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Corporate Voluntary Disclosure in Saudi Arabia: Determinants and Impact on Stock Price

PHD THESIS

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Corporate Voluntary Disclosure in Saudi Arabia: Determinants and Impact on Stock Price

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by

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Abstract

In a secretive society, disclosure is an issue. This is true in Saudi Arabia, where the level of corporate voluntary disclosure is low. Saudi Arabia is trying to diversify its resources, move away from dependence on oil exports and increase foreign investment in the country. Doing so will require a higher level of corporate transparency and adequate disclosure. The current study aimed to (i) evaluate the extent of corporate voluntary disclosure before and after the adoption of the International Financial Reporting Standards, (ii) investigate determinants of corporate voluntary disclosure and (iii) investigate the effect of this type of disclosure on a company's stock price.

By reviewing the literature surrounding corporate voluntary disclosure, the current study identified 14 variables that were expected to wield a significant effect on corporate voluntary disclosure. These variables represent four categories: board of directors composition, ownership structure, accounting standards and corporate characteristics. Further, to explore whether investors in Saudi Arabia are interested in corporate voluntary disclosure, the study examined the association between corporate voluntary disclosure and companies' stock prices.

Data were collected from 240 annual reports of 120 non-financial companies listed on the Saudi stock exchange between 2015 (before International Financial Reporting Standards [IFRS] adoption) and 2017 (after IFRS adoption). A self-constructed index, covering 72 items, was used to determine the level of corporate voluntary disclosure, through a content analysis of the annual reports. To cover the different interests of various stakeholders, the index included six categories of corporate voluntary disclosure: financial information, strategy and future expectations, governance disclosure, risk disclosure, social responsibility disclosure and human resources disclosure. To examine the association

between corporate voluntary disclosure and stock prices, a modified Ohlson valuation model was used. The resulting data were analysed in a panel dataset by applying ordinary least squares regression.

The results show an improvement in the level of corporate voluntary disclosure in Saudi Arabia in 2017 compared with 2015. However, corporate voluntary disclosure in Saudi Arabia remains low compared with developed countries such as Western economies. Additionally, the study results reveal various associations between the tested variables and corporate voluntary disclosure. The study found that government ownership, foreign ownership, company size, company age and profitability are statistically significant and positively associated with corporate voluntary disclosure. Conversely, there is a statistically significant but negative association between non-executive directors, chief executive officer (CEO) duality and directors' ownership and corporate voluntary disclosure. Finally, no statistically significant association was found between corporate voluntary disclosure and stock prices.

The study found that board composition, ownership structure and corporate characteristics are important determinants of corporate voluntary disclosure in Saudi Arabia. However, these determinants affect corporate voluntary disclosure categories differently. Finally, the lack of an association between corporate voluntary disclosure and stock prices indicates a low interest in corporate voluntary disclosure among investors. The current results suggest that the low level of corporate voluntary disclosure among Saudi companies could be attributed to investors' lack of interest in corporate voluntary disclosure. The results of this study add to the collective scholarly knowledge about determinants of corporate voluntary disclosure and support the argument that the environment a company operates in, including social rules and investors' expectations, is an important determinant of corporate voluntary disclosure.

The current study makes a number of significant contributions to the topic. These include providing an extensive and holistic approach to the literature on corporate voluntary disclosure, corporate governance, accounting standards and market valuation. In addition, the study provides statistical support for theoretical arguments by empirically testing several theories, which explain corporate voluntary disclosure, its determinants and its effect on stock prices. Significantly, the study also contributes to the field by responding to many calls to differentiate between various types of corporate voluntary disclosure and determine whether they are differently valued by investors in different institutional settings. Further, this study contributes to the theoretical corpus of knowledge by empirically examining the applicability of several theories for explaining corporate voluntary disclosure and how it works in developing countries. Finally, this study is significant because it provides insights into corporate voluntary disclosure, which are useful to various stakeholders, including legislators, policy-makers, managers, investors, auditors, employees and researchers.

Declaration

I, [Nasser Abdullah Alsulayhim], declare that the PhD thesis entitled Corporate Voluntary Disclosure in Saudi Arabia: Determinants and Impact on Stock Price is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature	Date
Nasser Alsulayhim	18/01/2020

Dedication

This thesis and endeavour are dedicated with deep love to my parents, my wife, my lovely children (Abdullah and Badriah), my brother, my sisters, and my uncle (Bander). It is to them that I owe all of the moments of my life and I appreciate all of their love, care and support.

