, strategic risk and financial risk) to measure Risk Disclosure. Risk Disclosure Quality represents the number of risk items covered with one or more risk sentences in the company annual report narrative.

The results in Table 5-3 show that the Jordanian companies in the Industrial Sector tend to disclose more quality risk information than the companies in the Services Sector. The Jordanian Industrial companies Risk Disclosure Quality score ranges between 2 and 22 items with a mean of 15.38 risk items covered, while the Services companies risk score ranges

between 9 and 20 items with a mean of 14.99 Risk Disclosure items covered. However, t-test (t=1.560) indicates that Risk Disclosure Quality mean difference between the Industrial companies and the Services companies is not sufficiently statistically significant to generalize this result. The variation in Risk Disclosure Quality between the companies in each sector is quite high. The lack of comprehensive guideline regarding risk disclosure within corporate Governance Directives of 2017 or specifically in the Jordanian directive of disclosure (JSC, 2002) may contribute to this variation in the quality of risk information disclosed across companies.

Table 5-3

Risk Disclosure Quality Mean Differences between Sectors (Reproduced from Table 4-15 in Chapter 4).

Risk Disclosure	Sector	N	Min	Max	Mean	Std. Dev	t	df	Sig
									P
Quality	Industrial	170	2	22	15.38	2.615	1.560	353	0.120
	Services	185	9	20	14.99	1.974			

Table 5-4 compares Risk Disclosure coverage Pre- and Post- the 2017 government directives. The results illustrate that the introduction of the Jordanian 2017 Corporate Governance directives is correlated with higher Risk Disclosure Quality in both sectors. The mean Risk Disclosure Quality (Disclosure Coverage) for the Industrial companies was 15.09 risk items covered and increased to 15.57 items after the introduction of 2017 Jordanian corporate directives. Likewise, the mean risk coverage for the Services companies increased from to 18.18 risk items after the introduction of 2017 Jordanian corporate directives. However, this increase in the amount of quality risk information release in the annual reports' narrative of the listed Jordanian companies is deemed statistically non-significant.

Table 5-4

Risk Disclosure Quality Mean Differences Before and Post the Directives (Reproduced from Table 4-16 in Chapter 4).

	Sector		N	Mean		t	df	Sig

Risk Disclosure		Financial Year			Std. Dev			p
Quality	Industrial	>= 2017	102	15.57	2.679	1.175	168	0.242
		< 2017	68	15.09	2.508			
	Services	>= 2017	111	18.18	1.879	1.572	183	0.118
		< 2017	74	14.72	2.091			

In summary, the move from the comply or explain approach of Corporate Governance to the binding approached after issuing the Jordanian Corporate Governance directives in 2017 is correlated with more quantity and quality Risk Disclosure. The evidence provided by the data is not strong enough to statistically support a positive response to the 2017 directives. This suggests that further investigation is required.

5.4 Summary of Pre- and Post- 2017 Trends

The introduction of the Jordanian Corporate Governance Directives of 2017 imposes legal obligations on Jordanian companies to adhere to the articles within the directives. This took Corporate Governance regulations in Jordan from the comply or explain approach into the must comply approach (enforced by law). Table 5-5 presents a summary of the change in each of the Corporate Governance and Risk Disclosure variables after the implementation of the 2017 Jordanian Directives across both the Industrial and the Services Sectors.

Table 5-5

Summary of the Variables Changes Post Jordanian 2017 Directives across Both the Industrial and the Services Sectors.

Item	Sector	Impact after the 2017 Directives
Board Independence	Industrial	Significant Increase
	Services	Non-Significant Slight Increase
Board Education	Industrial	Non-Significant Decrease
	Services	Non-Significant Slight Increase
Board Size	Industrial	Non-Significant Decrease
	Services	Non-Significant Decrease
Board Gender Diversity	Industrial	Non-Significant Slight Increase
	Services	Non-Significant Slight Increase
Board Meetings	Industrial	Non-Significant Slight Increase
	Services	Non-Significant Slight Increase
Overall Board Quality	Industrial	Significant Increase
	Services	Significant Increase
Board Committees' Effectiveness	Industrial	Significant Increase
	Services	Significant Increase
Ownership Structure	Industrial	Non-Significant Slight Decrease
	Services	Non-Significant Slight Decrease
External Audit Quality	Industrial	Non-Significant Slight Increase
	Services	Non-Significant Slight Decrease
Risk Disclosure Quantity	Industrial	Non-Significant Increase
	Services	Significant Increase
Risk Disclosure Quality	Industrial	Non-Significant Increase
	Services	Non-Significant Increase

The results indicate the varied impact of the 2017 Jordanian Corporate Governance Directives across different variables and sectors. In the Industrial sector, a significant increase can be observed in Board Independence and Board Committees' Effectiveness. However, Board Education, Board Size, Board Gender Diversity, Board Meetings, Ownership Structure, and External Audit Quality experience non-significant changes or slight decreases. Conversely, in the Services sector, the results show a non-significant slight increase in most corporate governance variables, including Board Education, Board Gender Diversity, Board Meetings, Ownership Structure, and External Audit Quality in addition to a significant increase in Board Committees' Effectiveness. Overall Board Quality show a significant

increase in both the Industrial and Services sectors following the implementation of the Jordanian Corporate Governance Directives of 2017. This suggests that the implementation of the mandated directives can have a positive impact on enhancing the overall quality of Jordanian companies' boards in both sectors and consequently promotes better Corporate Governance practices. For Risk Disclosure, the results reveal a notable difference between the Industrial and Services sectors. In the Industrial sector, the results show a non-significant increase in Risk Disclosure Quantity, indicating that companies within this sector marginally improved the amount of risk-related information disclosed in their reports after the implementation of the Jordanian Corporate Governance directives. Conversely, in the Services sector, the results show a significant increase in Risk Disclosure Quantity, suggesting that companies within this sector substantially enhanced their risk disclosure practices in response to the regulatory directives. Additionally, the results reveal that both sectors experienced a non-significant increase in Risk Disclosure Quality, indicating a slight improvement in the quality of the risk-related information provided in the annual reports of the Jordanian companies. Overall, the results show an increase in the disclosure of risk information following the implementation of the 2017 Jordanian Directives.

5.5 Firm Value

Tobin's Q ratio is used in this research to represent Firm Value. Ali et al. (2016) explained that that Tobin's Q ratio means that a firm's value is undervalued if Tobin's Q is less than one, and that the firm's value is overvalued if it is greater than one. Similarly, the firm's value is in equilibrium when the ratio is equal to one. Table 5-5 compares Tobin's Q ratio scores for the Jordanian Industrial companies to those of the Services companies.

Table 5-6

Tobin's Q ratio Differences between Sectors (Reproduced from Table 4-17 in Chapter 4).

Tobin's Q ratio								
Sector	**N**	**Min**	**Max**	**Mean**	**Std. Dev**	**t**	**df**	**Sig**
								p
Industrial	169	0.2004	2.3679	0.955301	0.41387	-3.788	352	<0.001
Services	185	0.3816	11.5528	1.336606	1.24717			

As can be seen in this table Tobin's Q ratio ranges from a 0.2004 to 2.3679 with a mean ratio of 0.9553 and a low standard deviation of 0.41387 for the companies in the Industrial Sector. On the other hand, for the Services Sector, Tobin's Q ratio ranges from 0.3816 to 11.5528 with a mean ratio of 1.3366 and a moderate standard deviation of 1.24717. These results indicate that the Jordanian Industrial companies on average are a little undervalued as the average Q ratio is a little less than 1, while the Services companies are overvalued with Q ratio greater than 1. The results also show that the standard deviation for the Industrial companies (0.41387) is lower than that of the Services companies (1.24717), which indicates that the variability within the Industrial companies is less than the variability within the Services companies. In other words, there is more diversity or differences in the Firm Values of the Jordanian Industrial companies compared to those of the Firm Values of the Jordanian Services companies.

5.6 Discussion of SEM Analyses

This research aims to investigate the effect of Corporate Governance on Firm Value both the direct effect and the indirect effect via Risk Disclosure. The study also explores the impact of the respective control variables (Company Size, Company Age, Leverage, Liquidity and Profitability) on Firm Value. Structural Equation Modelling (SEM) is used to explore the impact that Corporate Governance variables have on Risk Disclosure and Firm Value and thus addresses the research questions and the associated hypotheses outlined in Chapter 2.

5.6.1 Corporate Governance Impact on Risk Disclosure

The first Hypothesis (H1) states that higher scores of Corporate Governance variables will have a positive and significant impact on Risk Disclosure of Service and Industrial

companies listed on the Amman Stock Exchange. To test this hypothesis SEM is employed allowing for the examination of both direct and indirect effects. Table 5-6 below illustrates the results of Structural Equation Modelling (SEM) analysis, showing how Corporate Governance variables impact Risk Disclosure in both quantity and quality across both sectors, along with their corresponding coefficients.

Table 5-7

SEM Analysis Results Showing the Impact of Corporate Governance Variables on Risk Disclosure in both Sectors

Hypothesis 1: Higher scores of Corporate Governance variables will have a positive and significant impact on Risk Disclosure (Quantity and Quality) of services and Industrial companies listed on the Amman Stock Exchange.			
Independent Variable	**Dependent Variable**	**Results**	
		Industrial Sector	**Services Sector**
Board Independence	Risk Disclosure Quantity	Directly / Positive (β =.13).	No Impact
	Risk Disclosure Quality	No Impact	No Impact
Board Members' level of education	Risk Disclosure Quantity	Indirectly / Positive (β =.077).	No Impact
	Risk Disclosure Quality	Directly / Positive (β =.21).	No Impact
Board Size	Risk Disclosure Quantity	No Impact	Directly / Positive (β =.23).
	Risk Disclosure Quality	No Impact	Indirectly / Positive (β =.128).
Board Gender Diversity	Risk Disclosure Quantity	Both directly and indirectly / Positive (β =.245)	No Impact
	Risk Disclosure Quality	Directly / Positive (β =.23).	No Impact
Board Meetings	Risk Disclosure Quantity	No Impact	No Impact
	Risk Disclosure Quality	No Impact	No Impact
Committees' Effectiveness	Risk Disclosure Quantity	Both directly and indirectly / Positive (β =.245)	Directly / Positive (β =.16).
	Risk Disclosure Quality	Directly / Positive (β =.18).	Indirectly / Positive (β =.088).
Ownership Structure	Risk Disclosure Quantity	Indirectly / Positive (β =.05).	No Impact
	Risk Disclosure Quality	Quality: Directly / Positive (β =.16).	No Impact
External Audit Quality	Risk Disclosure Quantity	Directly / Positive (β =.36).	Directly / Positive (β =.45).
	Risk Disclosure Quality	No Impact	Both directly and indirectly / Positive (β =.20+.24=.44)

Overall, Path analysis for the Industrial companies presented in Figure 5-1 below (reproduced from Figure 4-3) reveals that the effect Corporate Governance variables on Risk Disclosure varies, with only certain variables demonstrating a significant relationship. The results also show that Risk Disclosure Quality has a strong positive impact on Risk

Disclosure Quantity. This analysis shows that 18% of the variance in Risk Disclosure Quality can be explained by the respective Corporate Governance variables. It is also shows that 49% of the variance in Risk Disclosure Quantity can be explained by both Corporate Governance variables and Risk Disclosure Quality.

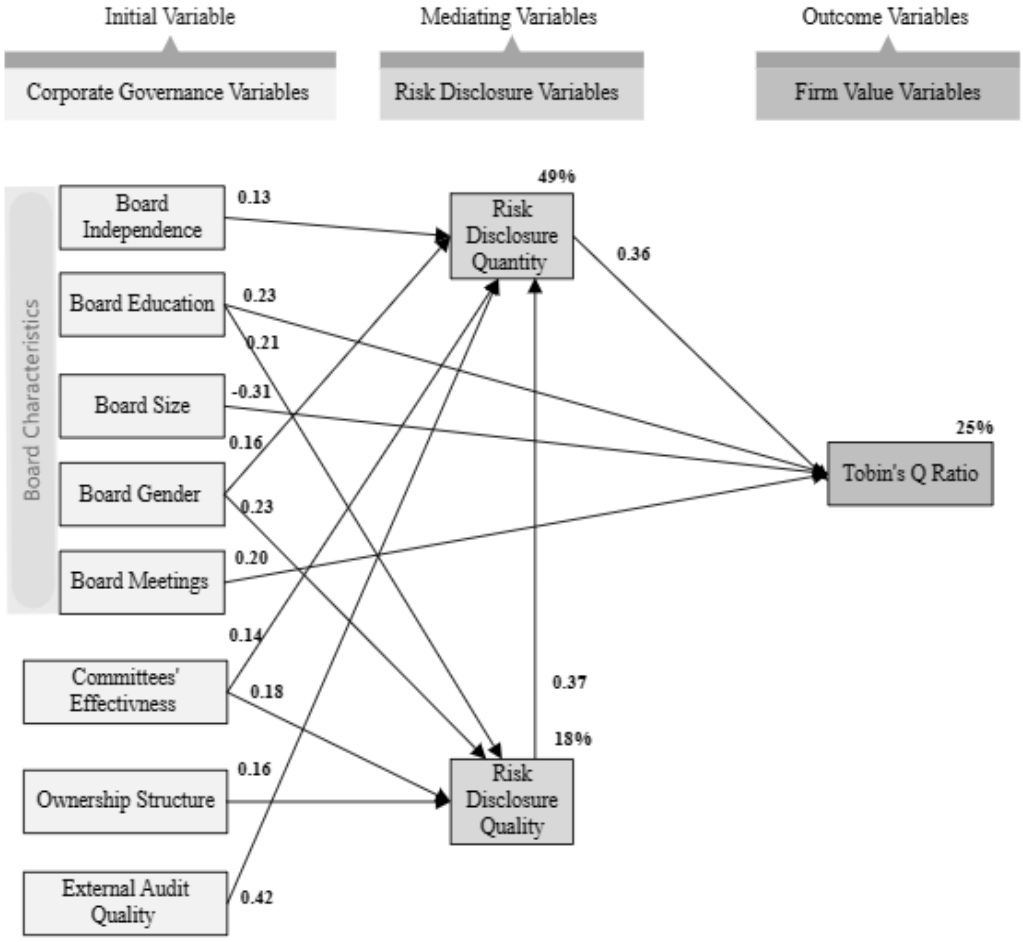


Figure 5-1

Trimmed Empirical Path Model without Control Variables - Industrial companies (Reproduced from Figure 4.1).

On the other hand, for Services companies, Figure 5-2 below (reproduced from Figure 4-5) shows that among Corporate Governance variables, some impact Risk Disclosure while others do not. The results also show that Risk Disclosure Quantity has an impact on Risk Disclosure Quality. These results show that 41% of variance in Risk Disclosure Quantity can be explained by the Corporate Governance variables, with the Risk Disclosure Quantity in

turn impacting Risk Disclosure Quality. Furthermore, 46% of the variance in Risk Disclosure Quality can be explained by both Corporate Governance variables and Risk Disclosure Quantity.

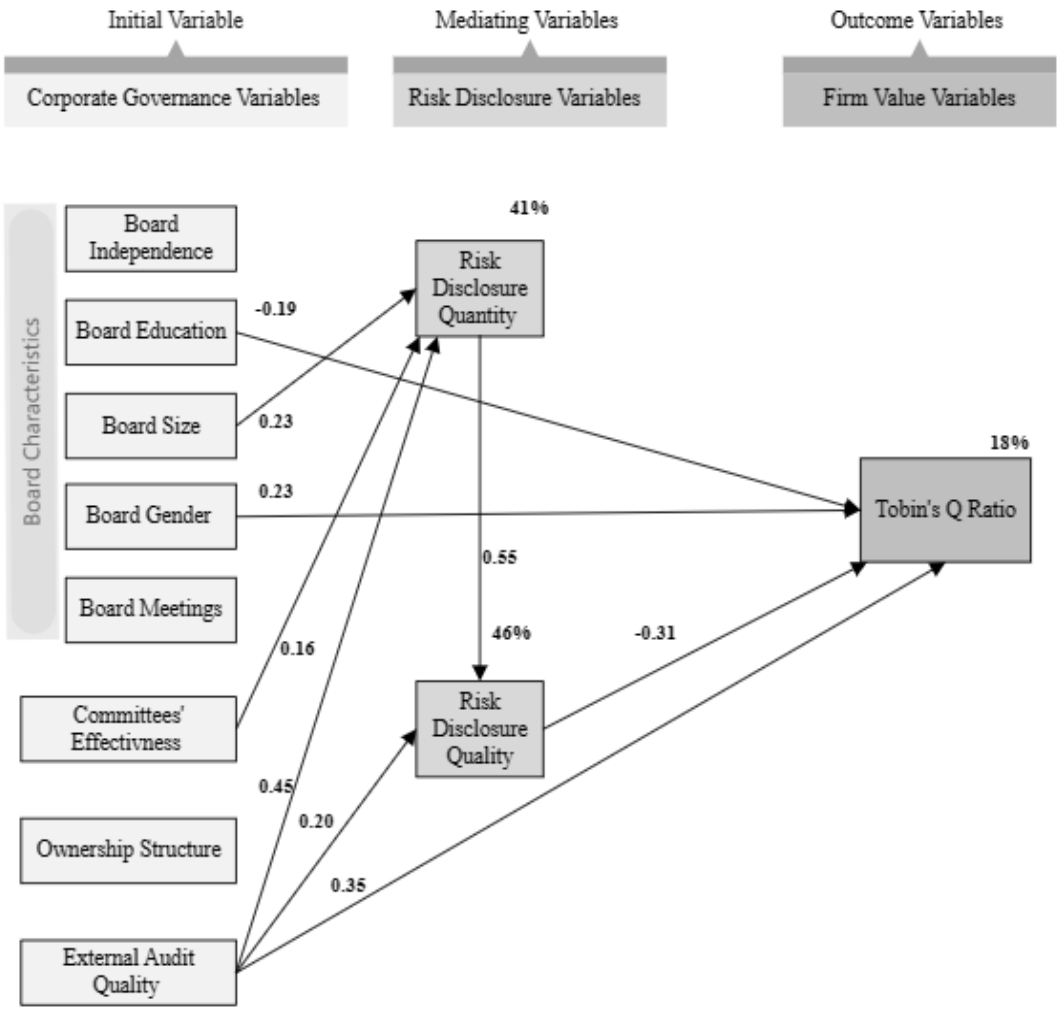


Figure 5-2

Trimmed Empirical Path Model without Control Variables - Services Companies (Reproduced from Figure 4-4).

It is important to note that, for the Industrial Sector, the correlation between Risk Disclosure Quantity and Risk Disclosure Quality indicates a progression from Risk Disclosure Quality to Risk Disclosure Quantity, whereas for the Services Sector, it follows an inverse pattern, moving from Risk Disclosure Quantity to Risk Disclosure Quality.