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Table of Abbreviations

AFR	accounting and finance research
AIM	alternative investment market
CEO	chief executive officer
CGR	corporate governance regulations
CMA	Capital Market Authority
CSR	corporate social responsibility
CSRD	corporate social responsibility disclosure
FD	financial disclosure
GCC	Gulf Cooperation Council
GD	governance disclosure
GDP	gross domestic product
GFC	Global Financial Crisis
HRD	human resources disclosure
IASB	International Accounting Standards Boards
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
KSA	Kingdom of Saudi Arabia
MCI	Ministry of Commerce and Investment
OIC	Organization of the Islamic Conference
OLS	ordinary least squares
OPEC	Organization of Petroleum Exporting Countries
RD	risk disclosure
ROA	return on asset
ROE	return on equity

SAGIA	Saudi Arabian General Investment Authority
SAMA	Saudi Arabian Monetary Authority
SFED	strategy and future expectations disclosure
SI	sensitive industries
SMEs	small and medium enterprises
SOCPA	Saudi Organization for Certified Public Accountants
UN	United Nations
VD	voluntary disclosure
VDI	voluntary disclosure index
VIF	variance inflation factor
WTO	World Trade Organization

Related Thesis Publications

Alsulayhim, N 2019, ‘Analysis of the Extent of Corporate Voluntary Disclosure in Saudi Arabia before and after IFRS Adoption’, *VUBS HDR 2019: Business School Higher Degree by Research Conference, Victoria University, Melbourne, 26 Nov, 2019*, pp. 24.

Alsulayhim, N 2019, ‘The association between Corporate Voluntary Disclosure and Share Prices: Do investors’ expectations matter?’, *ESG 2019: Environmental Social & Governance for Sustainability Colloquium, Victoria University, Melbourne, 23 Oct, 2019,* pp. 14.

Other publications of the author

Alsulayhim, N.A., 2019, ‘The Relationship between Working Capital Management and Profitability’, *International Business Research, 12*(8), pp. 142–152.

Chapter 1 : Introduction

This chapter begins by providing a descriptive background on the topic, covering the basic aspects of the thesis, such as the research problem, and the motivations and reasons for choosing this particular subject. Further, definitions of corporate voluntary disclosure and arguments for its importance are provided. The chapter then presents the research aims, objectives and research questions regarding the extent of voluntary disclosure, its determinants and its effect on company stock prices in Saudi Arabia. Sections 1.4 and 1.5 cover the significance of this thesis and its contribution. In Section 1.6 the study methodology is explained briefly. Chapter 1 ends with a description of the thesis structure.

1.1 Background of the Study

Despite the discovery of oil, the vast wealth it created and the economic development it made possible, Saudi Arabia still has a plethora of economic challenges. Chief among these are the need to diversify the economy away from its reliance on oil exports (so that it is more resilient to shocks in the global market), the preservation of critical resources, and an urgent need to stem the rates of unemployment among Saudi citizens (Saudi Vision 2030 [SAV] 2019). It is clear to the Saudi government that the economy is still in an intermediate phase. For this reason, Vision 2030 seeks to develop the economy into one of the world's largest, by increasing productivity through easier and better focused international investments in the country. Other aspects of Vision 2030 include deregulation of the country's energy market to encourage competition, development of special zones to promote economic growth, restructuring of cities' current economic modus operandi and improvement of the general business climate (SAV 2019). This ambitious plan includes a goal of accomplishing a more complete departure from oil dependence and bolstering foreign investments in the country, which require transparency with adequate disclosure above current levels (Baamir 2008). For this reason, Saudi government regulators and policy-makers have ramped up efforts to increase the level of transparency and tighten corporate regulations.

Dramatic changes in the business environment, resulting from globalisation and recurring business scandals and financial crises, have led stakeholders, such as shareholders, investors, policy-makers, governments and researchers, to pay more attention to corporate transparency. The 2008 global financial crisis (GFC), proved to be a seminal point that brought corporate transparency back to the forefront of research and business discussion. The GFC highlighted the importance of corporate transparency and business honesty in avoiding further economic instability and widespread damage (Bauwhede & Willekens 2008; Bose et al. 2018). To date, corporate disclosure has become an important focus of research, as it is seen as an important tool to increase corporate transparency (Alhazmi 2017; Baamir 2008; Haniffa & Hudaib 2006). There have always been many ways for a company to disclose information. One of the most important, and required, methods that listed companies use to disclose and communicate with their stakeholders is the annual report (Chau & Gray 2010; Epstein & Pava 1993). Listed companies disclose financial and non-financial information in annual reports both mandatorily and voluntarily. Mandatory disclosure includes information that companies are mandated to disclose by law, according to regulations, accounting bodies or as a stock market requirement (in each country or stock market in which a company is listed). Disclosure in excess of requirements is considered voluntary disclosure (Meek, Roberts & Gray 1995).

The current study is important, given that a number of previous analyses have indicated a low level of corporate voluntary disclosure from listed companies in Saudi Arabia (Al-Moataz & Hussainey 2012; Alsaeed 2006). These previous studies are now obsolete, given the significant changes that have occurred in Saudi Arabia, and new regulations and laws have been implemented. This raises the issue of the scarcity of recent data. From an accounting perspective, one of the most important changes and transitions in Saudi Arabia was adopting the International Financial Reporting Standards (IFRS). Even though a number of studies have been conducted in different countries, the findings are not consistent, which prevents the generalisation of those findings to the Saudi Arabian context (Elfeky 2017; Ji, Lu & Qu 2015). Therefore, to give recommendations on increasing the level of corporate voluntary disclosure in Saudi Arabia, one needs to ask the following questions: first, what is the current level of disclosure? And second, what determines such disclosure?