The overall picture suggests that there is a mixed impact of Corporate Governance variables on Risk Disclosure across sectors, with some variables showing impact in one sector while they do not achieve the same in the other sector. This can add to the empirical evidence that highlights Sector-specific variability in the impact of Corporate Governance variables on Risk Disclosure. However, when the Corporate Governance variables are considered as a collective and the two components of Risk Disclosure are considered together, the structural equation modelling (SEM) paths and the respective path coefficients of this research data (Figure 5.3 & 5.4) supports H1 for both the services and industrial companies in this context. Prior research Al-Maghzom et al. (2016, p. 147) has also "established a robust relationship between disclosure and corporate governance".

This research, however, is unique in that it goes beyond the traditional analyses of Corporate Governance and Risk Disclosure. It explores the impact each of the respective Corporate Governance variables has on both the quantity and the quality of Risk Disclosure. This provides a deeper understanding of the relationship between each of the Cooperate Governance Mechanisms and each of the Risk Disclosure components (Quantity and Quality). The way each of the Corporate Governance variable affects Risk Disclosure in term of quantity and quality across both sectors (Industrial and Services) is discussed below.

5.6.1.1 **Board Independence**

The results of path analysis presented in Figure 5-1 and Table 5-7 for the Industrial Sector show that Board Independence has no significant statistical impact on Risk Disclosure Quality, yet it has a moderate positive impact on Risk Disclosure Quantity. That is the percentage of independence directors on the board of the industrial Jordanian listed companies has a positive impact on the quantity (not the quality) of the risk information disclosed. These results for the Industrial Sector support H1 which proposes that Corporate Governance will have a positive impact on Risk Disclosure. This result also supports the findings of Ibrahim et al. (2019), Ntim et al. (2013) and Li et al. (2013) that independent directors can push for more information disclosures in the annual reports. This positive impact of Board Independence on the quantity of risk information disclosed is in line with Agency theory suggesting more independent directors might be in a better position to monitor management and ensure appropriate Risk Disclosure (Panda & Leepsa, 2017). This result is also aligned with the Legitimacy theory that independent oversight can improve the legitimacy of the organisation disclosure (Janang et al., 2020).

On the other hand, Figure 5-2 shows that the percentage of independent directors on the board of Jordanian listed Services companies has no statistically significant impact on the quantity nor the quality of risk information disclosed in the annual reports. These results contradict the proposition of H1 that Corporate Governance variables will have a positive impact on Firm Value. It is also contradicts the results of a majority of previous studies reporting a positive correlation between Board Independence and Risk Disclosure (Abraham & Cox, 2007). The results of this research also contradicts with Elshandidy et al. (2018a) that Board Independence is negatively correlated with Risk Disclosure Quantity and quality of the chines financial firms. These results suggest that independent directors of the Jordanian service companies have a non-significant impact on the quantity and quality of information disclosed. These results provide empirical evidence that the correlation between Corporate Governance variables and Risk Disclosure Quantity and quality can be driven by an industry or business sector.

5.6.1.2 **Board Members' level of education**

The results in Figure 5-1 show that board members' level of education has a positive impact on Risk Disclosure Quality which in turn has a positive impact on Risk Disclosure Quantity. This means that directors with a master's degree or above can improve the quality and the quantity of risk information released in the annual reports of the industrial listed Jordanian companies. These results are consistent with the proposition of H1 that Corporate Governance variables (Board Members' level of education) will have a positive significant impact on Risk Disclosure in the annual reports of services and Industrial companies listed on the Amman Stock Exchange. These results support the findings of AL-Dubai (2023), Ismail and Rahman (2011) and Allini et al. (2016) that that directors level of education has a positive impact on disclosure. These results are consistent with the views of Williams and O'Reilly III (1998) that academic level and diversity may enhance disclosure. The results of this report for the Jordanian Industrial Sector are consistent with the resource dependency theory that board members with higher education can be a valuable source of skills and knowledge.

On the other hand, for the Services Sector, Figure 5-2 shows that Board members' education level for the Jordanian Services companies has no statistically significant impact on the quantity or the quality of Risk Disclosure. This contradicts H1 which proposes that Corporate Governance variables (Board Members' level of education) will have a positive significant impact on Risk Disclosure in the annual reports of services and Industrial companies listed on the Amman Stock Exchange. These results provide empirical evidence

that the impact of the directors' level of education on the quantity and the quality of risk information disclosed in Jordanian companies' annual reports can be driven by the nature of the company sector.

5.6.1.3 **Board Size**

The findings of this report presented in Figure 5-1 illustrate that, for the Industrial Sector, Board Size has no statistically significant impact on Risk Disclosure. This contradicts H1 which proposes that Corporate Governance variables (Board Size) will have a significant impact on Risk Disclosure. However, for the Services Sector, Figure 5-2 illustrates that Board Size has a positive moderate impact on Risk Disclosure Quantity, which in turn impact Risk Disclosure Quality. These results of the Services Sector are consistent with the first hypothesis (H1) which proposes that higher scores of Corporate Governance variables (Board Size) will have a positive significant impact on Risk information Disclosed. While the results for the Services Sector support the Agency theory and Resource Dependency theory, the result for the Industrial Sector contradicts both theories. Agency theory and Resource Dependency theory typically predict that larger boards bring more independent and expert members leading to better oversight and higher demand for information disclosure. (Ekramy & Mellett, 2013). This variability in the results between the two sectors support Al-Maghzom et al. (2016) indicating that previous studies examined the impact of the number of board members on the risk information released reported mixed results.

5.6.1.4 **Board Gender Diversity**

Figure 5-1 illustrates the findings of this report for the listed Jordanian Industrial companies indicating that Board gender diversity has a direct positive impact on Risk Disclosure Quantity and quality. This means companies with females on the board of Industrial companies can improve the quality and increase the quantity of the risk information communicated in these companies' annual reports. These results are consistent with the proposition of H1 that Corporate Governance variables (Board Gender Diversity) will have a positive significant impact on Risk Disclosure. This result is consistent with the Agency theory suggesting that companies with more diverse boards (including gender diversity) have the opportunity to enhance management oversight which may lead to increase risk information released (Bufarwa et al., 2020). In addition, this finding can be aligned to the Stakeholder theory that diverse boards may better represent and react to the needs of different stakeholders (Sifile et al., 2015). However, for the Services Sector, Figure 5-2 shows that Board Gender Diversity has no significant impact on Risk Disclosure. In other words, the

existence of female directors on the board of Jordanian Services Companies has no impact on the quantity and the quality of risk information communicated in the annual reports. This contradicts the proposition of H1. Again, this variability in the results between the two sectors may provide empirical evidence that the sector in which companies operates in can drive the way their board characteristics impact the company risk information disclosed.

5.6.1.5 **Board Meetings**

The results of this research for the Jordanian Industrial companies illustrated in Figure 5-1 and for the Services companies in Figure 5-2 indicate that the number of annual meetings conducted by companies' board members has no significant statistical impact on Risk Disclosure. These results contradict H1, which asserts that Corporate Governance variables (Board meeting) will have a positive significant impact on Risk Disclosure of services and Industrial companies listed on the Amman Stock Exchange. Regular Board Meetings are expected to help board's directors to deliver their supervision duties and strengthen monitoring initiatives (Allini et al., 2016). However, these results are at variance with Agency theory and the findings of many earlier studies that have reported positive impact on Risk Disclosure where board members require more information to deliver efficient monitoring (Allegrini & Greco, 2013). The lack of impact of frequent Board meeting frequency on risk information disclosed on the annual reports of the Jordanian listed companies in both industrial and Services Sectors may be an indication of inefficient Board Meetings where the productivity level of these meetings fall below expectations.

5.6.1.6 **Committees' Effectiveness**

The results of this research presented in Figure 5-1 for the Industrial Sector and Figure 5-2 for the Services Sector reveal that Committees Effectiveness has a significant small positive impact on both Risk Disclosure Quantity and Risk Disclosure Quality. These results are consistent with H1 which proposes a positive correlation between Corporate Governance variables and Risk Disclosure. It is also consistent with the findings of previous literature on Corporate Governance which highlights the important impact of board committees on company transparency (Habtoor et al., 2019). Committees' Effectiveness in this research is a proxy for the existence and the quality of four board committees (Audit Committee, Nomination and Remuneration Committee, Governance Committee, and Risk Management Committee), in addition to the existence of any Special Task Committee. The results of this report show that Committees' Effectiveness can impact the depth and the level of risk information published on the annual reports of the listed Jordanian companies in both

industrial and Services Sectors. These results are inconsistent with Stakeholder theory and Legitimacy theory. The positive impact of Committees' Effectiveness on Risk Disclosure may reflect the effort to maintain legitimacy and meet the expectations of various stakeholders' expectations regarding transparency and accountability. This is also is aligned with Agency theory that higher board monitoring through its committees may enhance risk disclosure. Akhtaruddin and Haron (2010) anticipate that effective Audit committees are likely to demonstrate higher monitoring and enhance more disclosure. It is worth mentioning that, for the Industrial Sector, committees' Effectiveness directly impact both Risk Disclosure Quantity and quality. However, for the Services Sector, committees' Effectiveness has no direct effect on Risk Disclosure Quality. Instead, committees' Effectiveness directly impact Risk Disclosure Quantity which in turn impact Risk Disclosure Quality. This could be related to the nature the nature of the Industrial companies in that they involve more complex operations which may necessitate the release of more quality information.

5.6.1.7 **Ownership Structure**

The results from this research for the Industrial Sector presented in Figure 5-1 illustrates that Ownership Structure has a moderate positive direct impact on Risk Disclosure Quality which in turn impact Risk Disclosure Quantity. Considering that Ownership Structure is a proxy of Managerial Ownership (reversed measure) and Block Holdings as explained in chapter 3. The reversed measure for Managerial Ownership means that the correlation is reversed, that is, Managerial Ownership has a negative impact on Risk Disclosure not positive. In other words, for the Industrial Sector, the stake of Managerial Ownership has a negative direct impact on the quality of risk information disclosed on the annual reports of the Industrial companies listed on Amman stock exchange which in turn negatively impact the quantity of risk information disclosed. This research's result of a negative correlation between Managerial Ownership and Risk Disclosure contradicts H1 and also contradicts the Agency theory that Managerial Ownership is associated positively with information disclosed. Previous studies on the impact of Managerial Ownership on Risk Disclosure have shown mixed results (Kamaruzaman et al., 2019). This report's findings supports the results of those earlier studies with reported negative impact for the proportion of shares owned by board members on the quantity and the quality of information disclosed (Akhtaruddin & Haron, 2010; Barakat & Hussainey, 2013).

Furthermore, unlike Managerial Ownership, Block Holdings of the Jordanian Industrial companies have a positive direct impact on Risk Disclosure Quality which

consequently impacts Risk Disclosure Quantity. That is, the number of external shareholders who own 5% or more of the Industrial companies' shares has a positive impact on Risk Disclosure Quality which thereby impacts the Risk Disclosure Quantity. This is consistent with H1 and also with Agency theory that considers Block Holdings an important factor that contributes to more efficient company control where more information disclosure is required to satisfy the demands for more information by large shareholders (Alnabsha et al., 2018).

Interestingly, for the Services Sector, the results illustrated in Figure 5-2 indicate that Ownership Structure has no significant statistical impact on Risk Disclosure. This result contradicts H1 and Agency theory. However, it is consistent with previous studies which have reported mixed results of the impact of managerial shareholding on risk information disclosed (Kamaruzaman et al., 2019). The findings for the Services Sector support those earlier studies which reported a non-significant correlation between Managerial Ownership and Risk Disclosure Quantity and quality with these views found in the work of Alnabsha et al. (2018) and Huafang and Jianguo (2007).

5.6.1.8 **External Audit Quality**

Both Figure 5-1 for the Industrial Sector and Figure 5-2 for the Services Sector reveal that External Audit Quality has a significant positive impact on Risk Disclosure. For the companies in the Industrial Sector, External Audit Quality tends to have a considerable impact on Risk Disclosure Quantity. However, for the Industrial companies, External Audit Quality affects both the quantity and the quality of disk information disclosed. External Audit Quality is a proxy of the average scores of three variables (Audit Quality: Audit Fees, Non-Audit Fees, and Auditor Quality). These results support H1 and add to the literature on the positive correlation between External Audit Quality and disclosure (Abozaid et al., 2020; Al-ahdal & Hashim, 2022; Gao & Kling, 2012). According to the Signalling theory, this positive impact on Risk Disclosure indicates that higher External Audit Quality may signal transparency to stakeholders. (Al-ahdal & Hashim, 2022)indicates that low performing firms tend to use a quality external auditor to send a signal to attract investors. In addition, according to the Agency theory, this positive impact of risk disclosure may help reduce the information asymmetry between managers and shareholders. These results contradicts with the findings of Abozaid et al. (2020) that Audit Quality in emerging developing countries do not enhance the narrative information disclosed and that the correlation between Audit Quality and disclosure is statistically non-significant.

In summary, the results of this research sheds light on the correlation between the Corporate Governance variables on one side and both Risk Disclosure Quantity and quality on the other. The findings of this study reveals that the effects of Corporate Governance variables on Risk Disclosure vary, with only certain variables demonstrating a significant relationship. These are, for the industrial Sector, Board Independence, Board members' level of education, Board Gender Diversity, Committees' Effectiveness, Ownership Structure, and External Audit. Whereas, in the Services Sector, only three variables demonstrate significant impact, these are Board Size, Committees' Effectiveness, and External Audit. Moreover, the impact of these variables fluctuates across companies in different sectors, as shown in Table 5-6. This adds to the empirical evidence that highlights that the impact of Corporate Governance variables on Risk Disclosure may be dependent of the sector in which a company operates. These results are in line with Holder-Webb et al. (2009), which explores the impact of industry on disclosure of 50 listed US companies and revel a significant variation in the quality and quality of information disclosed between different industries.

5.6.2 Risk Disclosure Impact on Firm Value

The second Hypotheses (H2) states that higher Risk Disclosure will have a positive significant impact on Firm Value of Service and Industrial companies listed on the Amman Stock Exchange. Table 5-8 below illustrates the results of Structural Equation Modelling (SEM) analysis, showing how both Risk Disclosure Quantity and quality impact Firm Value across both sectors, along with their corresponding coefficients.

Table 5-8

SEM Analysis Results Showing how Risk Disclosure Impacts Firm Value

Hypothesis 2: Higher Risk Disclosure (Quantity and Quality) will have a positive significant impact on Firm Value of services and Industrial companies listed on the Amman Stock Exchange.			
Independent Variable	**Dependent Variable**	**Results**	
		Industrial Sector	**Services Sector**
Risk Disclosure Quantity	Firm Value (Tobin's Q)	Directly / Positive (β =.36).	Indirectly / Negative (β = -0.17).
Risk Disclosure Quality	Firm Value (Tobin's Q)	Indirectly / Positive (β =.13).	Directly / Negative (β = -0.31).

It is important to note the difference between the Industrial Sector and the Services Sector with regards to the direction of the correlation between Risk Disclosure Quantity and Risk Disclosure Quality which has been explained earlier in his chapter with reference to Figure 5-1 and 5-2. For the Industrial Sector, the correlation between Risk Disclosure Quantity and Risk Disclosure Quality indicates a progression from Risk Disclosure Quality to Risk Disclosure Quantity, whereas for the Service Sector, it follows an inverse pattern, moving from Risk Disclosure Quantity to Risk Disclosure Quality. Consequently, for the Industrial Sector, the Risk Disclosure impact on Firm Value flows in a significant direct path through Risk Disclosure Quantity, whereas for the Services Sector, it flows through Risk Disclosure Quality.

Table 5-8 illustrates that, for the Industrial companies, both the quantity and quality of Risk Disclosure positively affect Firm Value as shown by Tobin's Q factor. Specifically, the direct impact of Risk Disclosure Quantity on Firm Value is stronger (with β=.36) compared to the indirect impact of Risk Disclosure Quality. These results support H2 and are consistent with the agency theory which proposes that providing more information to investors and releasing more Risk Disclosures leads to decrease information asymmetry which adds value (Jain & Raithatha, 2022). Other theories including stakeholders' theory, Signalling theory, capital need theory and legitimate theory all suggest that management needs to publish more information for the use of the relevant stakeholders in order to prove their legitimacy and raise stakeholders trust (Afza & Nazir, 2014). The results are in consistent with the Agency theory, Stewardship and Signalling theory, as they suggest that releasing more risk information would ease the agency problem, reduce information asymmetry between managers and shareholders, enhance managers' accountability and release signals about managers' legitimacy and their ability to manage risks (Abozaid et al., 2020; Al-Maghzom et al., 2016; Allini et al., 2016; Elshandidy et al., 2013).

On the other hand, for the Services Sector, Table 5-7 shows that both the quantity and quality of Risk Disclosure negatively impact Firm Value as shown by Tobin's Q factor. Specifically, the direct impact of Risk Disclosure Quality on Firm Value is stronger compared to the indirect impact of Risk Disclosure Quantity. These results contradict H2 and the related theories (agency theory, signalling theory, stakeholders' theory, capital need theory and legitimate theory). However, these results support the findings of Jain and Raithatha (2022) that more Risk Disclosure can lead to a decreased Firm Value.

The variation in the impact of Risk Disclosure between Jordanian Industrial companies and Service companies may be explained by the nature of the difference between

sectors including differences in companies' business model, structure, competition, regulation and the nature of operation between the two. For example, Services companies rely more on intangible assets and human capital than the Industrial companies where information becomes more sensitive, and the release of quality information may expose vulnerable data that could be seen negatively by stakeholders leading to an equally negative impact on firm market value.

In summary, the results of this research shed light on the relationship between both the quantity and quality of Risk Disclosure and their correlation with Firm Value. The findings of this study reveal that the impact of both the quantity and quality Risk Disclosure on Firm Value varies across different sectors. This may add to the empirical evidence that the effect of both the quantity and quality Risk Disclosure on Firm Value may be driven by the sector in which a company operates.

5.6.3 Corporate Governance Impact on Firm Value

The path analysis presented in Figure 5-1 reveals that, for the Industrial companies, 25% of the variance in Firm Value as shown by Tobin's Q factor can be explained by the Corporate Governance variables impacts, either directly or indirectly via Risk Disclosure. For Services companies, only 18% of the variance in Firm Value can be explained by Corporate Governance variables (directly and indirectly), as revealed in Figure 5-2. These results indicate that the way Corporate Governance variables correlate with Firm Value is driven by the sector in which the firm operates.

The third Hypotheses (H3) proposes that Higher scores of Corporate Governance variables will have a significant positive impact on the Firm Value of Services and Industrial companies listed on the Amman Stock Exchange, with Risk Disclosure Quantity and Quality serving as mediators in transmitting this impact. Table 5-9 below illustrates the results of Structural Equation Modelling (SEM) analysis, showing how Corporate Governance variables impact Firm Value across both sectors, along with their corresponding coefficients. These results support H3 for certain Corporate Governance variables, showing positive relationships, while contradicting others depending on the company's sector.

Table 5-9 *SEM Analysis Results Showing how Corporate Governance Variables Impact Firm Value*

Hypothesis 3: Higher scores of Corporate Governance variables will have a positive significant impact on Firm Value (Tobin's Q) of services and Industrial companies listed on the Amman Stock Exchange			
Independent Variable	**Independent Variable**	**Results**	
		Industrial Sector	**Services Sector**
Board Independence	Firm Value (Tobin's Q)	Indirectly / Positive (β = .046).	No Impact
Board Members' level of education	Firm Value (Tobin's Q)	Both directly and indirectly / Positive (β =.27)	Directly / Negative (β = - 0.19).
Board Size	Firm Value (Tobin's Q)	Directly / Negative (β = - 0.31).	Indirectly / negative (β = - 0.039).
Board Gender Diversity	Firm Value (Tobin's Q)	Indirectly / Positive (β =.09).	Directly / Positive (β =.23).
Board Meetings	Firm Value (Tobin's Q)	Directly / Positive (β =.20).	No Impact
Committees' Effectiveness	Firm Value (Tobin's Q)	Indirectly / Positive (β =0.073)	Indirectly / negative (β = - 0.027).
Ownership Structure	Firm Value (Tobin's Q)	Indirectly / Positive (β =0.021)	No Impact
External Audit Quality	Firm Value (Tobin's Q)	Indirectly / Positive (β =0.16)	Both directly (β =0.35) and indirectly (β = -.062 + -.034= -0.096) Total = Positive (β = .25).

Based on the results of Structural Equation Modelling (SEM) analysis as presented in Figures 5-1 (Industrial Sector), Figure 5-2 (Services Sector) and Table 5-9, discussions below shows the way each of the Corporate Governance variables impact Firm Value within both the Industrial and Services sectors.

5.6.3.1 **Board Independence**

The results of path analysis shown in Table 5-9 for the Industrial Sector support H3 which proposed that Corporate Governance will have a positive impact on Firm Value. These results reveal that the percentage of independent directors on the board for an industrial Jordanian listed firm has a positive indirect impact on Firm Value as shown by Tobin's Q factor via the mediating variable Risk Disclosure Quantity. This outcome supports the reports of (Kao et al., 2019) on Taiwanese companies, that Board Independence impact on Tobin's Q is significant and positive. This emphasis is also supported by the Agency theory which

proposes that board members should be independent to be able to oversee the executive management in order to reduce the cost of the agency problem (Kanakriyah, 2021; Puni, 2015) . However, this outcome contradicts the findings of Agrawal and Knoeber (1996) and Yermack (1996) that the percentage of independent directors negatively affects Tobin's Q. On the other hand, for the Services Sector, the results of path analysis of this research presented in Table 5-9 does not support H3. It does show that the percentage of independent directors on the board has no significant impact on Firm Value. The results of Services Sector path analysis supports the findings of Dahya et al. (2019) and Prevost et al. (2002) cited in Kao et al. (2019) that Board Independence has no significant impact on Firm Value. These diverse observations in different sectors (Industrial and Service) show that the impact of Board Independence on Firm Value (Tobin's Q) is impacted by the industry in which a company operates. The proportion of the independent directors of the board tends to increase Firm Value of Jordanian Industrial companies while it has no significant impact on Firm Value of the Jordanian Services companies. The possible explanation for this could be the nature of the Industrial companies that involves more complex operations which may benefit from the presence of more independent directors with diverse expertise.

5.6.3.2 **Board Members' level of Education**

The path analysis results for the Industrial Sector as illustrated in Figure 5-1 and summarized in Table 5-9, support the proposition of H3, that Corporate Governance will have a positive impact on Firm Value. The results determine that Board member Education has both direct and indirect impact on Firm Value. The indirect impact is mediated through Risk Disclosure Quality. The results indicate that the number of directors on the board holding higher degrees has a positive but moderate impact on Firm Value. Therefore, the results of this thesis for the Industrial Sector support the conclusion of Ngo et al. (2019) that companies with board members holding post-graduate degrees are correlated with better Tobin's Q values. Similarly, these research results are consistent with the findings of Bertrand and Schoar (2003); Cheng et al. (2010) and Aldhamari et al. (2020) reporting a positive correlation between board members' level of education and firms performance including

For the Services Sector, the results of this study contradict H3. These results, as illustrated in Figure 5-2 and summarized in Table 5-9, indicate that, for Jordanian listed Services companies, the percentage of board members with a master's degree or higher (Board Education) has a direct negative impact on Firm Value ($\beta = -0.19$), that is more directors on the board holding higher degrees is associated with lower Firm Value (Tobin's

Q). These results are consistent with the findings of Kanakriyah (2021) and Shubita (2020) referring the negative association between Board Education and Tobin's Q in Jordanian family-controlled companies to the policy adopted in such companies amount to nepotism (Wasta) where relationship is the driver to appoint some board members. Another way to explain the negative association between Board Education and Firm Value is that less performing companies tend to appointment highly educated directors as an attempt to improve performance and Firm Value. Better educated board members are seen to be able drive companies performance (Dragoni et al., 2014).

5.6.3.3 **Board Size**

Table 5-8 shows the results of this research for the Industrial Sector. These results show that Board Size has a significant high negative impact on Firm Value. That is the number of directors on the board has a high direct negative impact on Firm Value. This contradicts H3 proposition that Corporate Governance to have positive impact on Firm Value. Also, the results of this research presented in Figure 5-1 and summarized in Table 5-8, reveals that, for the Services companies, Board Size can indirectly impact Firm Value through Risk Disclosure Quantity, even though there is no significant direct impact of Board Size on Firm Value. This negative correlation between Board Size and Firm Value in both sectors is consistent with Bataineh et al. (2019) and Kao et al. (2019), but contradicts Abdul and Qaisar Ali (2019), Puni and Anlesinya (2020) and Kanakriyah (2021).

5.6.3.4 **Board Gender Diversity**

The results of this research show a positive correlation between Board Gender Diversity and Firm Value in both sectors. These results support the H3 proposition that Corporate Governance will have a positive impact on Firm Value. For the Industrial Sector, the results illustrated in Figure 5-1 and summarized in Table 5-8 shows that the existence of females on the board of industrial Jordanian listed companies is not directly linked to Firm Value, but it is influencing Firm Value indirectly (small positive impact) through Risk Disclosure Quantity and Risk Disclosure Quality. Similarly for the Services Sector, Table 5-8 shows that Board Gender Diversity has a positive impact on the Firm Value of the Jordanian listed Services companies, as indicated this impact is direct and moderately strong compared to the indirect but smaller impact for the Industrial companies. These positive correlation results in both sectors support the findings of Carter et al. (2003); Ngo et al. (2019) and Agyemang-Mintah and Schadewitz (2019) that the existence of female board members is positively associated with Firm Value as shown by Tobin's Q factor.

5.6.3.5 **Board Meetings**

Table 5-9 shows that, for the industrial Jordanian listed companies, board meeting frequency has a relatively high direct positive impact which supports the H3 proposition that Corporate Governance has a positive impact on Firm Value. These empirical results support the outcomes of Puni and Anlesinya (2020) and Bataineh et al. (2019). This parallels the agency theory proposition that Board Meetings boost the ability of the company board to direct and oversee managers and drive corporate performance (Ntim & Osei, 2011). But, these results contradict the outcomes of Danoshana and Ravivathani (2019) who report a negative correlation between yearly number of meetings and firm. However, for the Services companies, the results of path analysis presented in Figure 5-2 show that the number of annual Board Meetings impact on Firm Value is not statistically significant. This provides empirical evidence that the sector in which companies carry out business drives the way Board Meetings frequency affects Firm Value.

5.6.3.6 **Committees' Effectiveness**

Figure 5-1 shows the research results for the Jordanian Industrial Sector companies. The results reveal that Committees Effectiveness has a significant yet small indirect positive impact on Firm Value. These results are consistent with H3 which proposes a positive correlation between Corporate Governance variables and Firm Value. That is the existence and the quality of Audit Committee (AC), Nomination and Remuneration Committee (NRC), Governance Committee (GC), and Risk Management Committee (RMC) in addition to the existence of any Special Task Committee can indirectly impact Firm Value, even though there is no significant direct impact of Committees' Effectiveness on Firm Value. This contradicts the outcomes of Puni (2015) that board committees impact on corporate performance in a statistically non-significant way. On the other hand, for the Services Sector, the results of this research shown in Table 5-8 reveal a negative indirect impact of Committees' Effectiveness on Firm Value. This contradicts with H3 but supports the findings of Puni and Anlesinya (2020). These results add to the empirical evidence that the industry in which a firm conducts business drives the manner in which its Committees' Effectiveness affects Firm Value as shown by the Tobin's Q factor.

5.6.3.7 **Ownership Structure**

The path analysis results for the Industrial Sector shown in Figure 5-1 and summarized in Table 5-8 reveal that Ownership Structure has a small positive indirect impact on Firm Value. This supports the proposition of H3 that Corporate Governance will have a positive impact on Firm Value. But, as explained earlier in Chapter 3 under the Data Measurement Section, Ownership Structure is captured using both Block Holdings and Managerial Ownership. Hence, interpreting the results shown in Figure 5-1 considers the fact that the scale used to capture Managerial Ownership is reversed. For the Jordanian listed Industrial companies, the positive association between Ownership Structure and Firm Value confirms a positive correlation between Firm Value and Block Holdings and a negative correlation between Firm Value and Managerial Ownership. In other words, Block Holdings where two or more stockholders of 5% or more tend to add to (a positive impact) Firm Value of Jordanian Industrial companies. This supports the outcomes of Puni and Anlesinya (2020), Kao et al. (2019) and Rostami (2015), but contradicts Dakhlallh et al. (2019). However, the shareholding proportion owned by managers and executive directors and their direct relatives has a negative impact on Firm Value of Jordanian Industrial companies. This supports the findings of Namazi and Kermani (2013) that Management shareholdings impact on Tobin's Q of the Tehran listed companies and is significantly negative.

On the other Hand, the findings of this research for the Services companies presented in Figure 5-1 and summarized in Table 5-9, reveal that Ownership Structure has no significant impact on Firm Value. This contradicts the third hypothesis of this thesis (H3), and it is also contradicts other studies that confirmed a significant correlation between Ownership Structure and Tobin's Q ratio including Puni and Anlesinya (2020), Kao et al. (2019), Rostami (2015) and Dakhlallh et al. (2019). These results provide empirical evidence that the sector in which a company operates tends to drive the impact of Ownership Structure on Firm Value of Jordanian companies.

5.6.3.8 **External Audit Quality**

External Audit Quality represents an average score of the company Audit Fees, Non-Audit Fees and Auditor Quality. A higher External quality score means that the company pays Audit Fees at a level greater than the industry average, the company do not pay Non-Audit Fees and employ one of the big 4 auditors. The research path analysis results for the Industrial Sector presented in Figure 5-1 and summarized in Table 5-9, supports H3 which proposes that Corporate Governance will have a positive impact on Firm Value. Even though the results show that External Audit Quality doesn't impact Firm Value directly, External

audit has a positive indirect impact via Risk Disclosure. This result fits in with the Signalling theory which indicates that companies send messages to the market about the quality of their audit (Sayyar et al., 2015). This result also supports the findings of Al-ahdal and Hashim (2022) that External Audit Quality can have a positive impact on Tobin's Q, and supports the outcomes of Martinez and da Jesus Moraes (2014) that Audit Fees correlates positively with Tobin's Q while non – audit fees correlates negatively with Tobin's Q.

For the Services Sector, Table 5-8 shows that External Audit Quality can impact Firm Value directly and indirectly. That is the External Audit Quality for the Jordanian listed Services companies has a positive moderate direct impact on Firm Value (β =.35), in addition to the small indirect negative impact through both Risk Disclosure Quantity and quality (β =-0.138).This negative impact is mediated via Risk Disclosure and can be explained with the negative association between Risk Disclosure Quality and Firm Value of the Services companies. Regardless of this, the total effect of External Audit Quality on Firm Value of the Services companies is positive (β =.35-.138=.212). Overall, the result supports H3 which proposes that Corporate Governance will have a positive impact on Firm Value. These results for both sectors contradicts Monametsi and Agasha (2020) which reported that Audit Quality association with Tobin Q is non-significant.

5.6.4 Mediated Impact

The results of this research summarised in Table 5-9 underscore the central role of Risk Disclosure mediating the impact of particular Corporate Governance variables within the Industrial and the Services sectors. For the Industrial Sector, the findings reveal positive indirect impacts of the respective Corporate Governance variables are all mediated through risk disclosure, notably Board Independence, Board members' level of education, Board Gender Diversity, Board Committees' Effectiveness, Ownership Structure, and External Audit Quality. On the other side, for the Services Sector, the results show the negative indirect impacts of only three respective Corporate Governance variables, namely Board Size, Board Committees' Effectiveness, and External Audit Quality, are similarly mediated through Risk Disclosure. The divergent outcomes between the two sectors suggests that the way Corporate Governance mechanisms interact with Risk disclosure and Firm Value may vary within different contexts. This also suggest that effectiveness of Corporate Governance practices and their contribution to Firm Value including the mediated impact via Risk Disclosure may depend on Sector-specific factors, and regulatory environment. The variation in the results between the two sectors indicates that Corporate Governance variables in the

Service Sector may not enhance Firm Value through Risk Disclosure Practices as observed in the Industrial Sector. Overall, this highlights the critical role of transparency and Risk Disclosure in mediating the impacts of Corporate Governance Variables through to the Firm Value within different industries contexts.

In summary, the results of this research shed light on the respective Corporate Governance mechanisms (Board Independence, Board members' level of education, Board Size, Board Gender Diversity, number of annual Board Meetings, Board Committees' Effectiveness, Ownership Structure, and External Audit Quality) and their correlation with Firm Value. The findings of this study reveal variations in the impact of the perspective Corporate Governance mechanisms on Firm Value, ranging from positive to negative impacts, with certain mechanisms showing no significant impact. Moreover, these effects vary across different sectors. This may contribute to the body of empirical evidence indicating the sector in which a company operates can influence the relationship between Corporate Governance Mechanisms and Firm Value. In addition, the results emphasize the impact of the individual Corporate Governance variables on Risk Disclosure and the subsequent impact of Risk Disclosure (Quantity and Quality) on Firm Value, acting as a mediator for the impact of Corporate Governance on Firm Value. Despite variations in the correlation between each Corporate Governance variable, Risk Disclosure (Quantity and Quality), and Firm Value, ranging from positive to negative and direct to indirect, the mediated impact of corporate governance on Firm value persists, whether through Risk Disclosure Quantity or Risk Disclosure Quality highlighting the central role of Risk Disclosure in driving firm value creation within Different industrial contexts.

5.6.5 Control Variables

This study acknowledged that variables other than the Corporate Governance variables impact Firm Value. These other variables are termed Control Variables including Company Size, Company Age, Leverage, Liquidity and Profitability. The utilization of Structural Equation Modelling (SEM) for data analysis facilitates incorporating these variables in this research and allows simultaneous examination, according to (Byrne, 2016; de Marco et al., 2009; Hair Jr et al., 2021), of Control Variables, Corporate Governance, risk Disclosure, and Firm Value.

Figure 5-3, which is reproduced from Figure 4-1 in Chapter 4 for, presents the Trimmed Empirical Path Model including the impact of the Control Variables on Firm Value and Risk Disclosure within the Industrial Sector. The findings for Industrial companies

presented in Figure 5-3 indicate that Profitability exerts the greatest influence on Firm Value, followed by Leverage and then Liquidity, each directly impacting Firm Value. Conversely, Company Size and Age impact Firm Value indirectly through Risk Disclosure.

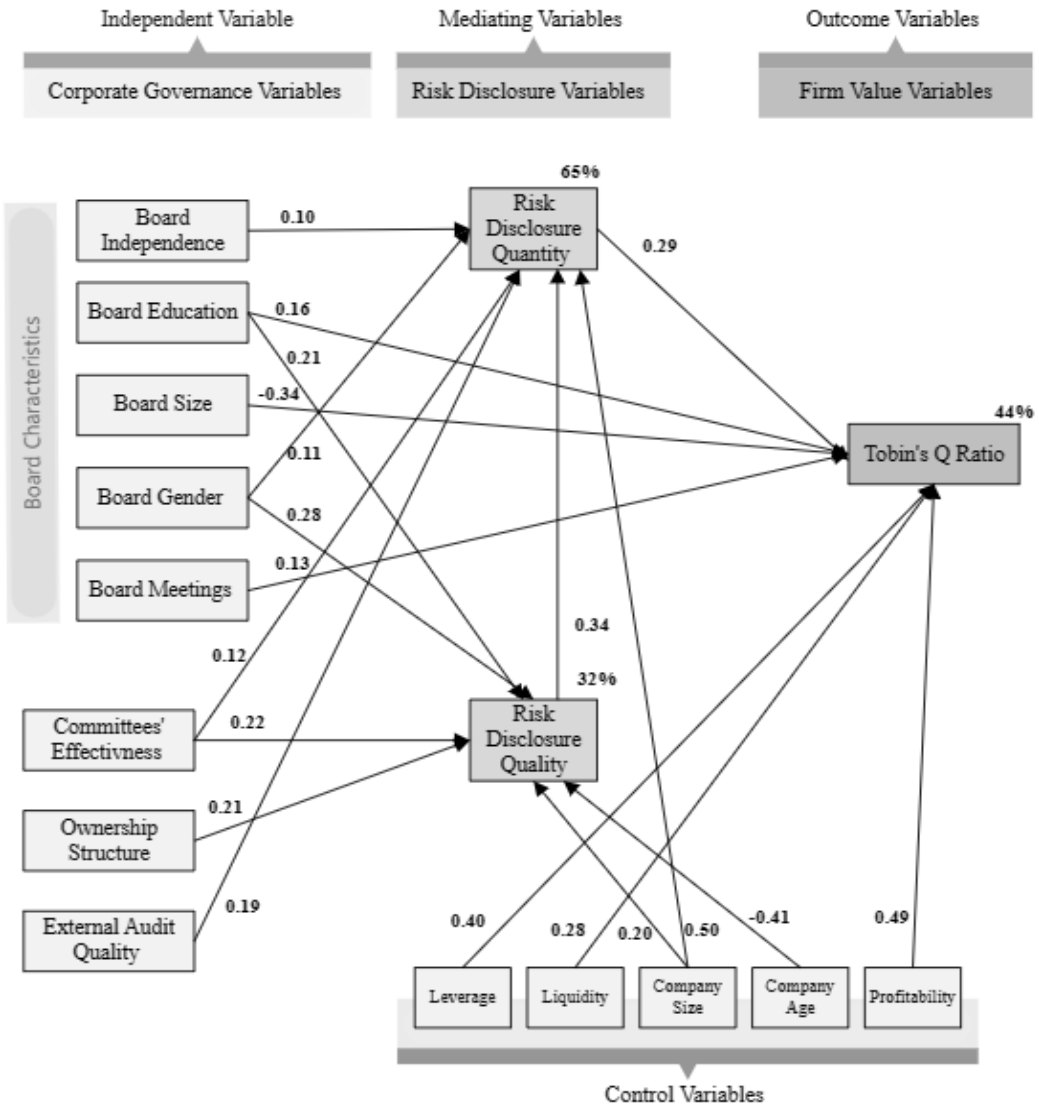


Figure 5-3

Trimmed Empirical Path Model including Control Variables - Industrial companies (Reproduced from Figure 4-1 in Chapter 4).