Corporate voluntary disclosure practices vary between countries and companies. This could be due to differences in institutional mechanisms, such as regulations, culture and corporate characteristics, such as the size of a company and the industry in which it operates (Ling & Sultana 2015). Therefore, an examination of corporate voluntary disclosure determinants should not be treated as a homogeneous study and should be conducted on each country separately. Corporate voluntary disclosure involves many economic, political and cultural factors, which make it difficult to generalise results across different countries. Although many studies have been conducted on determinants of corporate voluntary disclosure, the majority of them were in developed countries, (see, e.g., Allegrini & Greco 2013; Chau & Gray 2002; Depoers 2000; Lim, Matolcsy & Chow 2007; Meek, Roberts & Gray 1995; Pisano, Lepore & Lamboglia 2017). There are many differences between developed and developing countries, which means that documented results from developed countries are not applicable to developing countries. Additionally, there is a lack of research in developing countries and various avenues of corporate voluntary disclosure need to be explored in more detail.

One the differences is that stakeholders in developed countries pay different degrees of attention to different types of information, compared with stakeholders in developing countries. For example, more attention is arguably paid to social responsibility and environmental information in developed countries, compared with developing countries (Alkayed 2018), which could influence the total corporate voluntary disclosure level. Another difference between developing and developed countries is the lack of regulations (Shiraz 1998), present in different aspects of business, such as governance and insider trading, which could greatly affect corporate disclosure. Generally, developing countries suffer from concentrated ownership structures (El-Diftar 2016; Uyar & Kılıç 2012), which place the power in the hands of a minority of shareholders who may have access to information directly from the company, or may influence the company's management and disclosure policies. This concentrated ownership structure could have serious implications for the small shareholders who would be affected by information asymmetry and possible lower levels of corporate disclosure. Last, previous studies have reported low levels of corporate voluntary disclosure in developing countries compared with developed countries (Ibrahim & Hanefah 2016), which emphasises the need to conduct more research in developing countries. Doing so will promote the level of corporate disclosure and transparency in those nations.

Saudi Arabia is a developing country and this study is motivated by that context. However, there are other factors that encouraged this study and the choice of Saudi Arabia. Chapter 2 discusses the context of Saudi Arabia from different perspectives, in depth. One of the most important factors is Saudi Arabia's unique culture, compared with that of Western countries. According to Hofstede's cultural dimensions, Saudi Arabia is a high power distance culture, where there is an emphasis on collectivism and not individualism (Hofstede Insights 2019). In contrast, the United States, the United

Kingdom and Australia are low power distance cultures with an emphasis on individualism rather than collectivism. It is argued that this difference in culture, among others, affects corporate voluntary disclosure (Orij 2010), and prevents results being generalised from country to country. These differences could affect disclosure practices, in terms of influencing corporate board appointments; the use of power, authority and connections to obtain information; and government appointment of CEOs and executives (who then use political connections to further their business aims).

Saudi Arabia's economy relies heavily on oil and, in recent years, the government has increased their efforts to secure international investments—so that the country has more varied income streams and a diversified economy. This motivated the Saudi government to allow foreign investors to invest in the Saudi stock market. Consequently, there was an interest in measuring the effect of foreign investors on the level of disclosure in Saudi Arabian businesses. Another reason for choosing Saudi Arabia is the changes that have taken place there recently, with reference to culture, economy, regulations, legislation and even politics—these are discussed in Chapter 2. Finally, the lack of research on corporate voluntary disclosure in Saudi Arabia and the mixed results in published studies represent another motivation to conduct this study.

1.1.1 Definition of corporate voluntary disclosure

There have been many attempts to define corporate voluntary disclosure. Although there is no one definition that all researchers agree on, most agree on the broader concept that considers any non-mandatory disclosure as voluntary disclosure. Meek, Roberts and Gray (1995) define corporate voluntary disclosure as any 'disclosure in excess of requirements, representing free choices on the part of company managements to provide accounting and other information deemed relevant to the decision needs of users of their annual reports page'. Another, broader, definition of corporate voluntary disclosure is 'the communication of economic information, whether financial or non-financial, quantitative or otherwise concerning a company's financial position and performance' (Owusu-Ansah 1998). Moreover, Hassan and Marston (2010) include any disclosure that is recommended by an authoritative code or body as a form of voluntary disclosure. Bhattacharyya (2012) asserts that corporate voluntary disclosure can refer to any financial and non-financial information which is not made mandatory by legislated rules and can be obtained from various sources, other than financial statements. From these definitions, it is noticeable that the concept of corporate voluntary disclosure has developed over time to include all types of information which are not mandatory and can be provided by a company's management in various forms and through different channels.