Figure 5-4, which is reproduced from Figure 4-3 in Chapter 4, presents the Trimmed Empirical Path Model including the impact of the Control Variables on Firm Value and Risk Disclosure within the Service Sector. The analysis results for the Service Sector presented in

Figure 5-4 show that Profitability has the strongest impact followed by Company Age then Leverage. While Leverage impacts firm directly, Profitability and Company Age impact Firm Value both directly and indirectly through Risk Disclosure. However, Liquidity and Company Size impacts on Firm Value impact indirectly through Risk Disclosure.

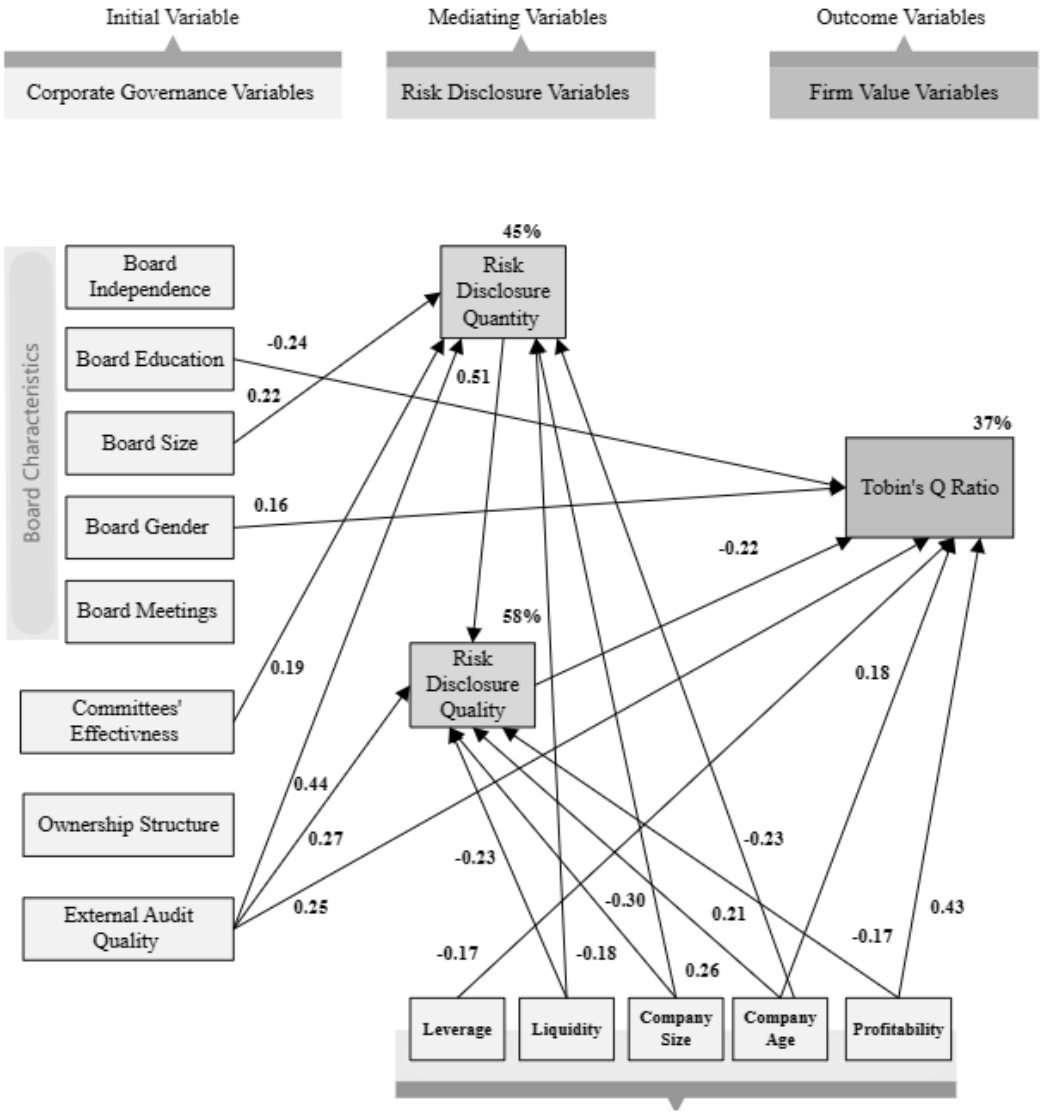


Figure 5-4

Trimmed Empirical Path Model including Control Variables - Service Companies (Reproduced from Figure 4-3 in Chapter 4).

The results for each of the control variables and across both the Industrial and the Services sectors are discussed in more detail below:

Company Size The results of this research presented in Figures 5-3 and 5-4 indicate that Company Size seems to have a positive effect on Firm Value of the Jordanian companies in both sectors, but the effect is slightly stronger in the Industrial Sector. These findings of

positive impact on Firm Value are in agreement with the findings of Bandanuji and Khoiruddin (2020) and Reschiwati et al. (2020). Moreover, the results show that the larger the industrial company is the more risk information (quantity and quality) is released. These findings find support in both Agency and Signalling theories as larger sized companies must provide higher level of information to various stakeholders which reduces the problem of agency expenses and lower information asymmetry (Elzahar & Hussainey, 2012). Unlike Industrial companies, larger Service Companies tend to prioritize the quantity of information disclosed over the quality. Usually, larger Service companies are interacting with a larger stakeholder base which may drive the companies to choose to address their varied interests and expectations leading to focus on quantity not quality. In addition, considering the nature of the industrial companies, they tend to have more impact on the environment and the community in which they conduct their business, according to Alkayed and Omar (2023), which may explain their focus on the quality of information disclosed.

Company Age: Figure 5-3 shows that, for the Jordanian Industrial companies, Company Age shows a negative indirect impact on Firm Value through Risk Disclosure Quality. However, for the Service Companies, Figure 5-4 shows that Company Age impact on Firm Value took both direct and indirect paths with a positive aggregate impact. This implies that the age factor contributes positively to the Firm Value of the Jordanian Service Companies, while conversely impacting Jordanian Industrial companies. These results may be explained by the variation between the assets intensity of the Industrial companies as compared to Services companies. The nature of the Industrial companies requires much more tangible assets including machinery and facilities which can be negatively affected by age through factors like depreciation and technology obsolescence. By contrast, the assets of Services companies are often more intangible where age can contribute positively to their value.

Leverage: The analysis of this research shows that Leverage exerts a direct impact on Firm Value for Jordanian companies in both sectors. Nevertheless, the impact is positive for the Industrial companies (See Figure 5-3) and negative for the Services companies (see Figure 5-4). This may be related to the nature of Industrial companies that often require more tangible assets, compared to the Services companies, which may require relying on finance to acquire and maintain these assets. These assets can contribute to companies' production capability and positively add to Firm Value. Services companies by comparison often do not hold significant tangible assets so that borrowing based on those assets is often seen as a negative variable that might correlate negatively with firm value.

Liquidity: The results of this research presented in Figure 5-3 and Figure 5-4 show that Liquidity has a positive impact on Firm Value of Jordanian companies in both industrial and Services Sectors. The positive impact of Liquidity on Firm Value is evident. Reschiwati et al. (2020) highlights that, the company ability to convert assets into cash is an indication to investors that the company owns the resources to overcome unforeseen events which in turn contributes positively to the company Firm Value. The average Liquidity percentage for the Jordanian Services companies is (1397.23%) which is nearly five times the average Liquidity percentage for the Jordanian Industrial companies (275.04%). This could be related to the manufacturing companies that rely more on tangible assets including facilities, machinery and inventory compared to the Services companies. Nevertheless, the impact of Liquidity on Firm Value for the Industrial companies is direct, while in the Services Sector, it follows indirect paths through Risk Disclosure Quantity and Risk Disclosure Quality with a negative impact on both risk areas. These indirect paths show that Liquidity reduces risk information released (quantity and quality) by the Jordanian Services companies. This shows that Jordanian Services companies does not put a high priority on Risk Disclosure as excessive Risk Disclosure can be seen negatively by creditors and investors.

Profitability: The results of this research reveal that the Profitability the impact on Firm Value is moderate and positive for the Jordanian companies in both sectors (Industrial and Service). Nevertheless, Figure 5-3 shows, for the Industrial companies, the impact is direct, whereas Figure 5-4 shows that, for the Services companies, the impact is both direct and indirect. This indirect impact on Firm Value occurs through a pathway involving a negative impact on Risk Disclosure Quality. This indicates that more profitable Jordanian Service Companies tends to publish less quality disclosure leading to higher Firm Value (β = -0.17*-0.22 = 0.037). This may be explained by the idea that more profitable companies are less concerned with producing detailed disclosures as their success is highlighted in their financial statements.

To recap, the results of this research reveal that, for the Industrial Sector, Leverage, Liquidity, and Profitability show notable direct positive impacts on Firm value, while Company Size indirectly influences Firm value through Risk Disclosure. Conversely, Company Age had a small significant negative impact on firm Value. In the Services Sector, on the other hand, Leverage had a relatively small direct significant impact on Firm Value. Both Profitability and Company Age have a considerable positive direct impact on Firm value with a small positive indirect impact via the mediating variable Risk Disclosure. Moreover, Company Size and Liquidity have a small positive indirect impact on Firm value.

The findings of this research highlight variation in the relationship between Control Variables and Firm value across different sectors. This may be related to variation in company structure, business model, competition, regulatory environments, and operational characteristics between companies operating in the Industrial Sector and those operating in the Service Sectors.

5.7 Chapter Summary

With the results now presented, this chapter takes the thesis into the discussion phase and delivers a comprehensive interpretation of the results obtained from ANOVA's, t test and SEM analysis. The chapter starts with restating the thesis main aim and the methods and tools used to analyse the data. The chapter then offers an insight into the research variables, and discusses in detail the results for Corporate Governance variables (board characteristics, board committees' effectiveness, Ownership Structure and External Audit Quality), Risk Disclosure Quantity and quality, and also discusses the results of Tobin's Q ratio as a proxy of Firm Value. The chapter explores the significance of the results and also explores the similarities and differences in the results obtained from testing the final empirical model against the data generated from Industrial companies to the ones obtained from the Service Companies. The chapter also discusses the outcomes variation before and after the implementation of the 2017 Jordanian Corporate Governance directives. After that, this chapter explores the meaningfulness of the correlations between research variables and discusses the outcomes of the SEM analysis. The chapter discusses the findings of the SEM analysis with regards to the research aims and research hypotheses. This chapter considers and explores the impact of control variables on the relationships between the respective Corporate Governance variables, Risk Disclosure variables, and Firm Value.

CHAPTER 6: CONCLUSION

6.1 Introduction

Chapter 6, the final chapter of this thesis, integrates the lines of this thesis to address the objectives, aims and hypotheses of this research. It provides a comprehensive overview of this thesis, restating the research objectives, aims, hypotheses and methodology. This chapter builds on the discussion and observations of the previous chapter exploring the importance of the connections found between variables in order to delve into the implications of those relationships. The chapter then, revisits the research objective and aims, and provides a detailed breakdown on how the research has met these objectives and aims, and explores the implications for the research outcomes. After that, the chapter presents and explains the contributions made by this research, and outlines the research recommendations to corporate practice. Further, the chapter highlights the research limitations, and evaluates their impact on interpreting the results. Finally, the chapter addresses the potential future research avenues to investigate and concludes with a summary presenting the main points covered.

6.2 Review and Summary

Financial scandals and companies collapse show that mismanagement and breach of Corporate Governance practices can lead to heavy financial losses to the shareholders and the economy as a whole. The motivation for this research is twofold. Firstly, to provide information to capital market regulators and secondly to add to the body of literature relating to corporate governance and risk disclosure. Information can be gained by exploring the role of Corporate Governance practices in enhancing the transparency of Risk Disclosure and the impact of that on shareholders' value and stakeholders trust. Exploring the impact of the Jordanian Corporate Governance directives of 2017 had on Risk Disclosure practices and shareholders' value in Jordan can provide implications on how companies react to the move from the comply or explain approach of Corporate Governance to the must comply approach (enforced by law) and the impact of that on the companies Firm Value.

The manner in which companies are governed shapes both the future of companies and that of the entire economy (Gavrea & Stegerean, 2011, p. 674). Implementing effective Corporate Governance practices can reduce economic risks and enhance the trust in both the corporate sector and the financial markets (Algoere & Hasani, 2019). The main objective for this research is to provide insight not only into the direct impact of Corporate Governance on

Firm Value but also that mediated via Risk Disclosure. This study is conducted with a focus on the emerging capital market of Jordan for five years covering the time period from 2015 to 2019. The data for this research is generated from the annual reports of the listed Jordanian companies, excluding the financial companies.

This research, as set out in Chapter 2, reviews the existing body of the literature on Corporate Governance, Risk Disclosure and the Corporate Governance framework in Jordan. To date and to the best knowledge of this researcher, no studies have developed models and employed Structural Equation Modelling (SEM) to explore the impact of Corporate Governance mechanisms on Firm Value, particularly considering the potential impact mediated through Risk Disclosure, especially within the emerging capital market of Jordan.

This research, in Chapter 2 under Corporate Governance Section, discusses the Corporate Governance framework in Jordan which is shaped with the Security Law no 76 of 2002 and the latest Corporate Governance Directives for listed companies of 2017. The Jordanian directives of Corporate Governance issued in 2017 are enforced by the law and all listed companies are compelled to adhere to the Corporate Governance mechanisms embedded within the articles of the directives. This research considers all Corporate Governance mechanisms contained within the Jordanian Corporate Governance directives of 2017. The adoption of legally mandated Corporate Governance practices means that companies are expected to similarly apply the Corporate Governance Mechanisms embedded within in theses directives. However, some articles in the directives allow for some variation when applied by different companies. In the section ladled Corporate Governance Mechanisms there is an explanation that while some articles within the directives permit companies to interpret and apply them differently, other articles do not provide a room for variations. The articles that are expected to be applied uniformly across companies do not offer valuable information for analysis. In statistical analysis, uniform application of articles across companies means that there is a little to no variability in the data regarding those specific articles. When there is no variability, it becomes challenging to draw meaningful conclusions or detect patterns because all observations are the same. Therefore, Corporate Governance mechanisms within the articles of these directives that do not provide room for variation in their application are not considered in this research. Instead, attention is directed towards Corporate Governance mechanisms embedded within the provisions of these directives that allow for variation in application across different companies. This research determines the following Corporate Governance mechanisms to be applied and researched: Board of Directors' Characteristics (Board Independence, Members Level of Education,

Board Size, Board Gender Diversity, and Board Meetings frequency), Board Committees' effectiveness, Ownership Structure, and External Audit Factors (Auditor Quality, Audit Fees, Non-Audit Fees).

In Chapter 2 under the Theoretical Framework Section, reviews the respective Corporate Governance theories (Agency Theory, Signalling theory, Stewardship theory, Stakeholders' theory, Capital gain theory, Institutional theory, Legitimacy theory, Recourse Dependency theory) in order to link the theory to the objectives of this thesis. This research adopts Agency theory as the main theory used supported by Signalling theory, Stakeholder theory and Legitimacy theory. Agency theory highlights the issue of conflicts of interest that may arise between managers and shareholders and suggests that implementing disclosure practices can show that managers are acting in the best interests of the owners. These theories are employed to establish an understanding of the relationships between the research components in order to explore the primary objective of this research which is to investigate the effect of Corporate Governance on Firm Value including the impact mediated via Risk Disclosure.

Based on the related theories and considering the literature review, this research, in Chapter 3 under the Initial Research Model Section, builds an initial detailed research model which provides a comprehensive picture of for the correlations among the respective research variables. This research employs Structural Equation Modelling (SEM) to capture the strength and the direction of these relationships (Paths) between the research variables. This initial theoretical model is adjusted to incorporate the use of Structural Equation Modelling (SEM) which resulted in developing the theoretical pathway model which shows the connections between the research variables.

This study also produces data from the narrative of annual reports of Jordanian companies using the content analysis method over a time period of five years (2015 -2019). This period covers the two years before and two years after the CG directives for listed companies in 2017 which took CG regulations in Jordan from the comply or explain method into the must comply approach (enforced by law). There were a total of 75 Jordanian listed companies on the Amman Stock Exchange, comprising 41 service companies and 34 industrial companies (ASE, 2023). This study collected data from all 34 industrial companies (100% of the total) and 37 service companies (90% of the total) listed on the ASE in 2023.

In Chapter 3 under the Research Model Evolve Section, the initial empirical model of the industrial sector and the Service sector are constructed through testing the final theoretical

model, presented in Figure 3-5, against the empirical data of both the industrial and the Service sectors using SEM analysis in AMOS 26 software. The model is then refined by removing non-significant paths and keeping only those statistically significant at the 0.05 level leading to an optimum model with very good fit to the data collected, as indicated by the fit statistics (Chi square, Root Mean Squared Error of Approximation, Normed Fit Index, Comparative Fit Index, Incremental Fit Index and Tucker–Lewis Index). Then, trimmed empirical path models are developed for this study, one to analyse the data of the companies in Industrial sector and the second for the companies in the Service companies.

6.2.1 Summary of Findings

The results of this research are presented with reference to the prior research, revealing where the results support or contradict previous studies, while also indicating how these results contribute to the existing body of knowledge. This research, in Chapter 4 under the Research Variables Descriptive Statistics Section, provides insight to the features of the dataset including its central tendency, variability and distribution. Further, each of the respective research variable's score was compared before and after the introduction of the Jordanian Corporate Governance Directives of 2017 providing an evaluation of the effectiveness of introducing the Jordanian 2017 mandatory Corporate Governance Directives. Likewise, the results are compared across both the Industrial and the Services sectors. Summary for the main findings for the research variables and the relationships between them across both Sectors are presented below.

6.2.1.1 Corporate Governance Variables

The main findings for the Corporate Governance variables across both Sectors are summarised under the headings below.

6.2.1.1.1 Board Characteristics

The findings for the Board Characteristics variables utilised in this research are outlined as follows. In terms of Board Independence (IndepDir), the analysis shows that, the Industrial Sector has a slightly higher board independence rating compared to the service sector, but this difference is not statistically significant. In addition, board independence of the Jordanian companies statistically and significantly improved after the introduction of the directives. With regards to the connections of Board Independence with Firm value and Risk Disclosure, the finding highlights that, for the Industrial companies, there is no direct significant impact of Board Independence on Firm value as shown by Tobin's Q factor.

Instead, the impact is significant but indirect through Risk Disclosure Quantity, with no impact on Risk Disclosure Quality. Conversely, in the case of Service companies, the results do not demonstrate any significant impact of Board Independence on either Firm Value or Risk Disclosure (Quantity and Quality).

Regarding the education levels of board members (DirEdu), the findings reveal variances in both the Services and Industrial sectors. Moreover, the mean education level of board members in the Industrial Sector is slightly higher than that of the companies in the Services sector, although this difference is not statistically significant. The introduction of the Jordanian Corporate Governance Directives of 2017 led to a reduction, though not statistically significantly, in the number of board directors with higher education. In terms of the relationships between Board Education and other variables, the results reveal variability in these relationships across different sectors. For the Industrial sector, having more directors with higher education levels moderately enhances Firm Value, both directly and indirectly through positive and a significant impact on Risk disclosure. On the other hand, in the Services sector, the results suggest a direct negative impact on Firm Value, and there is no significant relationship with Risk Disclosure.

The results of this research reveal variation in Board Size (BoardSiz) across companies in both the Industrial and the Service Sector. The average Board Size in the Industrial Sector is slightly lower than found in the Services Sector with some companies in the Industrial Sector not following the Jordanian Directives of minimum Board Size of 5 members and formed a Board with only 4 members. The implementation of Jordanian Corporate Governance Directives of 2017 led to a very slight reduction in the average size of the Board of Directors. In terms of the relationships of Board Size with other respective research variables, the research findings affirm that a higher Board Size can reduce Firm Value in both the Industrial and the Services Sectors. However, while the impact is moderate and direct in the Industrial Sector, it is slight and indirect in the Services Sector through Risk Disclosure. This highlights the variation in the impact of Board Size on Risk disclosure, as the number of directors on The Board of Jordanian Industrial companies fails to show any significant influence on both Risk Disclosure Quantity and Quality. Meanwhile, for the Service companies, larger Board size can increase both Risk Disclosure Quantity and Quality.

In terms of Board Gender Diversity (GNDR), the findings reveal that 21% of the Jordanian Industrial companies appointed a female to their boards during the period 2015-2019, whereas 29% of the Service companies had a female representation on their Board of Directors. This is reflected in the smaller mean Industrial Gender Diversity for the Industrial

companies compared to that of the Service companies. After the implementation of the Jordanian Directives of 2017 the number of females appointed to the Board of Directors slightly increased, although this increase is not statistically significant. The findings show that the presence of females on the Board of the companies in both the Industrial and the Services sectors can add to their Firm Value. However, while the impact is slight and indirect in the Industrial Sector, it is moderate and direct in the Services Sector. In addition, the results show, for the Industrial companies, the presence of females on The Board can increase both Risk Disclosure Quantity and Quality. Meanwhile, for the Service companies, the results fail to show any significant influence of Gender Diversity on either Risk Disclosure Quantity or Quality.

With regards to Board Meetings (BMeetngs), the analysis of this research shows that a few companies in both sectors did not adhere to the Corporate Governance Directives of 2017 and conducted less annual Board Meetings than the minimum requirement of 6 meetings a year. The results also show that the mean yearly Board Meetings in the Industrial sector is significantly less than of these in the Service Sector. However, the Industrial Sector shows less variation in the frequency of yearly board meetings among its companies compared to that in the Services Sector. In addition, the results reveal that the implementation of the Jordanian Directives of 2017 is correlated with higher annual Board Meetings, although this increase in Board Meetings is not statistically significant. The findings of this research indicate that higher number of yearly Board Meetings can add to the Firm Value of the companies in the Industrial sector. However, the results of this research failed to find any significant impact of the number of the annual Board Meetings on Firm Value of the companies in the Services Sector.

This research aggregates the scores of the respective Board Characteristics to measure the overall Board quality (BOARDQUL) on a scale of 1-5. The findings of this research show that, the companies in the Services Sector have a better overall Board Quality compared to that for the companies in the industrial sector. Furthermore, the findings reveal that the introduction of the Jordanian Directives of 2017 is correlated with a significantly higher Board Quality for companies in both sectors. The results reveal that enforcing Corporate Governance Directives through legal mandates improves the companies' Board Quality. This can add to empirical evidence on Corporate Governance Regulatory Interventions and supports introducing mandates of Corporate Governance practices that may improve the companies' Board Quality which in turn is most likely to positively impact companies Firm Value.

6.2.1.1.2 Board Committees' Effectiveness

The results of this research reveal that Board Committees' Effectiveness (COMTSEFF) mean scores in both the Industrial and the Services sectors tend to be closer to the upper end of the scale with only few falling below the midpoint 2.5. The results also indicate that the mean Board Committees' Effectiveness in the Industrial Sector is slightly higher than of that in the Services Sector. Furthermore, the findings reveal that there is improvement in Board Committees' Effectiveness for companies in both the Industrial and the Services sectors following the implementation of Jordanian Corporate Governance Directives of 2017. The analysis of this research also shows that more effective Board Committees moderately increase both Risk Disclosure Quantity and Quality in the annual reports of both the Service and Industrial companies. However, the results failed to show any significant direct impact on Firm Value. Furthermore, more effective Board Committees indirectly contributes to the Firm Value of the Jordanian Industrial companies, whereas, for the Jordanian Service Companies, more effective Board Committees indirectly diminish their Firm Value. This adds to the empirical evidence that highlights the divergent responses of companies in different sectors to Corporate Governance mechanisms which may necessitate different Corporate Governance practises across different sectors.

6.2.1.1.3 Ownership Structure

The findings of this thesis indicate that, companies within both the industrial and service sectors have high levels of concentrated ownership, with approximately 18-19% of shares owned by senior managers and their families. Additionally, there are, on average, 3-4 Majority Shareholders holding 5% or more of the company shares within both the Industrial and the Services sectors. This highlights the importance of having more independent directors on the board in order to protect the interests of minority shareholders. This research found that the implementation of the Jordanian Corporate Governance Directives of 2017 didn't have any significant influence on the Ownership Structure (newOWNST) of the Jordanian listed companies in both the Industrial and the Services sectors. The analysis also reveals that higher Ownership Structure can increase both the Quantity and the Quality of Risk Disclosure, indirectly contributing to Firm value of in the Industrial Sector. However, in the Services Sector the analysis fails to reveal any impact of Ownership Structure on either Firm value or Risk Disclosure.

6.2.1.1.4 External Audit Quality

This research reveals that External Audit Quality (EXAQUL) for the Jordanian listed companies tends to be slightly and non-significantly higher for the Service Companies than of those for the Industrial companies. This research found that the implementation of the Jordanian Corporate Governance Directives of 2017 did not have any significant influence on the External Audit Quality of Jordanian listed companies in both the Industrial and the Services Sectors. In terms of the relationships of External Audit Quality and the other research variables, the analysis of this research reveals that higher External Audit Quality can increase the quantity of Risk Disclosure, though not the quality, indirectly contributing to Firm value of in the Industrial Sector. However, in the Services Sector, the analysis indicates that External Audit Quality has the potential to increase Firm Value both directly and indirectly. Moreover, Audit Quality can enhance both the quantity and the quality of risk information disclosed.

In summary, the findings of this study reveal variations in the impact of the perspective Corporate Governance mechanisms on Firm Value, ranging from positive to negative impacts, with certain mechanisms showing no significant impact. Moreover, the variability of these effects across different sectors suggests that the sector in which a company operates can influence the relationship between Corporate Governance mechanisms and Firm Value.

6.2.1.2 **Risk Disclosure Variables**

For risk disclosure Quantity (RiskQun), the results of this research uncovered that, when comparing the average number of risk sentences included in the annual reports of Jordanian listed companies, there is a minimal difference between the Industrial Sector and the Services Sector. Specifically, the Industrial Sector includes an average of approximately 84 risk sentences, while the Services Sector includes an average of 86 risk sentences. However, the variation across sectors is evident in the range of risk disclosure reported in addition to the considerable variation in the number of Risk Disclosures among companies within each sector. In the Industrial sector, the reported number of risk sentences ranges from a minimum of 4 sentences to a maximum of 363 sentences, whereas in the Services Sector, it ranges from 17 to 195 sentences. This variation may be explained by the impact of other factors (Company Size, Company Age, Leverage, Liquidity and Profitability). Furthermore, the enforcement of the Jordanian mandatory Corporate Governance Directives of 2017 appears to have a positive impact, leading to an increase the quantity of risk information disclosed in both the Industrial and the Services sectors, this increase is more noticeable in

the Services Sector. In terms of Risk Disclosure Quantity relationships with other variables, the analysis of this research reveals that higher Risk Disclosure Quantity can directly enhance Firm Value of the companies in the Industrial Sector. Furthermore, Risk Disclosure Quantity mediates the indirect impact of Corporate Governance variables on Firm Value, except for Board Size, which fail to demonstrate any impact on Risk Disclosure Quantity. However, in the Services Sector, the results of this research indicate that higher Risk Disclosure Quantity can significantly and indirectly reduce Firm Value by increasing Risk Disclosure Quality, subsequently leading to a reduction in Firm Value.

For Risk Disclosure Quality (RiskQul), the analysis of this research shows that, Jordanian companies cover approximately 15 out of 40 risk disclosure items in both the Industrial and Services sectors, with a slight, non-statistically significant difference in favour of the companies in the Industrial Sector. Additionally, the implementation of the Jordanian 2017 Corporate Governance directives contributed to the enhancement of the quality of risk information in the annual reports of Jordanian companies in both the Industrial and the Services sectors. In terms of the relationships between Risk Disclosure Quality and other variables, the analysis of this research reveals that higher Risk Disclosure Quality can increase the quantity of risk information disclosed in the annual reports of the Jordanian companies in the Industrial Sector, indirectly contributing to their Firm Value. However, in the Services Sector, the results of this research indicate that higher Risk Disclosure Quality significantly and directly reduces Firm Value.

6.2.1.3 **Firm Value**

The analysis of this research suggests that Jordanian Industrial companies show greater variability in Firm Values (TQRatio) compared to Jordanian Service companies, with Industrial companies tending to be slightly and significantly undervalued on average while Service companies are overvalued. The implementation of the 2017 Jordanian Directives impact on Firm Value shows variation across different sectors, although not statistically significant. While Firm Value rises for companies in the Industrial Sector, it declines for those in the Services Sector.

6.2.1.4 **Control Variables**

This study recognized additional factors that affect Firm Value, termed Control Variables, which include Company Size (Size), Company Age (Age), Leverage, Liquidity, and Profitability (Profity). The adoption of Structured Equation Modelling for the data

analysis enables this analysis to be carried out simultaneously with the Corporate Governance, Risk Disclosure, and Firm Value analysis. The results of this research reveal the differences across sectors in term of these Control Variables. For example, in the Jordanian Industrial Sector companies are usually older (Company Age) and have a smaller profit margin (Profitability) compared to those in the Services Sector. However, their size (Company Size), debt level (Leverage), and liquidity don't show significant differences across both sectors. Following the 2017 Corporate Governance directives implementation, there was a small and insignificant increase in average Company Size, Age, and Leverage ratio. However, the average liquidity and profitability ratios saw slight, insignificant decreases.

Considering how these variables interact with other research variables, the results of this research reveal a variation in the impact of different Control variables on Firm Value across different sectors. For the Industrial companies, the results indicate that all these variables can contribute to increasing Firm Value, except for Company Age, which indirectly reduces Firm Value. Profitability exerts the highest influence on Firm Value, followed by Leverage and Liquidity, each directly impacting Firm Value. Meanwhile, Company Size impacts Firm Value indirectly through Risk Disclosure. In contrast, the results for the Services Sector are more complex than those for the Industrial companies, the analysis reveals that Profitability holds the most significant influence, followed by Company Age and then Leverage. While Leverage directly and negatively impacts Firm Value, both Profitability and Company Age have a considerable positive direct impact and a small positive indirect impact, via the mediating variable Risk Disclosure, on Firm Value. However, Liquidity and Company Size have a small positive indirect impact on Firm value.

These results highlight the importance of considering other factors beyond Corporate Governance Variables when analysing the relationships between Corporate Governance, Risk Disclosure and Firm Value.

6.3 Conclusions

In pursuit of the main objective of this thesis which is to gain an understanding of the impact of Corporate Governance Mechanisms on Firm Value including the indirect impact mediated via Risk Disclosure in the emerging capital market of Jordan for the period of 2015 - 2019, this empirical research is structured around three specific research questions.

1. Will Corporate Governance have an impact on Risk Disclosure of Services and Industrial companies listed on the Amman Stock Exchange during the period of 2015-2019?

2. Will Risk Disclosure have an impact on Firm Value for Service and Industrial companies listed on the Amman Stock Exchange during the period of 2015-2019?
3. Will Corporate Governance have an impact on Firm Value for Services and Industrial companies listed on Amman Stock Exchange, and Can Risk Disclosure Quantity and Quality serve as mediators in transmitting this impact?

Each of these questions is underpinned by a hypothesis offering a distinct view to explore the connections between Corporate Governance, Risk Disclosure, and Firm Value. By addressing these research questions, this thesis contributes important insights to the existing literature on Corporate Governance, particularly within the context of the Amman Stock Exchange, which is an emerging capital market in Jordan, and within similar emerging markets.

6.3.1 Research Main Objective

This empirical study primarily aims to quantitatively examine Corporate Governance practices and their impact on Firm Value and Risk Disclosure practices and to explore the intermediate contribution of Risk Disclosure to the relationship between Corporate Governance and Firm Value of the Jordanian companies listed on ASE for five-year period (2015-2019). This objective is carried out through a manual content analysis of the annual reports and SEM statistical analysis. This research, as distinct from other studies goes beyond the broad traditional analysis relating the overall Corporate Governance and Firm Value and explores simultaneously the impact each of the respective Corporate Governance variables has on Firm value. The study undertook the analysis of this relationship for both Jordanian Industrial and Service companies.

The results of this research highlight the complexity of the interactions of Corporate Governance mechanisms. While some mechanisms may play a significant role in shaping Risk Disclosure practices and Firm Value, others may have limited or no impact. In addition, this research sheds light on the variation in the impact of Corporate Governance variables on Risk Disclosure practices and, subsequently on Firm value across different sectors. While some corporate governance mechanisms may exert a significant influence on Risk Disclosure and Firm Value in one sector, their effects may differ or even be insignificant in another.

In summary, in the Industrial Sector context all eight of the Corporate Governance variables (Board Independence, Members Level of Education, Board Size, Board Gender Diversity, Board Meetings frequency, Board Committees' effectiveness, Ownership

Structure, and External Audit Factors) have a statistically significant influence on Firm value. Board Education (DirEdu) and Board meetings frequency (BMeetngs) have a considerable positive direct influence on Firm Value (TQRatio), while Board Size (BoardSiz) has a considerable negative influence on Firm value. Whereas Board Education (DirEdu), Board Gender (GNDR), Committees' Effectiveness (COMTSEFF), Ownership Structure (newOWNST) and External Audit Quality (EXAQUL) all have a small positive significant indirect influence on Firm Value via the mediating variables Risk Disclosure Quantity (RiskQun) and Risk Disclosure Quality (RiskQun). When considered together the Industrial companies Corporate Governance variables have a considerable significant positive effect (summing the direct and indirect effects) on Firm value.

In the Services Sector context only five of the Corporate Governance variables (Board Education, Board Size, Board Gender, Committees Effectiveness, and External Audit Quality) have a statistically significant influence on Firm value. Board Gender (GNDR), and External Audit Quality (EXAQUL) have a considerable positive direct influence on Firm Value (TQRatio) and Board Education (DirEdu) has a considerable negative influence on Firm Value (TQRatio). Whereas Board Size (BoardSiz), Committees' Effectiveness (COMTSEFF) and External Audit Quality (EXAQUL) all have a small significant negative indirect influence on Firm Value via the mediating variables Risk Disclosure Quantity (RiskQun) and Risk Disclosure Quality (RiskQul). Ownership Structure (newOWNST), Board Meeting frequency (BMeetngs) and Board Independence (IndepDir), however, have no significant influence on Firm Value (IndepDir). When considered together the Corporate Governance variables for Service companies have a significant small positive effect (summing the direct and indirect effects) on Firm value.

The results of this research also show the diverse effects of Corporate Governance regulatory interventions and the introduction of mandated Corporate Governance practices across different variables and sectors. Despite this, these research findings reveal that the implementation of mandated directives can positively impact the overall Board Quality within the Jordanian listed companies across both sectors, consequently promoting better Corporate Governance practices. In addition, with regards to Risk Disclosure Practices, the results reveal a notable difference in responses to the mandated directives across sectors. Overall, the results show an increase in the disclosure of risk information following the implementation of the 2017 Jordanian Directives indicating improvement in risk disclosure practices among Jordanian listed companies in both the Industrial and the Services sectors. This highlights the

importance of considering the characteristics and conditions of each sector when exploring Corporate Governance and Risk Disclosure practices and their impact on Firm Value.

The following subsections provide a comprehensive insight into the research outcomes with regards to the research questions and hypotheses.

6.3.2 Research Question 1

The first question of this research asks: will Corporate Governance have an impact on Risk Disclosure of Services and Industrial companies listed on the Amman Stock Exchange during the period of 2015-2019? This question leads to the first hypothesis that higher scores of Corporate Governance variables will have a positive significant impact on Risk Disclosure (RD) of Services and Industrial companies listed on the Amman Stock Exchange. To address this question and hypothesis, Structured Equation Modelling analysis was carried out on the data of each sector. This analysis showed that governance variables influence on Risk Disclosure varies, with only certain Corporate Governance variables demonstrating a significant impact on Risk Disclosure, these are, for the Industrial Sector, Board Independence (IndepDir), Board Members' level of education (DirEdu), Board Gender Diversity (GNDR), Committees' Effectiveness (COMTSEFF), Ownership Structure (newOWNST), and External Audit Quality (EXAQUL). In the Services Sector, by contrast only three variables demonstrate significant impact, these are Board Size (BoardSiz), Committees'' Effectiveness (COMTSEFF), and External Audit (EXAQUL). However, when the Corporate Governance variables are considered as a collective, the SEM analysis reveals that their influence on Risk Disclosure is positive in both sectors. However, it is less in the Services Sector.