Corporate voluntary disclosure can be classified and categorised into many types. Meek, Roberts and Gray (1995) categorise corporate voluntary disclosure into three major categories: strategic information, financial information and non-financial information. In contrast, the Financial Standards Board (FASB) categorises corporate voluntary disclosure into six groups: business data; management's analysis of business data; forward-looking information; information about management and shareholders; background about the company; and information about unrecognised, intangible assets. However, it is important to state here that this disclosure is 'voluntary', so companies may disclose this kind of information in different ways and through different channels.

1.1.2 Importance of corporate voluntary disclosure

Along with its role as a transparency tool, corporate voluntary disclosure is important at the company level for many reasons. The extent of corporate voluntary disclosure is an important indicator of the company's transparency level, which could affect investors' allocation decisions (Al-Asiry 2017; Cannizzaro & Weiner 2015; Chau & Gray 2010; Naser et al. 2006). Further, corporate voluntary disclosure provides accessible information, which reduces information asymmetry between internal and external stakeholders and company management, which in turn helps company stability (Francis, Khurana & Pereira 2005; Shehata 2013). Moreover, voluntary disclosure could be used to avoid the potential negative consequences of a lack of information (Alotaibi 2014), such as lawsuits started by investors. Another reason that voluntary disclosure is important, from the company's perspective, is that it can be used to provide a comprehensive disclosure, which cannot be covered by mandatory disclosure alone (Hassan & Marston 2010). It is not only the company that is affected—corporate voluntary disclosure also affects the growth of economies and capital markets. The channels used for distributing information and the level of information flowing between corporations and investors are significant indicators of a capital market's health and stability (Meek, Roberts & Gray 1995). Therefore, the level of market transparency (which could be increased through corporate voluntary disclosure), has been recognised for influencing economies and prompting their growth (Ling & Sultana 2015). It has been argued that promoting voluntary disclosure by increasing the level of transparency is an important tool for attracting foreign and international investment to the market (Chau & Gray 2010; Shehata 2013) and it could prove an important tool to improve industry performance and market value.

Another reason for the importance of corporate voluntary disclosure is its role in elevating a company's sense of social responsibility. Although many still maintain that the internal focus of organisational accountability is to the direct shareholders, others argue that the ultimate goal of a company should be to maximise all shareholders' wealth (Friedman 1970; Karagiorgos 2010; Nguyen & Truong 2016). There are increasing calls for more corporate voluntary disclosure, so that businesses are seen to be engaged in corporate social responsibility and helping the wider society. Dowling and Pfeffer (1975) stress the importance of organisations adhering to the concept of the social contract between company and society. This concept emphasises that companies should not only be motivated by profit, but should also consider the organisation's activities within a wider social and economic context. Therefore, corporate voluntary disclosure is now deemed an important tool for elevating corporate practices that help maintain the social contract.

1.1.3 Determinants of corporate voluntary disclosure

Through reviewing literature surrounding corporate voluntary disclosure, this study has identified two major groups of determinants: corporate characteristics and corporate governance mechanisms. Corporate characteristics include many variables and company attributes that could affect the company's willingness and ability to disclose beyond mandatory disclosure requirements. It has been argued that corporate characteristics, such as the company size, the industry it operates in and profitability could be important factors that affect a company's voluntary disclosure (Ahmed & Courtis 1999; García-Meca & Sánchez-Ballesta 2010; Khlif, Ahmed & Souissi 2017). Another determinant of a company's disclosure level is corporate governance mechanisms, for example, board composition and ownership structure. Good corporate governance mechanisms have been identified as a virtual driver of corporate transparency, including corporate disclosure (Patel, Balic & Bwakira 2002; Shehata 2013). It has also been argued that one of the major reasons behind the corporate collapses, business scandals and financial crises since the late 1990s is the poor corporate governance practices and lack of adequate and effective corporate governance mechanisms (Albassam 2014; Haniffa & Hudaib 2006; Ntim et al. 2012). An important corporate governance mechanism is ownership structure, especially in emerging and developing countries where high levels of concentrated ownership, close links to government officials or control by governments or families are common (Alotaibi 2014).

One cannot ignore the possible effect of accounting standards on the level of corporate voluntary disclosure. Corporate voluntary disclosure has been seen as a supplementary tool of mandatory disclosure, used to provide a comprehensive disclosure of the company. Thus, any changes in accounting standards, which directly affect mandatory disclosure, may, in turn, affect how management teams need to do to disclose through corporate voluntary disclosure methods. Therefore, along with corporate characteristics and corporate governance mechanisms, this study examines the effect of accounting standards on the level of corporate voluntary disclosure.