6.3.3 Research Question 2

The second question of this research asks: Will Risk Disclosure have an impact on Firm Value for Service and Industrial companies listed on the Amman Stock Exchange during the period of 2015-2019? This question leads to the second hypothesis that higher Risk Disclosure will have a positive significant impact on Firm Value of Services and Industrial companies listed on the Amman Stock Exchange. The findings of the research Structured Equation Modelling analysis answer this question and addresses the hypothesis, which reveals that the direction of the correlation between Risk Disclosure Quantity (RiskQun) and Risk Disclosure Quality (RiskQun) progress from Risk Disclosure Quality to Risk Disclosure Quantity in the Industrial Sector. In the Services Sector, it follows an inverse pattern is

revealed, moving from Risk Disclosure Quantity to Risk Disclosure Quality. Consequently, the pathway through which Risk Disclosure impacts Firm Value flows in a significant direct path via Risk Disclosure Quantity in the Industrial Sector, whereas in the Services Sector, it flows through Risk Disclosure Quality. The results show that, for the Industrial Sector, Firm Value (TQRatio) is positively influenced by both the Quantity and Quality of Risk Disclosure. On the other hand, for the Services Sector, both the Quantity and Quality of Risk Disclosure negatively impact Firm Value (Tobin's Q).

6.3.4 Research Question 3

The third question of this research asks: Will Corporate Governance impact Firm Value for Services and Industrial companies listed on Amman Stock Exchange, and Can Risk Disclosure Quantity and Quality serve as mediators in transmitting this impact? Higher scores of Corporate Governance variables will have a positive significant impact on Firm Value of Services and Industrial companies listed on the Amman Stock Exchange, with Risk Disclosure Quantity and Quality serving as mediators in transmitting this impact. The findings of this this research addresses this question and hypothesis providing an understanding of Corporate Governance and its impact on Firm Value in Jordan, both directly and indirectly via the mediating variable corporate Risk Disclosure. The results of Structural Equation Modelling analysis show variations in the impact of the perspective Corporate Governance mechanisms on Firm Value across different sectors, ranging from positive to negative impacts, with certain mechanisms showing no significant impact. However, the combined impact of Corporate Governance Variables on Firm Value demonstrates a significant positive influence when Corporate Governance variables are considered as a collective and the two components of Risk Disclosure are considered together. The analysis of this research reveals that, in the Industrial Sector, all Corporate Governance factors significantly affect Firm value, either through direct impact or indirectly through Risk disclosure (Quantity and Quality), this is in line with Cotter et al. (2011) who argue that effective Corporate Governance encourages Risk Disclosure, which offers a positive indication of firms management, subsequently resulting in increased Firm Value. Board Education (DirEdu) and Meeting Frequency (BMeetngs) positively impact Firm Value directly, while Board Size (BoardSiz) has a negative impact. Additionally, Board Independence (IndepDir), Gender Diversity (GNDR), Committee Effectiveness (COMTSEFF), Ownership Structure (newOWNST), and External Audit Quality (EXAQUL) indirectly influence Firm Value through Risk Disclosure. In the Services Sector, only five Corporate Governance factors significantly affect Firm value. Board Gender (GNDR) and

External Audit Quality (EXAQUL) positively impact Firm Value directly, while Board Education (DirEdu) negatively impacts it. Additionally, Board Size (BoardSiz), Committees' Effectiveness (COMTSEFF), and External Audit Quality (EXAQUL) have a small negative indirect influence on Firm Value through Risk Disclosure. Ownership Structure (newOWNST), Board Meeting frequency (BMeetngs), and Board Independence (IndepDir) have no significant influence on Firm Value.

The following section presents the key contributions of this research highlighting its theoretical, methodological and empirical contribution.

6.4 Contribution to Knowledge

This research makes several significant contributions within the domain of Corporate Governance, offering theoretical insights, methodological advancement, and empirical contributions.

The literature on Corporate Governance and Risk Disclosure is still emerging, as highlighted by Abraham and Shrives (2014). Despite its importance, less focus has been directed toward emerging capital markets, with most of the previous studies has been carried out in developed countries (Ekramy & Mellett, 2013). This research addresses the gap in the existing literature in the emerging capital markets by examining the listed companies in the emerging capital market of Jordan. This theoretical contribution expands the body of the literature on the field of Corporate Governance, Risk Disclosure and Firm Value, especially in emerging markets. In addition, linking the relationships of three distinct research variables (Corporate Governance, Risk Disclosure, and Firm Value) using path analysis, offers a unique perspective on the complex interactions among the variables. The results of analysing the data generated from the annual reports of the companies under study expand the empirical evidence on the interactions between these variables, particularly within emerging markets.

This research adds to the methodological literature on Corporate Governance by using path analysis that accommodates complex models with multiple variables and examines their relationships and compares these variables interconnections in different sectors industrial and services. Unlike previous studies that examine one or two Corporate Governance mechanisms, this research examines several Corporate Governance mechanisms including Board Characteristics variables (Board Independence, directors level of education, Board Size, Board Meetings), Committees' Effectiveness (Nomination Committee, remuneration committee, Risk Management Committee, Audit Committee), Ownership structure (Managerial Ownership and Block-Holding Percentage) and external audit (external auditor,

Audit Fees, and Non-Audit Fees). This offers a more comprehensive analysis of different Corporate Governance Mechanisms and their collective impact on Risk Disclosure and Firm Value.

Furthermore, this research contributes by developing a theoretical model to examine the mediated impact of Corporate Governance Mechanisms on Firm Value via Risk Disclosure. This approach represents an innovative exploration, particularly within the context of an emerging capital market, where such analysis remains relatively unused.

The theoretical Model of this research considers the relevant theories of Corporate Governance and Risk Disclosure, with Agency theory representing the main theory supported by Signalling theory, Stakeholder theory, Legitimacy, and Resource dependency theory. Consequently, the results of the analysis can enrich the application of these theories within the context of Jordanian listed companies, or similar context, in both the Industrial and the Services Sectors. For instance, the results of this research with regards to the Ownership Structure show that both the Industrial and the Services sectors tend to have high Ownership stakes owned by senior managers and Board Directors and their direct family members which aligns managers' interests with that of shareholders. This adds to the existing empirical evidence and to the existing body of literature on the theoretical framework concerning Agency theory.

The five year period that the research covers (2015-2019) is very important as in the middle of this period the Jordanian Corporate Governance Instructions (JSC, 2017) was introduced. This research contributes to the literature by investigating the effect of moving from the regulatory approach comply or explain into must comply approach enforced by law. This provides an important empirical insight into Corporate Governance practices within both the Industrial and the Services sectors in Jordan. This empirical assessment offers a deeper understanding of the impact of moving to enforced Corporate Governance approaches across different sectors, thereby adding to the empirical evidence on Corporate Governance practices in Jordan.

The results of this research show the variation in the relationships between the respective research variables across both the Industrial and the Services sectors. By demonstrating these variations, this research provides a significant empirical contribution, offering a deeper understandings of how the relationships between the variables may vary across sectors.

By utilizing the Structural Equation Modelling (SEM) approach to examine the relationships between Corporate Governance, Risk Disclosure, and Firm Value, this research contributes to the enhancement of research methodologies within the field of Corporate Governance and Risk disclosure. This research adds to the very limited literature on Corporate Governance and Risk Disclosure that employs SEM. Prior studies in this area often rely on traditional statistical methods that may not capture the full complexity of the relationships between Corporate Governance Mechanisms, Risk Disclosure Practices, and Firm Value. Utilizing Structural Equation Modelling enables simultaneous exploration of the direct and indirect impacts of Corporate Governance Mechanisms on Firm Value through Risk Disclosure pathways.

Overall, the findings of this thesis add to the existing knowledge on the complexities of Corporate Governance interactions with Risk Disclosure and their influence on Firm Value, both in Jordan and most likely in other emerging market contexts.

6.5 Implications of This Study

The findings of this research provide a valuable insight into various Corporate Governance Mechanisms, such as Board Independence, board members' level of education, Board Size, Board Gender Diversity, number of annual board meetings, board committees' effectiveness, ownership structure, and External Audit Quality. The correlation between these mechanisms and Firm Value shows a variety of impacts, ranging from positive to negative, with some mechanisms showing no significant influence. Furthermore, the findings suggest that the sector in which in which a company operates shapes the relationship between the respective research variables. These insights provide important implications for policy makers and regulators, both in Jordan and in similar emerging market contexts, in enhancing the existing Corporate Governance regulatory frameworks and developing sector-specific Corporate Governance policies and standards. Each sector may face unique risks, challenges, and opportunities that influence the effectiveness of regulatory interventions. Taking into account the specific requirements and the interactions in each sector can maximize the effectiveness of these interventions.

In addition, comparing the level of Corporate Governance practices Pre- and Post- the implementation of the Jordanian directives of 2017 and by considering variations in the way they impact Risk Disclosure and Firm Value across different sectors, this research offers an empirical evidence on how the binding approach of Corporate Governance can affect the quality of Corporate Governance practices. Policy makers and regulators, in Jordan and in

similar contexts, can utilize these empirical findings to improve the existing Corporate Governance regulations and to develop sector-specific governance standards and directives. In addition, the findings of this research can provide an important insight of the results of transitioning into the binding approach of Corporate Governance, which helps policy makers, regulators in promoting regulatory interventions and raises the standards of Corporate Governance practices.

Despite the variation across sectors, the finding of this research suggests that the implementation of mandated Corporate Governance Directives has a positive impact on overall board quality within Jordanian listed companies in both the Industrial and the Services sectors. This indicates that regulatory interventions can effectively promote better Corporate Governance Practices by raising the standards of board characteristics.

The results of this research show significant variation in risk disclosure practices across sectors. However, overall, there is an improvement in risk disclosure practices following the mandating Corporate Governance Directives in 2007. This suggest that regulatory intervention has succeeded in enhancing transparency and risk reporting in the annual reports of the Jordanian listed companies in both the Industrial and the Services sectors. This may help investors and stakeholders make better investment decisions. Moreover, Jordan does not have specific regulations exclusively focused on disclosing risk information. This may impact the level and the quality of risk disclosure practices among Jordanian listed companies. The lack of comprehensive guidelines regarding risk disclosure within the Jordanian Corporate Governance Directives of 2017 or in the Jordanian directive of disclosure (JSC, 2002) may contribute to this variation in both the quantity and quality of risk information disclosed across companies.

The findings of this research reveal that the Board committees' effectiveness rating across the companies was relatively high. Despite this, some companies score well below the expected level. This suggests that companies can enhance their corporate governance practices, which may add to Firm value of the company. Therefore, the implication is particularly relevant to the practitioners involved in the company Corporate Governance practices and compliance, such as Board Members, Executives, Governance Professionals, who can work toward improving Board Committee' Effectiveness within the company.

The results of this research with regards to the Ownership Structure show that a significant portion of ownership within both the Industrial and the Services sectors is concentrated, with senior managers and their families collectively owning approximately 18-

19% of shares. The presence of concentrated ownership poses challenges in term of ensuring the protection of the interests of minority shareholders. With a considerable portion of shares being held by senior managers, there is a risk that these stakeholders may influence the decision-making process to their own benefits, ignoring the rights of shareholders. This study adds to the existing theoretical framework concerning Agency theory and the alignment of managerial interests with those of shareholders which may contribute to the Firm Value of companies. In addition, this puts pressure on the Board Members, especially members of the Remuneration Committee, to consider the range of suitable incentives and rewards that motivate senior managers to manage the company to ensure the best interests of shareholders by aligning managerial interests with those of shareholders, and the protection of shareholders rights.

Furthermore, the analysis of this research reveals the presence of a notable number of majority shareholders, each holding 5% or more of the company shares, across both sectors, averaging around 3-4 such shareholders. This suggest that a small group of shareholders have considerable power on the way the company is directed which may lead to conflict of interest between majority shareholders and minority shareholders. This highlights the importance of having more independent board members to ensure that decisions of the company consider the interest of all shareholders rather than serving the interest of the few major shareholders. This adds pressure on the policy makers and regulators, in Jordan and in similar emerging market contexts, to promote appointing more independent directors on governing boards of Jordanian listed companies in both the Industrial and the Services sectors.

The results of this research indicates that the move from the comply or explain approach of Corporate Governance to the binding approached after issuing the Jordanian Corporate Governance directives in 2017 should be correlated with more quantity and quality Risk Disclosure. However, the analysis of this research fails to provide a significant evidence to support this outcome. This suggests future research with additional investigation and analyses is necessary to fully understand the impact of the regulatory regime on Risk Disclosure practices within Jordanian companies.

Overall, the implications of this research highlights importance of Corporate Governance mechanisms in shaping Firm Value, risk Disclosure practices, and Board Quality within Jordanian listed companies. The findings stress the importance of sector-specific considerations in Corporate Governance practices and highlight the need for regulatory interventions to enhance Corporate Governance Standards. The move towards a binding approach in Corporate Governance regulations has positively influenced overall board

quality, indicating the effectiveness of regulatory interventions in promoting better Corporate Governance practices. The implementation of mandated Corporate Governance directives shows potential for improving Risk Disclosure practices, but further investigations is required. Furthermore, the presence of concentrated ownership where a small group of shareholders have more power on the way the company highlights the importance of appointing independent directors to ensure the fair representation of all shareholders and reduce conflict of interests.

The research, overall, provides valuable insights for policy makers, regulators and practitioners in Jordan and similar emerging market contexts to enhance Corporate Governance regulations and practices, and to give more attention to Risk Disclosure to promote transparency and accountability, leading to improvement in companies Firm Value and investor confidence.

6.6 Recommendations

The findings of this research offer several recommendations to various stakeholders, including policymakers and regulators, board members, executives, and Corporate Governance professionals.

1. Policy Makers and Regulators

Regulatory bodies should work on enhancing the existing Corporate Governance regulatory frameworks and develop sector-specific policies and directives, considering the unique risks, challenges, and opportunities in each sector. This involves reviewing and updating the current guidelines and regulations governing Corporate Governance practices in Jordan. This includes also revising laws such as Companies Law and Securities Law to ensure that they are sector-specific and effective in promoting transparency and accountability. Considering sector-specific factors, policy makers and regulatory bodies in Jordan and countries with similar context to Jordan, can create Corporate Governance regulations and directives customised to suite the particular characteristics of each sector individually, targeting the unique risks, challenges, and opportunities each sector encounters.

Regulatory bodies and policy makers should utilize the empirical findings of various academic studies to improve Corporate Governance regulations and promote regulatory interventions that raise standards for board composition and enhance transparency and risk reporting practices. The empirical findings can help identifying areas where Corporate Governance regulations may be lacking or where improvement can be made. For example,

when the empirical results point out that certain board characteristics are associated with better Firm Value, or better Risk Disclosure, regulators can consider implementing requirements or guidelines to ensure that boards are structured in a way that maximizes effectiveness. Based on the findings of this research, for the Industrial Sector, that board members level of education and annul meetings frequency have a considerable impact on Firm Value, it is recommended that regulators consider incorporating requirements related to Board Education and Board Meetings frequency into the Jordanian Corporate Governance directives to mandate maintaining a certain level of education and to conduct meetings with appropriate frequency. Furthermore, the findings of this research indicates that the presence of females on the company board is positively correlated with Firm value in both the Services and the Industrial sectors. Therefore, these findings suggest that Gender Diversity in the boards should be mandated in Jordan.

Considering the significant impact of Board Independence on Firm Value, it is advisable for the regulatory bodies to explore the possibility of increasing the minimum requirement of Board Independence of Jordanian Companies in particularly in the Industrial and the Services sectors. By appointing more independent directors, companies can enhance transparency, accountability and fairness in decision making process, which help protect the interests of all shareholders especially minority shareholders. This can also help increasing the investors' confidence in the Jordanian financial market.

At present Jordan does not have specific regulations that focuses exclusively on disclosing risk information. It is advisable that regulatory bodies consider regulatory amendments to improve the disclosure of risk information and risk disclosure practices in Jordanian Listed companies. By implementing clearer guidelines and standards for risk disclosure, or maybe implementing mandated Risk Disclosure directives, companies can provide stakeholders with more and better quality information about the potential risks and uncertainties affecting their operations. However, regulators are advised to consider sector-specific risks and opportunities when regulating risk disclosure practices in Jordan as the results of this research reveal variations in how Firm Value is correlated with Risk Disclosure across sectors. The results reveal a positive influence of Risk Disclosure on Firm Value in the Industrial Sector, while it is negative in the Service Sector.

It advisable and critical that regulatory bodies in Jordan and countries with similar financial market contexts promote awareness of the importance of board independence and other related board characteristics and how these can shape companies' reputation, shareholder relations and stakeholder expectations. Promoting a deeper understanding of the

benefits associated with more independent boards and other positive board factors companies can develop Corporate Governance culture that promotes accountability and transparency and align their governance practices with international best practices, which may attract more investors.

2. Board Members and Executives

Board members and executives are recommended to direct efforts toward improving Board Committee's Effectiveness within the company. The results of this empirical study shows that there is a room for improvement, as evidenced by some companies' Board Committees Effectiveness mean scores which are falling below average. This can be achieved by optimizing committees' effectiveness factors including committee composition, meeting frequencies, and members knowledge and expertise.

It is advisable to consider implementing incentives and rewards structures that motivate senior managers to manage the company in the best interests of shareholders, especially in companies where Managerial Ownership is high. This may promote a culture of accountability, and drive decision making which is aligned with value creation.

3. Governance Professionals

Governance professionals are advised to promote the appointment of more independent directors on the board in order to strengthen Corporate Governance practices. Independent directors with diverse perspectives and expertise may enhance the decision-making process and thereby ensure effective oversight.

Governance professionals should ensure that Corporate Governance policy and procedures in place are strong such that not only standards and regulatory requirements are met but also that actions reflect best practice. These policies should outline clear guidelines for board composition, roles and responsibilities. They should encourage regular training and education programs for board members and executives to keep them updated on best practice in Corporate Governance.

Overall, these recommendations aim to strengthen Corporate Governance practices in Jordan and similar market contexts. By implementing the above recommendations governance professionals can enhance Corporate Governance practices, promote transparency, and enhance investors' confidence, which all add to the Firm Value of Jordanian companies. More research exploring the regulatory impacts, risk disclosure, and

Corporate Governance mechanisms are important to provide empirical evidence that informs policy makers and regulators ensuring the effectiveness of Corporate Governance practices.