Previous studies (see Chau & Gray 2002; Ho & Wong 2001; Hossain, Perera & Rahman 1995) focus on corporate characteristics and governance mechanisms. The current study widens the view and pays attention to investors' expectations about voluntary disclosure, as a determinant. It is worth examining whether there is any association between the level of corporate voluntary disclosure and the company stock price in developing countries and comparing the results to those in developed countries. This helps to reveal whether one of the reasons behind the low levels of disclosure in developing countries can be attributed to lack of investors' attention to, or interest in, this type of disclosure. It could be argued that the relationship between companies and outside stakeholders (mainly prospective investors) is built on mutual interests. Therefore, a company that discloses information in the interest of outside stakeholders can expect added value from those stakeholders, for example, a higher demand of the company's stock and, as a result, higher share prices. It could be argued that without interest from stakeholders, including investors, in corporate voluntary disclosure, companies would be less motivated to disclose higher levels of information voluntarily.

1.2 Aims of the Study

The current study aims to investigate the determinants of corporate voluntary disclosure in non-financial companies listed on the Saudi stock exchange. To reach this goal the study has the following objectives:

1. Measure the extent of corporate voluntary disclosure in non-financial companies listed on the Saudi stock exchange.
2. Investigate the effect of board of directors composition on corporate voluntary disclosure.
3. Investigate the effect of ownership structure on corporate voluntary disclosure.
4. Investigate the effect of International Financial Reporting Standards (IFRS) on corporate voluntary disclosure.
5. Investigate the association between corporate voluntary disclosure and stock prices.

1.3 Research Questions

1. To what extent do non-financial companies listed on the Saudi stock exchange disclose voluntarily in their annual reports?
2. Were there any improvements in the level of corporate voluntary disclosure in the annual reports after IFRS adoption?
3. To what extent do board composition, ownership structure and IFRS affect total corporate voluntary disclosure?
4. Do board composition, ownership structures and IFRS affect corporate voluntary disclosure categories differently?

5. Does the level of corporate voluntary disclosure contribute to explaining the variation in companies’ stock prices in Saudi Arabia?

1.4 Significance of the Study

Corporate disclosure has been shown to influence investors’ reactions and decisions, as well as an individual company’s investment efficiency, cost of capital and value (Beyer & Guttman 2012; Biddle, Hilary & Verdi 2009; Cheng, Dhaliwal & Zhang 2013; Gunawan & Lina 2015; Luo et al. 2015; Nègre et al. 2017; Östberg 2006; Plumlee et al. 2015). Moreover, according to Baamir (2008), disclosure and transparency are important aspects that can boost sustainable development and economic growth. This type of research has helped to identify some of the determinants of corporate voluntary disclosure in Saudi Arabia, which could help legislators enact regulations, such as governance codes and accounting standards. Further, it is hoped that this study will attract managers’ attention to the effect the level of disclosure has on their companies, which may motivate them to disclose more. This study also attempts to increase the level of awareness among investors, by providing them with studies that enhance their understanding of corporate voluntary disclosure.

This study reveals the important role played by different internal corporate governance mechanisms, regarding aspects such as transparency and disclosure. The reports presented in this study could be instrumental to shareholders, external auditors, regulators and legislators in the preparation of annual reports and the improvement of corporate monitoring mechanisms. Finally, what sets this study apart from previous research, which focuses on only one type of corporate voluntary disclosure (Ahamad Nalband & Al-Amri 2013; Al-Moataz & Hussainey 2012; Aldosari & Atkins 2015; Alsaeed 2006; Habbash 2016; Habtoor & Ahmad 2017), is that this thesis provides insights into a wider range of stakeholders, by including multiple corporate voluntary disclosure categories. The results of examining these categories are useful in decision-making for those stakeholders, and it could serve as a benchmark for future studies.

1.5 Contribution of the Study

The current study contributes significantly to the field in several ways. It is a comprehensive study with a holistic approach, providing extensive and new empirical evidence relevant to multiple areas: corporate voluntary disclosure, corporate governance, accounting standards and market valuation. This study measures the level of voluntary disclosure across multiple categories and examines their determinants from different perspectives, which provide a wider and clearer picture of what drives corporate voluntary disclosure. Moreover, instead of 'lumping' all types of concentrated ownership into one variable, the current study differentiates between five types of ownership. This provides insights into the different effects of varied ownership structures on corporate voluntary disclosure. Further, this study contributes to the theoretical corpus of knowledge by empirically examining the applicability of several theories for explaining corporate voluntary disclosure and how it works in developing countries.

This study contributes to the literature by responding to many calls by researchers such as Qiu, Shaukat and Tharyan (2016), Reverte (2016) and Verbeeten, Gamerschlag and Möller (2016) to distinguish between different aspects of corporate voluntary disclosure and whether they are differently valued by investors in varied institutional settings. Examined herein is the association between corporate voluntary disclosure in annual reports and stock price and, to the best of the researcher's knowledge, this is the first analysis of this type to be conducted in Saudi Arabia and the Middle East. A few studies have been conducted elsewhere, concerning one aspect of voluntary disclosure (i.e.

corporate social responsibility disclosure [de Klerk, de Villiers & van Staden 2015; Reverte 2016]), but not concerning other voluntary disclosure categories. Examining the association between corporate voluntary disclosure and stock prices helps to identify the possible effect of investors' expectations on the level of corporate voluntary disclosure. This opens the window for future studies to consider investors' expectations, while empirically examining the determinants of corporate voluntary disclosure.