6.7 Limitations

This research explored the relationships between Corporate Governance, Risk Disclosure, and Firm Value in the emerging capital market of Amman Stock Exchange, as expected, has limitations. These limitations can be summarised in the following points:

Geographic Focus

This study focuses exclusively on examining the financial market of Jordan. While this focus presents valuable insights into the specific context of Jordan, to some degree it limits the generalization of the findings to other countries or regions except for those countries which share a similar market context of Jordan. Future research could benefit from expanding the scope of this study to include other financial markets across different countries, enabling comparative analysis that account for cultural, regulatory and economic differences.

Data Source

This research relies solely on annual reports as the primary source of data, neglecting other potential sources such as interim reports, press releases, or companies' websites. While annual reports provide valuable information, incorporating additional sources could offer more information about Corporate Governance and Risk Disclosure practices within Jordanian listed companies. These alternative sources could provide supplementary information which help enhancing the research findings.

Sector Representation

While the study explores Corporate Governance and Risk Disclosure practices across the Industrial and the Services sectors, it doesn't differentiate between specific industries within each sector. This broad categorisation overlooks potential variations in practices among different industries within these sectors. This means that the findings of this research are applicable to broad range of companies operating within these sectors as a whole, rather than being applied to the individual subsectors. As a result, the insights provided by this study offer a comprehensive overview of Corporate Governance and Risk Disclosure practices in these sectors as a whole, without focusing on the challenges faced by individual subsectors. Future research can explore corporate Governance and Risk Disclosure practices at the industry level, offering more insights into sector-specific interactions.

Classification of Risk Disclosure

This research assesses Risk Disclosure in terms of quantity and quality without distinguishing between positive and negative classification or distinguishing between voluntary and mandatory disclosures. Future research could refine this approach by differentiating between risk perceived as threats or hazards (negative risks) and those seen as opportunities (positive risks). Additionally, distinguishing between voluntary and mandatory risk disclosures could provide deeper insight into risk reporting practices.

Cultural Factors and governance practices

This research does not investigate the influence of cultural factors, such as ethical standards, tribal and family ties, nepotism (Wasta), legal and regulatory environment, religious beliefs, and gender role on Corporate Governance practices and outcomes. These cultural particulars may have a significant impact on the level of compliance with laws and standards including Corporate Governance regulations and standards. Future research could explore the interactions between these cultural factors and Corporate Governance practices, offering deeper understanding of their implications for Firm Value across different sectors.

Summary: Overall, this study offers important insights into Corporate Governance and Risk Disclosure practices and their outcomes, it is important to acknowledge the limitations of this research to ensure the correct interpretation and generalisation of the research findings.

6.8 Future Research Directions

This study lays the ground for future research on Corporate Governance and Risk Disclosure practices. The limitations of this research, discussed in the previous section of this chapter, offer an opportunity to address these limitations and expand on, or to refine them. Addressing the limitations of this study can contribute to a greater understanding of Corporate Governance and Risk Disclosure practices across diverse contexts and sectors.

1. **Comparative Analysis across Diverse Financial Markets**

Future research should extend beyond Jordan to include a broader range of countries. This allows conducting a comparative analysis that considers cultural, regulatory, and economic differences. This would offer deeper understanding of Corporate Governance practices and how they impact Risk Disclosure practices and Firm Value across different contexts which enables a broader generalisation of research findings.

2. Expansion of Data source

Future studies should expand the data source base beyond companies' annual reports and incorporate additional data sources such as interim reports, press release, or companies' websites, offering a supplementary information which help enhancing the research findings.

3. General Examination of Industry-specific Practices

Future research should explore further and examine corporate Governance and Risk Disclosure practices at the industry level, differentiating between specific industries within different sectors. This helps to explore how Corporate Governance and Risk Disclosure practices vary across different industries within different sectors which offer more insights into sector-specific interactions.

4. Classification of Risk Disclosure

Future studies should look into other ways Risk Disclosure has been classified in the literature, such as positive and negative or voluntary and mandatory classifications. Future research should refine the approach of this research by differentiating between risk perceived as threats or hazard (negative risks) and those seen as opportunities (positive risks), and distinguish between voluntary and mandatory risk disclosures. This could provide deeper insight into risk reporting practices. In addition, future research can explore the stakeholders' interpretation and responses to companies' risk reporting, and to different types of risk disclosure. Additional investigation and analysis can be conducted to understand the impact of regulatory transition into a binding approach of Corporate Governance on Risk Disclosure practices within Jordanian companies in both the Industrial and Services Sectors.

5. Exploration of Cultural Influences on Corporate Governance

Future research should explore the impact of cultural factors, such as ethical standards, tribal and family ties, nepotism (Wasta), legal and regulatory environment, religious beliefs, and gender role on Corporate Governance and Risk Disclosure practices and their outcomes. Exploring the interactions between the cultural factors, Corporate Governance practices, and Risk Disclosure practices offers deeper understanding of how these factors impact the outcomes of Corporate Governance practices across different sectors.

Summary: Addressing the suggested future research directions can add to the knowledge on Corporate Governance and Risk Disclosure practices and their outcomes. Future studies can contribute to a deeper understanding of Corporate Governance mechanisms and their impact on Risk Disclosure practices by extending beyond the

geographic scope, diversifying data source, examining industry-specific interactions, expand on the classifications of risk disclosure distinguishing between negative, positive, voluntary, and mandatory risks, and exploring the cultural impact on Corporate Governance and Risk Disclosure practices and their outcomes.

6.9 Chapter Summary

This chapter builds on the discussion and observations of the previous chapter to present a comprehensive summary of the research findings. The chapter starts by revisiting the research main objective which is to quantitatively examine Corporate Governance practices and their impact on Firm Value including the mediated contribution of Risk Disclosure to the relationship between Corporate Governance and Firm Value. Subsequently, it explores the findings of this research and shows how they contribute to achieve this primary objective. This is followed by providing a comprehensive insight into the research outcomes with regards to the three research questions. The chapter then presents the contributions made by this research to the existing body of knowledge on the complexities of Corporate Governance interactions with Risk Disclosure and their influence on Firm Value, both in Jordan and in similar emerging market contexts. The chapter further discusses the implications of the findings of providing valuable insights for policy makers, regulators and practitioners in Jordan and similar emerging market contexts to enhance Corporate Governance regulations and practices. The chapter offers recommendations to various stakeholders, including policymakers regulators, board members, executives, and Corporate Governance professionals. Finally, the chapter highlights the limitations of this research, which impact the generalisation and the scope of the research outcomes, and the chapter suggests directions for future research. It is hoped that the insights and recommendations presented in this thesis will contribute to the ongoing growth of the financial market in the emerging economy of Jordan.

APPENDICES

Appendix A: Risk Disclosure Decision Rules

Risk Disclosure decision rules are constructed based on the work of Linsley and Shrives (2006, p. 403)

1. "Sentences are to be coded as Risk Disclosures if the reader is informed of any opportunity or prospect or of any hazard, danger, harm, threat or exposure that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure".
2. Risk information is required to be directly stated not implied.
3. Appendix B risk categories will be used to classify Risk Disclosures.
4. "If a sentence has more than one possible classification, the information will be classified into the category that is most emphasized within the sentence".
5. Repeated disclosures must be counted as a Risk Disclosure sentence each time it is discussed. However, the allocated risk item will score (1) only once.
6. "If a disclosure is too vague in its reference to risk, then it shall not be recorded as a Risk Disclosure".

Risk Appendix B: Risk Disclosure Content Analysis tool

This tool illustrates the approach used when reviewing published industry documents.

COMPANY NAME:			
2015			
Risk disclosure	**Category**	**Item**	**Page**
2016			
Risk disclosure	**Category**	**Item**	**Page**
2017			
Risk disclosure	**Category**	**Item**	**Page**
2018			
Risk disclosure	**Category**	**Item**	**Page**
2019			
Risk disclosure	**Category**	**Item**	**Page**

Appendix C: Disclosure Matrix

This tool illustrates the approach used when categorised sentences within the collecting tool are counted, quantified, and recorded.

Risk Disclosure Coding Matrix											
Risk Category	Company	2015		2016		2017		2018		2019	
	Risk disclosur item	Item score	N Sentences	Item score	N Sentences	Item score	N Sentences	Item score	N Sentences	Item score	N Sentences
Operations Risk	Customer Satisfaction										
	Product Development										
	Efficiency and Performance										
	Sourcing										
	Stock Obsolescence and Shrinkage										
	Products and Services Failure										
	Environmental										
	Health and Safety										
	Brand Name Erosion										
	Total	0	0	0	0	0	0	0	0	0	0
Empowerment Risk	Leadership and Management										
	Outsourcing										
	Performance Incentives										
	Change Readiness										
	Communications										
	Total	0	0	0	0	0	0	0	0	0	0
Information Processing and Technology	Integrity										
	Access										
	Availability										
	Infrastructure										
	Total	0	0	0	0	0	0	0	0	0	0
Integrity Risk	Management and Employee Fraud										
	Illegal Acts										
	Reputation										
	Total	0	0	0	0	0	0	0	0	0	0
Strategic Risk	Environmental Scan										
	Industry										
	Business Portfolio										
	Competitors										
	Pricing										
	Valuation										
	Planning										
	Life Cycle										
	Performance Measurement										
	Regulatory										
	Sovereign and Political										
	Total	0	0	0	0	0	0	0	0	0	0
Financial Risk	Interest Rate										
	Exchange Rate										
	Commodity										
	Liquidity										
	Credit										
	Taxes										
	Market *										
	Capital Structure *										
	Total	0	0	0	0	0	0	0	0	0	0
TOTAL		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL NUMBER OF SENTENCES FOR ALL YEARS		**0**									
* Items addedd to reflect the Jordanian context											
Adopting the criteria of (Haj-Salem et al., 2020; Linsley & Shrives, 2006)											

Appendix D: Statistics

Descriptive Statistics: Board characteristics (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Board Independence (Percentage of independent directors to the total board)	170	0%	86%	34.13%	18.685%
Percentage of directors who have a master's degree or higher	170	0%	80%	31.37%	19.626%
Board Size (Number of Directors)	170	4	13	7.56	2.284
Board Gender Diversity on 1-5 scale	170	1.0	5.0	1.447	1.2640
Number of Board Meetings	150	0	16	7.45	1.995
Valid N (listwise)	150				

Descriptive Statistics: Board Quality (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
BOARD-QUAL Total Score	170	1.00	4.00	2.3129	.54908
Valid N (listwise)	170				

Descriptive Statistics: Board characteristics (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
Board Independence (Percentage of independent directors to the total board)	185	0%	71%	30.79%	19.666%
Percentage of directors who have a master's degree or higher	185	0%	100%	35.47%	20.938%
Board Size (Number of Directors)	185	5	13	8.19	2.573
Board Gender Diversity on 1-5 scale	185	1	5	2.15	1.813
Number of Board Meetings	159	1	22	8.77	3.499
Valid N (listwise)	159				

Descriptive Statistics: Board Quality (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
BOARD-QUAL Total Score	185	1.00	3.80	2.4541	.67316
Valid N (listwise)	185				

T – Test (2017 cut point): Board Characteristics (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Board Independence (Percentage of independent directors to the total board)	>= 3	102	36.17%	18.013%	1.784%
	< 3	68	31.06%	19.381%	2.350%
Percentage of directors who have a master's degree or higher	>= 3	102	30.97%	18.829%	1.864%
	< 3	68	31.97%	20.893%	2.534%
Board size (Number of Directors)	>= 3	102	7.52	2.246	.222
	< 3	68	7.63	2.356	.286
Board Gender Diversity on 1-5 scale	>= 3	102	1.510	1.3405	.1327
	< 3	68	1.353	1.1430	.1386
Number of board meetings	>= 3	101	7.45	1.936	.193
	< 3	49	7.45	2.132	.305

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Board Independence (Percentage of independent directors to the total board)	Equal variances assumed	1.330	.250	1.757	168	.040	.081	5.108%	2.907%	-0.631%	10.848%
	Equal variances not assumed			1.731	136.379	.043	.086	5.108%	2.950%	-0.726%	10.943%
Percentage of directors who have a master's degree or higher	Equal variances assumed	.443	.507	-.324	168	.373	.747	-0.997%	3.081%	-7.078%	5.085%
	Equal variances not assumed			-.317	133.276	.376	.752	-0.997%	3.146%	-7.218%	5.225%
Board size (Number of Directors)	Equal variances assumed	.355	.552	-.314	168	.377	.754	-.113	.359	-.821	.595
	Equal variances not assumed			-.311	138.955	.378	.756	-.113	.362	-.829	.603
Board Gender Diversity on 1-5 scale	Equal variances assumed	2.592	.109	.792	168	.215	.430	.1569	.1981	-.2342	.5480
	Equal variances not assumed			.817	158.052	.207	.415	.1569	.1919	-.2222	.5359
Number of board meetings	Equal variances assumed	.755	.386	-.010	148	.496	.992	-.003	.349	-.692	.685
	Equal variances not assumed			-.010	87.398	.496	.992	-.003	.360	-.720	.713

T – Test 2017 cut point): Board Characteristics (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Board Independence (Percentage of independent directors to the total board)	>= 3	111	31.36%	19.303%	1.832%
	< 3	74	29.95%	20.302%	2.360%
Percentage of directors who have a master's degree or higher	>= 3	111	35.77%	22.705%	2.155%
	< 3	74	35.02%	18.107%	2.105%
Board size (Number of Directors)	>= 3	111	8.17	2.572	.244
	< 3	74	8.22	2.592	.301
Board Gender Diversity on 1-5 scale	>= 3	111	2.19	1.837	.174
	< 3	74	2.08	1.789	.208
Number of board meetings	>= 3	108	8.74	3.561	.343
	< 3	51	8.82	3.398	.476

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Board Independence (Percentage of independent directors to the total board)	Equal variances assumed	.568	.452	.478	183	.317	.633	1.414%	2.958%	-4.422%	7.249%
	Equal variances not assumed			.473	151.086	.318	.637	1.414%	2.988%	-4.489%	7.317%
Percentage of directors who have a master's degree or higher	Equal variances assumed	1.865	.174	.239	183	.406	.812	0.752%	3.150%	-5.464%	6.968%
	Equal variances not assumed			.250	177.106	.402	.803	0.752%	3.012%	-5.193%	6.697%
Board size (Number of Directors)	Equal variances assumed	.001	.979	-.116	183	.454	.908	-.045	.387	-.809	.719
	Equal variances not assumed			-.116	155.749	.454	.908	-.045	.388	-.811	.721
Board Gender Diversity on 1-5 scale	Equal variances assumed	.644	.423	.396	183	.346	.692	.108	.273	-.430	.646
	Equal variances not assumed			.398	159.424	.345	.691	.108	.271	-.428	.644
Number of board meetings	Equal variances assumed	.086	.769	-.139	157	.445	.890	-.083	.596	-1.261	1.095
	Equal variances not assumed			-.141	102.424	.444	.888	-.083	.586	-1.246	1.080

T – Test (Sectors compared): Board Characteristics

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
Board Independence (Percentage of independent directors to the total board)	1	170	34.13%	18.685%	1.433%
	0	185	30.79%	19.666%	1.446%
Percentage of directors who have a master's degree or higher	1	170	31.37%	19.626%	1.505%
	0	185	35.47%	20.938%	1.539%
Board size (Number of Directors)	1	170	7.56	2.284	.175
	0	185	8.19	2.573	.189
Board Gender Diversity on 1-5 scale	1	170	1.447	1.2640	.0969
	0	185	2.146	1.8134	.1333
Number of board meetings	1	150	7.45	1.995	.163
	0	159	8.77	3.499	.277

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Board Independence (Percentage of independent directors to the total board)	Equal variances assumed	1.640	.201	1.634	353	.052	.103	3.333%	2.040%	-0.680%	7.345%
	Equal variances not assumed			1.637	352.601	.051	.103	3.333%	2.036%	-0.671%	7.336%
Percentage of directors who have a master's degree or higher	Equal variances assumed	1.088	.298	-1.899	353	.029	.058	-4.100%	2.159%	-8.346%	0.146%
	Equal variances not assumed			-1.904	352.858	.029	.058	-4.100%	2.153%	-8.334%	0.135%
Board size (Number of Directors)	Equal variances assumed	3.266	.072	-2.410	353	.008	.016	-.624	.259	-1.134	-.115
	Equal variances not assumed			-2.422	352.586	.008	.016	-.624	.258	-1.132	-.117
Board Gender Diversity on 1-5 scale	Equal variances assumed	81.002	<.001	-4.178	353	<.001	<.001	-.6989	.1673	-1.0279	-.3699
	Equal variances not assumed			-4.240	329.674	<.001	<.001	-.6989	.1648	-1.0232	-.3746
Number of board meetings	Equal variances assumed	39.416	<.001	-4.044	307	<.001	<.001	-1.321	.327	-1.963	-.678
	Equal variances not assumed			-4.104	253.713	<.001	<.001	-1.321	.322	-1.954	-.687

T – Test (2017 cut point): Board Quality (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
BOARD-QUAL Total Score	>= 3	102	2.4137	.56587	.05603
	< 3	68	2.1618	.48899	.05930

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
BOARD-QUAL Total Score	Equal variances assumed	1.898	.170	3.000	168	.002	.003	.25196	.08400	.08613	.41779
	Equal variances not assumed			3.088	157.014	.001	.002	.25196	.08158	.09082	.41310

T – Test (2017 cut point): Board Quality (Services Sector)

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
BOARD-QUAL Total Score	>= 3	111	2.5514	.65794	.06245
	< 3	74	2.3081	.67373	.07832

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
BOARD-QUAL Total Score	Equal variances assumed	.013	.911	2.440	183	.008	.016	.24324	.09969	.04655	.43994
	Equal variances not assumed			2.428	154.017	.008	.016	.24324	.10017	.04536	.44112

T – Test (Sectors compared): Board Quality

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
BOARD-QUAL Total Score	1	170	2.3129	.54908	.04211
	0	185	2.4541	.67316	.04949

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
BOARD-QUAL Total Score	Equal variances assumed	11.417	<.001	-2.153	353	.016	.032	-.14111	.06554	-.27001	-.01222
	Equal variances not assumed			-2.172	348.177	.015	.031	-.14111	.06498	-.26892	-.01330

Descriptive Statistics: Committees Effectiveness (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Committees-EFF	170	1.00	4.57	2.8351	1.00063
RMC EFF	170	1.00	4.75	2.5868	1.43711
AC EFF	170	1.00	5.00	3.6897	.95170
CG Committee Effectiveness	170	1.00	4.33	2.5179	1.41307
N&REFF 1-5	170	1.00	5.00	3.0196	1.22201
The existence of Special Task Committees 1-5	170	1	5	2.41	1.917
Valid N (listwise)	170				

Descriptive Statistics: Committees Effectiveness (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
Committees-EFF	185	1.00	4.78	2.7818	1.05462
N&REFF 1-5	185	1.00	5.00	2.9910	1.30750
CG Committee Effectiveness	185	1.00	4.67	2.3390	1.43123
AC EFF	185	1.00	4.75	3.5649	.98106
RMC EFF	185	1.00	4.75	2.5689	1.47291
The existence of Special Task Committees 1-5	185	1	5	2.45	1.928
Valid N (listwise)	185				

Descriptive Statistics: Ownership Structure (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Percentage of ordinary shares owned by managers	169	0.00%	97.40%	19.0696%	24.74064%
Number of majority shareholders who hold 5% or more of company shares	169	1	7	3.14	1.649
(BLK+MANO Reversed)/2	170	1.00	5.00	4.4324	.89863
Valid N (listwise)	169				

Descriptive Statistics: Ownership Structure (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
New Ownership Structure(BLK + Reversed MANO)/2	185	2.50	5.00	4.2595	.93118
Percentage of ordinary shares owned by managers	185	0.00%	92.21%	18.6410%	23.41348%
Number of majority shareholders who hold 5% or more of company shares	185	1	8	3.49	1.691
Valid N (listwise)	185				

T – Test (2017 cut point): Committees Effectiveness (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Committees-EFF	>= 3	102	3.4438	.67042	.06638
	< 3	68	1.9221	.66167	.08024

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Committees-EFF	Equal variances assumed	1.341	.249	14.574	168	<.001	<.001	1.52176	.10441	1.31563	1.72790
	Equal variances not assumed			14.613	145.031	<.001	<.001	1.52176	.10414	1.31594	1.72759

T – Test (2017 cut point): Committees Effectiveness (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Committees-EFF	>= 3	111	3.4243	.72563	.06887
	< 3	74	1.8181	.66395	.07718

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Committees-EFF	Equal variances assumed	.014	.907	15.253	183	<.001	<.001	1.60622	.10530	1.39845	1.81398
	Equal variances not assumed			15.527	165.784	<.001	<.001	1.60622	.10344	1.40198	1.81045

Test (Sectors compared): Ownership

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
Percentage of ordinary shares owned by managers	0	185	18.6410%	23.41348%	1.72139%
	1	169	19.0696%	24.74064%	1.90313%
Number of majority shareholders who hold 5% or more of company shares	0	185	3.49	1.691	.124
	1	169	3.14	1.649	.127

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Percentage of ordinary shares owned by managers	Equal variances assumed	2.759	.098	-.167	352	.434	.867	-0.42859%	2.55974%	-5.46291%	4.60572%
	Equal variances not assumed			-.167	344.689	.434	.867	-0.42859%	2.56614%	-5.47586%	4.61867%
Number of majority shareholders who hold 5% or more of company shares	Equal variances assumed	.120	.729	1.968	352	.025	.050	.350	.178	.000	.700
	Equal variances not assumed			1.970	350.508	.025	.050	.350	.178	.001	.699

T – Test (2017 cut point): Ownership structure (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
SMEAN(newOWNST)	>= 3	102	4.4265	.85711	.08487
	< 3	68	4.4412	.96401	.11690

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
SMEAN(newOWNST)	Equal variances assumed	.015	.904	-.104	168	.459	.917	-.01471	.14110	-.29326	.26385
	Equal variances not assumed			-.102	131.922	.460	.919	-.01471	.14446	-.30046	.27105

T – Test (2017 cut point): Ownership structure (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
New Ownership Structure (BLK+Reversed MANO)/2	>= 3	111	4.2207	.95747	.09088
	< 3	74	4.3176	.89356	.10387

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
New Ownership Structure (BLK+Reversed MANO)/2	Equal variances assumed	3.896	.050	-.692	183	.245	.490	-.09685	.13995	-.37296	.17927
	Equal variances not assumed			-.702	163.825	.242	.484	-.09685	.13802	-.36937	.17568

T – Test (Sectors compared): Committees Effectiveness

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
Committees-EFF	1	170	2.8351	1.00063	.07674
	0	185	2.7818	1.05462	.07754

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Committees-EFF	Equal variances assumed	1.517	.219	.487	353	.313	.626	.05328	.10934	-.16176	.26832
	Equal variances not assumed			.488	352.633	.313	.626	.05328	.10910	-.16128	.26784

T – Test (Sectors compared): Ownership structure

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
SMEAN(newOWNST)	1	170	4.4324	.89863	.06892
	0	185	4.2595	.93118	.06846

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
SMEAN(newOWNST)	Equal variances assumed	7.060	.008	1.777	353	.038	.076	.17289	.09729	-.01845	.36424
	Equal variances not assumed			1.780	352.147	.038	.076	.17289	.09715	-.01816	.36395

Descriptive Statistics: External Audit (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Eternal Audit Quality	170	1.00	5.00	3.0314	1.03791
Audit Quality Score 1 or 5	170	1	5	2.36	1.902
Audit Fees Score 1 or 5	170	1	5	1.75	1.568
Auditor's Non-Audit Fees Score 1 or 5	170	1	5	4.98	.307
Audit Fees	168	1000	80000	15715.90	16252.903
Valid N (listwise)	168				

Descriptive Statistics: External Audit (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
Eternal Audit Quality	185	1.00	5.00	3.1766	1.16721
Audit Quality Score 1 or 5	185	1	5	2.97	2.005
Audit Fees Score 1 or 5	185	1	5	1.86	1.651
Auditor's Non-Audit Fees Score 1 or 5	185	1	5	4.70	1.061
Audit Fees	183	1000	148672	17154.50	24042.599
Valid N (listwise)	183				

T – External Audit (2017 cut point): (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Eternal Audit Quality	>= 3	102	3.0392	1.07302	.10624
	< 3	68	3.0196	.99064	.12013

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean	Std. Error	95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Difference	Difference	Lower	Upper
Eternal Audit Quality	Equal variances assumed	.865	.354	.120	168	.452	.904	.01961	.16297	-.30212	.34133
	Equal variances not assumed			.122	151.368	.451	.903	.01961	.16037	-.29725	.33647

T – Test (2017 cut point): External Audit (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Eternal Audit Quality	>= 3	111	3.1742	1.21842	.11565
	< 3	74	3.1802	1.09404	.12718

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean	Std. Error	95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Difference	Difference	Lower	Upper
Eternal Audit Quality	Equal variances assumed	2.232	.137	-.034	183	.486	.973	-.00601	.17565	-.35256	.34055
	Equal variances not assumed			-.035	167.591	.486	.972	-.00601	.17190	-.34537	.33336

T – Test (Sectors compared): External Audit

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
SMEAN(EXAQUL)	1	170	3.0314	1.03791	.07960
	0	185	3.1766	1.16721	.08581

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean	Std. Error	95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Difference	Difference	Lower	Upper
SMEAN(EXAQUL)	Equal variances assumed	4.503	.035	-1.234	353	.109	.218	-.14520	.11763	-.37655	.08614
	Equal variances not assumed			-1.241	352.627	.108	.216	-.14520	.11705	-.37541	.08500

Descriptive Statistics: Risk Disclosure (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Disclosure quantity (Number Risk Sentences)	170	4	363	83.36	43.138
Disclosure Quality (Coverage)	170	2	22	15.38	2.615
Valid N (listwise)	170				

Descriptive Statistics: Risk Disclosure (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
Disclosure quantity (Number Risk Sentences)	185	17	195	86.02	32.282
Disclosure Quality (Coverage)	185	9	20	14.99	1.974
Valid N (listwise)	185				

Descriptive Statistics: Tobin's Q Ratio (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Tobin's Q Ratio	169	.2004	2.3679	.955301	.4138786
Valid N (listwise)	169				

Descriptive Statistics: Tobin's Q Ratio (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
Tobin's Q Ratio	185	.3816	11.5528	1.336606	1.2471731
Valid N (listwise)	185				

T – Test (2017 cut point): Risk Disclosure (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Disclosur quantity (Number Risk Sentences)	>= 3	102	87.73	46.482	4.602
	< 3	68	76.82	36.941	4.480
Disclosur Quality (Coverage)	>= 3	102	15.57	2.679	.265
	< 3	68	15.09	2.508	.304

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Disclosur quantity (Number Risk Sentences)	Equal variances assumed	.026	.872	1.622	168	.053	.107	10.902	6.721	-2.367	24.171
	Equal variances not assumed			1.697	162.780	.046	.092	10.902	6.423	-1.780	23.584
Disclosur Quality (Coverage)	Equal variances assumed	.174	.677	1.175	168	.121	.242	.480	.409	-.327	1.288
	Equal variances not assumed			1.190	150.093	.118	.236	.480	.404	-.317	1.278

T – Test (2017 cut point): Risk Disclosure (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Disclosur quantity (Number Risk Sentences)	>= 3	111	90.86	33.663	3.195
	< 3	74	78.74	28.805	3.349
Disclosur Quality (Coverage)	>= 3	111	15.18	1.879	.178
	< 3	74	14.72	2.091	.243

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Disclosur quantity (Number Risk Sentences)	Equal variances assumed	.758	.385	2.539	183	.006	.012	12.122	4.775	2.701	21.542
	Equal variances not assumed			2.619	171.887	.005	.010	12.122	4.628	2.986	21.257
Disclosur Quality (Coverage)	Equal variances assumed	.037	.847	1.572	183	.059	.118	.464	.295	-.118	1.046
	Equal variances not assumed			1.539	144.914	.063	.126	.464	.301	-.132	1.060

T – Test (Sectors compared): Risk Disclosure

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
Disclosur quantity (Number Risk Sentences)	1	170	83.36	43.138	3.309
	0	185	86.02	32.282	2.373
Disclosur Quality (Coverage)	1	170	15.38	2.615	.201
	0	185	14.99	1.974	.145

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Disclosur quantity (Number Risk Sentences)	Equal variances assumed	.146	.703	-.659	353	.255	.510	-2.652	4.023	-10.564	5.261
	Equal variances not assumed			-.651	311.840	.258	.515	-2.652	4.072	-10.663	5.360
Disclosur Quality (Coverage)	Equal variances assumed	6.111	.014	1.560	353	.060	.120	.382	.245	-.099	.863
	Equal variances not assumed			1.542	313.382	.062	.124	.382	.248	-.105	.869

T – Test (2017 cut point): Tobin's Q ratio (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Tobin's Q Ratio	>= 3	101	.916040	.3907988	.0388859
	< 3	68	1.013616	.4424886	.0536596

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Tobin's Q Ratio	Equal variances assumed	1.171	.281	-1.509	167	.067	.133	-.0975765	.0646782	-.2252688	.0301158
	Equal variances not assumed			-1.472	131.543	.072	.143	-.0975765	.0662682	-.2286657	.0335127

T – Test (2017 cut point): Tobin's Q Ratio (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Tobin's Q Ratio	>= 3	111	1.388112	1.4550483	.1381071
	< 3	74	1.259349	.8486630	.0986551

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Tobin's Q Ratio	Equal variances assumed	2.099	.149	.687	183	.246	.493	.1287629	.1874387	-.2410559	.4985818
	Equal variances not assumed			.759	180.200	.225	.449	.1287629	.1697244	-.2061400	.4636659

T – Test (Sectors compared): Tobin's Q Ratio

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
Tobin's Q Ratio	1	169	.955301	.4138786	.0318368
	0	185	1.336606	1.2471731	.0916940

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Tobin's Q Ratio	Equal variances assumed	20.916	<.001	-3.788	352	<.001	<.001	-.3813049	.1006565	-.5792686	-.1833412
	Equal variances not assumed			-3.928	227.418	<.001	<.001	-.3813049	.0970637	-.5725642	-.1900456

Descriptive Statistics: Control Variables (Industrial)

	N	Minimum	Maximum	Mean	Std. Deviation
Company Size (Total Assets)	170	3638176	1174183000	98894189.95	245761979.373
Company Age	170	5	66	32.32	15.980
Leverage	170	3%	77%	32.44%	18.096%
Liquidity = CA/CL	170	2%	1283%	275.04%	227.995%
Profitability (income/assets)	170	-15%	36%	2.22%	6.956%
Valid N (listwise)	170				

Descriptive Statistics: Control Variables (Services)

	N	Minimum	Maximum	Mean	Std. Deviation
Company Size (Total Assets)	185	918837	1440221599	139484477.47	277029467.020
Company Age	185	7	81	26.19	17.301
Leverage	185	0%	100%	34.90%	26.035%
Liquidity = CA/CL	185	5%	90217%	1397.23%	8824.718%
Profitability (income/assets)	185	-25%	39%	4.08%	7.025%
Valid N (listwise)	185				

T – Test (2017 cut point): Control Variables (Industrial Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Company Size (Total Assets)	>= 3	102	99073931.22	246439583.66	24401154.826
	< 3	68	98624578.04	246571569.01	29901194.803
Company Age	>= 3	102	33.32	15.970	1.581
	< 3	68	30.82	15.996	1.940
Leverage	>= 3	102	33.43%	18.368%	1.819%
	< 3	68	30.95%	17.711%	2.148%
Liquidity = CA/CL	>= 3	102	266.19%	215.949%	21.382%
	< 3	68	288.31%	246.011%	29.833%
Profitability (income/assets)	>= 3	102	1.26%	6.303%	0.624%
	< 3	68	3.66%	7.659%	0.929%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Company Size (Total Assets)	Equal variances assumed	.000	.997	.012	168	.495	.991	449353.172	38589855.364	-75734167.817	76632874.160
	Equal variances not assumed			.012	143.681	.495	.991	449353.172	38594012.586	-75836044.884	76734751.227
Company Age	Equal variances assumed	.000	1.000	.999	168	.160	.319	2.500	2.502	-2.439	7.439
	Equal variances not assumed			.999	143.570	.160	.320	2.500	2.503	-2.447	7.447
Leverage	Equal variances assumed	.743	.390	.873	168	.192	.384	2.474%	2.835%	-3.123%	8.071%
	Equal variances not assumed			.879	147.294	.190	.381	2.474%	2.814%	-3.088%	8.035%
Liquidity = CA/CL	Equal variances assumed	.074	.785	-.619	168	.269	.537	-22.121%	35.759%	-92.716%	48.475%
	Equal variances not assumed			-.603	130.646	.274	.548	-22.121%	36.704%	-94.733%	50.491%
Profitability (income/assets)	Equal variances assumed	.339	.561	-2.231	168	.014	.027	-2.401%	1.076%	-4.527%	-0.276%
	Equal variances not assumed			-2.146	124.341	.017	.034	-2.401%	1.119%	-4.616%	-0.187%

T – Test (2017 cut point): Control Variables (Services Sector)

Group Statistics

	Financial Year	N	Mean	Std. Deviation	Std. Error Mean
Company Size (Total Assets)	>= 3	111	146103034.23	287971894.34	27333082.606
	< 3	74	129556642.32	261369539.18	30383591.769
Company Age	>= 3	111	27.19	17.294	1.641
	< 3	74	24.69	17.321	2.014
Leverage	>= 3	111	36.03%	26.366%	2.503%
	< 3	74	33.21%	25.615%	2.978%
Liquidity = CA/CL	>= 3	111	781.44%	4086.146%	387.840%
	< 3	74	2320.92%	13026.456%	1514.295%
Profitability (income/assets)	>= 3	111	3.90%	7.171%	0.681%
	< 3	74	4.35%	6.838%	0.795%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Company Size (Total Assets)	Equal variances assumed	.406	.525	.397	183	.346	.692	16546391.910	41670704.192	-65670403.973	98763187.793
	Equal variances not assumed			.405	166.568	.343	.686	16546391.910	40868815.172	-64141249.519	97234033.339
Company Age	Equal variances assumed	.000	.997	.963	183	.168	.337	2.500	2.597	-2.624	7.624
	Equal variances not assumed			.962	156.421	.169	.337	2.500	2.598	-2.631	7.631
Leverage	Equal variances assumed	.062	.804	.721	183	.236	.472	2.822%	3.912%	-4.897%	10.541%
	Equal variances not assumed			.725	159.675	.235	.469	2.822%	3.890%	-4.860%	10.504%
Liquidity = CA/CL	Equal variances assumed	5.514	.020	-1.164	183	.123	.246	-1539.484%	1323.098%	-4149.973%	1071.005%
	Equal variances not assumed			-.985	82.655	.164	.328	-1539.484%	1563.173%	-4648.763%	1569.795%
Profitability (income/assets)	Equal variances assumed	.010	.919	-.418	183	.338	.676	-0.442%	1.057%	-2.527%	1.643%
	Equal variances not assumed			-.422	161.631	.337	.673	-0.442%	1.047%	-2.509%	1.625%

T – Test (Sectors compared): Control Variables

Group Statistics

	Sector (industrial=1, Services = 0)	N	Mean	Std. Deviation	Std. Error Mean
Company Size (Total Assets)	1	170	98894189.95	245761979.37	18849083.377
	0	185	139484477.47	277029467.02	20367611.490
Company Age	1	170	32.32	15.980	1.226
	0	185	26.19	17.301	1.272
Leverage	1	170	32.44%	18.096%	1.388%
	0	185	34.90%	26.035%	1.914%
Liquidity = CA/CL	1	170	275.04%	227.995%	17.486%
	0	185	1397.23%	8824.718%	648.806%
Profitability (income/assets)	1	170	2.22%	6.956%	0.534%
	0	185	4.08%	7.025%	0.516%

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Company Size (Total Assets)	Equal variances assumed	4.547	.034	-1.455	353	.073	.146	-40590287.523	27891683.192	-95445056.342	14264481.295
	Equal variances not assumed			-1.463	352.571	.072	.144	-40590287.523	27751171.903	-95168940.045	13988364.999
Company Age	Equal variances assumed	.044	.834	3.461	353	<.001	<.001	6.134	1.772	2.649	9.620
	Equal variances not assumed			3.473	352.990	<.001	<.001	6.134	1.766	2.660	9.608
Leverage	Equal variances assumed	16.596	<.001	-1.027	353	.152	.305	-2.465%	2.400%	-7.185%	2.254%
	Equal variances not assumed			-1.043	329.246	.149	.298	-2.465%	2.364%	-7.117%	2.186%
Liquidity = CA/CL	Equal variances assumed	11.435	<.001	-1.657	353	.049	.098	-1122.192%	677.110%	-2453.869%	209.485%
	Equal variances not assumed			-1.729	184.267	.043	.085	-1122.192%	649.042%	-2402.700%	158.317%
Profitability (income/assets)	Equal variances assumed	4.341	.038	-2.507	353	.006	.013	-1.862%	0.743%	-3.323%	-0.401%
	Equal variances not assumed			-2.508	351.022	.006	.013	-1.862%	0.743%	-3.322%	-0.402%

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