Additionally, there is lack of research in developing countries in general (Muttakin & Khan 2014) and in Saudi Arabia specifically (Alhazmi 2017) with regard to corporate voluntary disclosure, its determinants and its financial impact. Thus, the current study contributes to the literature by providing empirical evidence on this topic for a major developing country—Saudi Arabia. Further, this thesis provides recent data and up-to-date results on the extent of corporate voluntary disclosure and its determinants in the listed companies in Saudi Arabia after significant changes have taken place.

This study also contributes by developing an instrumental tool to measure the extent of corporate voluntary disclosure (the voluntary disclosure index). This index has been modified from previous studies and was reviewed against mandatory disclosure requirements in Saudi Arabia, including company law, accounting standards, governance code and listing regulations. Many changes in laws and regulations in Saudi Arabia took place between 2015 and 2017, but only items that remained voluntary in both periods were included in the index. Thus, this index is beneficial for future researchers, policy-makers and investors in Saudi Arabia, who want to investigate corporate voluntary disclosure. It can also be modified to suit other contexts.

Last, the current study contributes to the field by providing policy-makers with a set of recommendations that enhance the level of corporate voluntary disclosure in Saudi

Arabia. The results provide insight for practitioners and company managers, regarding the attractiveness of voluntary disclosure to foreign investors and what this means for their investment allocations.

1.6 Limitations of the Study

The current study is limited to its scope and context which prevents the generalisability of its results beyond that. The current study is limited to annual reports of non-financial companies listed on the Saudi Arabian stock exchange by the end of December 2017. It is important to note that companies may disclose this kind of information (voluntary disclosure) in different ways and through different channels. However, annual reports are the major and most frequently used method. Further, there is limited access to other types of corporate voluntary disclosure measurements (such as agency ratings and analyst forecasts) that do not rely on examining the disclosure tool (annual reports). The main impediment to using agency ratings is that they are not available for all listed companies in a country and for all years, so continuity is not possible. In addition, rating agencies may change their rating methodology from year to year (Hassan & Marston 2010), which introduces bias when using their scores in two different periods of the study. Therefore, this type of voluntary disclosure measurement was not appropriate for the current study. The other type of measurement that does not rely on examining a disclosure tool is analyst forecasts (Hassan & Marston 2010). Analyst forecasts were not employed in the current study simply because such forecasts about voluntary disclosure are not available in the Saudi context (Alotaibi 2014).

Corporate voluntary disclosure practices and their extent vary from country to country. To provide insights into the situation in each country, studies on this topic should not be conducted homogeneously. Many studies have been conducted in developed nations, but more investigations into the various avenues of corporate voluntary disclosure in developing countries are necessary. Saudi Arabia is one of the main developing countries making a global economic impact. For this reason, the current study seeks to investigate corporate voluntary disclosure in this country, especially in an era of policy changes that are transforming the conservative Islamic country.

There are more than 470,000 registered firms in Saudi Arabia in 2019 (General Authority for Statistics 2019). However, listed companies in Saudi Arabia represent more than 63% of the Saudi Gross Domestic Product (GDP) (World Bank 2019). Listed companies have a noticeable effect on the economy, society and stakeholders. Further, there is a separation between ownership and management in listed companies, which raises issues and increases conflicts of interest. This separation requires higher levels of disclosure and adequate transparency. Therefore, the current study is focused on listed companies on the Saudi stock market—and the majority of listed companies in Saudi Arabia are non-financial. Financial firms such as banks and insurance companies are excluded. Banks, diversified financial and insurance companies are excluded because they have different characteristics and accounting regulations. Non-financial companies will provide sufficient data and they are a representative sample of the population. There have always been many ways for a listed company to disclose information. However, the most important, traditional and required method is the annual report. Thus, the current study is interested in evaluating the level of corporate voluntary disclosure which is currently published in the annual reports of non-financial, listed companies.

Saudi Arabia adopted IFRS in 2017. The current study is interested in measuring the extent of corporate voluntary disclosure before and after IFRS, and if there has been any effect on corporate voluntary disclosure. To produce a balanced dataset, the current study includes two years—representing before and after IFRS adoption. The researcher was limited to a timeline that prevented the inclusion of annual reports beyond 2017. To include annual reports beyond 2017, the researcher would have needed to wait until late February 2019 to obtain 2018 annual reports, then spend the months leading up to mid or late 2019 conducting content analysis and data analysis. This conflicted with the current study timeline approved by the university.

Corporate voluntary disclosure is a complex matter and it may be affected by several factors. The literature on corporate voluntary disclosure discusses many variables as possible determinants of corporate voluntary disclosure. However, the current study includes what are believed to be the most important variables that affect corporate voluntary disclosure. Further, data availability limits the extension of the current study’s framework in the time available to undertake this thesis.

Finally, this analysis seeks to provide an overview and explanation of the population as a whole, instead of investigating individual cases (i.e. specific companies, directors or investors). Therefore, this study adopts a quantitative approach to collecting and analysing the data.

1.7 Research Methodology

1.7.1 The study framework

This study is built on the frameworks of Singhvi and Desai (1971) and Ohlson (1995). To measure the extent of corporate voluntary disclosure and investigate the factors that drive voluntary disclosure, this study builds on the framework provided by Singhvi and Desai (1971). It uses a voluntary disclosure index that helps to measure and obtain the extent of corporate disclosure. Then, the total corporate voluntary disclosure scores are regressed against the independent variables. A number of studies have previously used this approach in different contexts, for example, Adelopo (2011), Charumathi and Ramesh (2015), Elfeky (2017) and Kaya (2014). To examine the relationship between the extent of corporate voluntary disclosure and company stock price, this study builds on a modified framework presented by Ohlson (1995), which has been used in similar studies, for example, de Klerk, de Villiers and van Staden (2015) and Reverte (2016). This model will help to objectively measure the level of investors' interest in corporate voluntary disclosure. The current study employs this model rather than using a questionnaire, which may not reflect the real behaviour of investors towards corporate voluntary disclosure.

1.7.2 Scope of the study

The scope of this study is limited to non-financial companies listed on the Saudi Arabian stock exchange on 31 December 2017. Data has been collected from the annual reports of non-financial companies listed on the stock market in Saudi Arabia for 2015 and 2017. Banks, diversified financial and insurance companies are excluded because they have different characteristics and operate in accordance with other types of accounting regulations (Nurunnabi 2017). The Saudi Organization for Certified Public Accountants (SOCPA) required all listed companies to report under IFRS for the financial period beginning on 1 January 2017; however, dual reporting and reconciliation was required between 1 January 2016 and 31 December 2016 (Nurunnabi 2017). This study aimed to measure the extent of corporate voluntary disclosure before and after IFRS adoption; thus, it excluded 2016 annual reports because they fall between the two periods, and it is difficult to identify whether 2016 annual reports were published before or after the adoption of IFRS. Therefore, the sample has been drawn from the annual reports of non-financial companies listed on the Saudi Arabian stock exchange for 2015 (i.e. before IFRS adoption) and 2017 (i.e. after IFRS adoption).

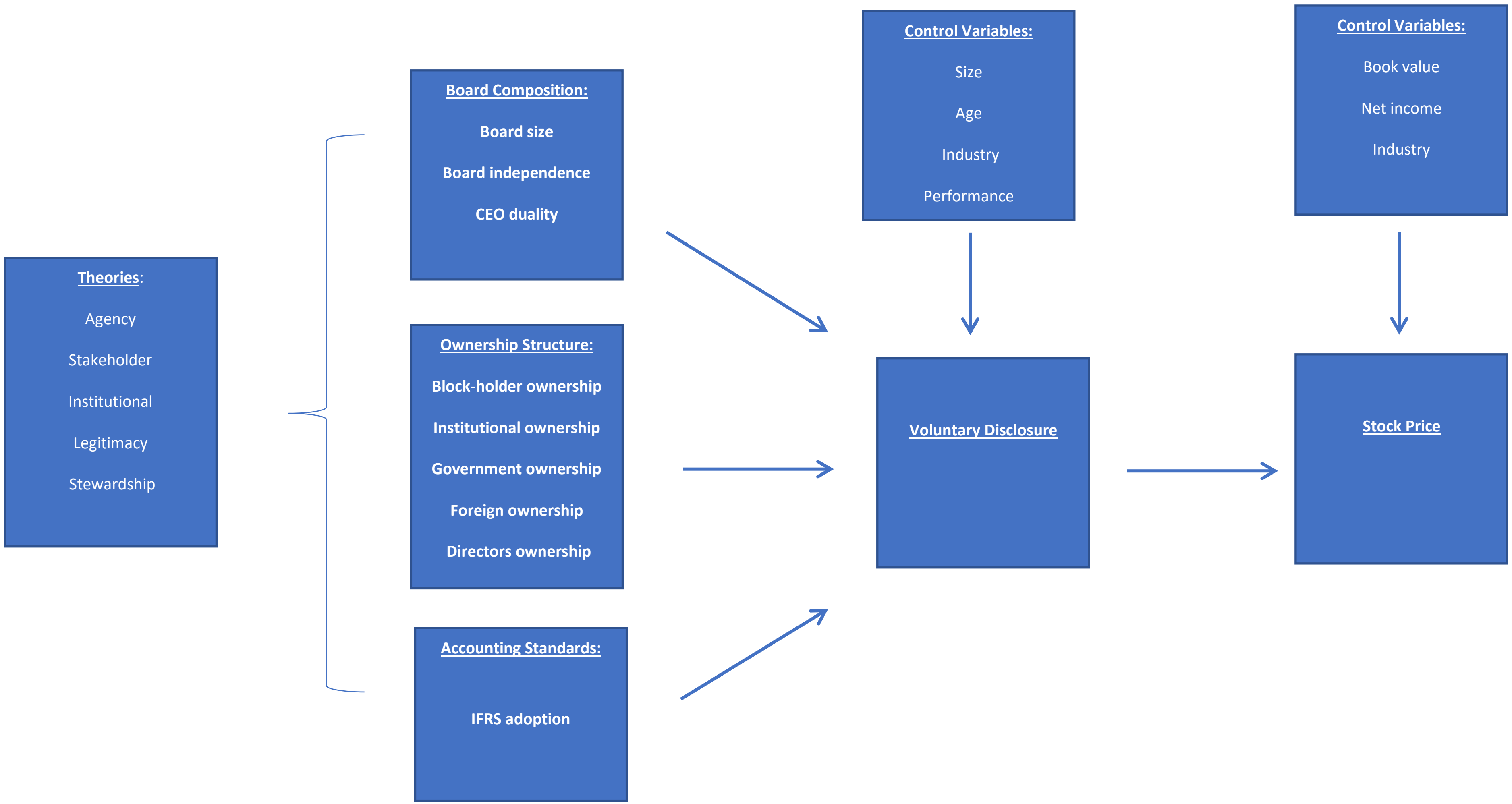
1.7.3 Sample

Direct observation of Tadawul (which is the official title of the stock exchange in Saudi Arabia and is supervised by the Capital Market Authority) revealed 126 non-financial companies listed in 2015 and 127 non-financial, listed companies in 2017. This gives a total of 253 annual reports serving as the population sample of this study. After excluding missing data, the final sample is composed of 240 annual reports, representing 120 non-financial companies for two years.

1.7.4 Statistical analysis

After establishing the panel data, various statistical tests (diagnostic tests, descriptive tests and regression tests) using SPSS and STATA software were applied in this study. These tests and the estimated models (see Chapter 4) were sufficient and appropriate to answer the research questions in this study. They are comparable with what has been applied in a number of similar studies, for example, Al-Maghzom, Hussainey and Aly (2016), da Silva Monteiro and Aibar-Guzmán (2010), de Klerk, de Villiers and van Staden (2015), Reverte (2016), and Wang, Sewon and Claiborne (2008).

Figure 1-1: Theoretical and Conceptual Framework of the Study



1.8 Structure of the Thesis

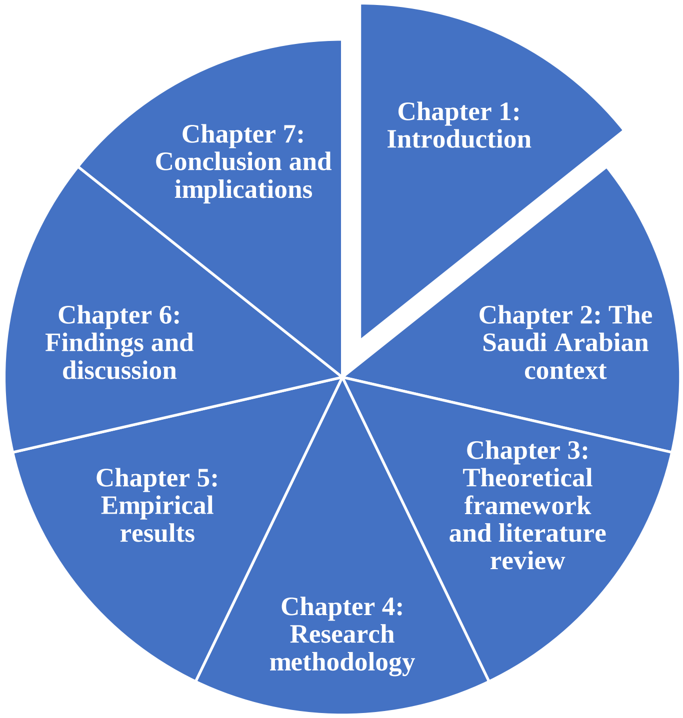


Figure 1-2: Thesis Structure

This thesis is structured in seven chapters, each dealing with different aspects of the study. Chapter 1 begins by providing a background to the topic, covering the basic aspects in terms of the research problem, motivations and the reasons for choosing this particular subject. Definitions and the importance of voluntary disclosure are provided in the background section. Then, the chapter presents the research aims, objectives and research questions regarding the extent of corporate voluntary disclosure in Saudi Arabia, its determinants and its effect on company stock prices. Section 1.4 of the chapter concerns the significance of the current study. Section 1.5 presents the study contribution and Section 1.6 presents the study limitations. In Section 1.7 the study methodology is explained. Last, Chapter 1 ends with this description of how the thesis is organised.

Chapter 2 covers the context of Saudi Arabia, by providing an overview of the country's political, cultural and economic situation. It also covers the laws and regulations in Saudi Arabia relevant to this research topic: accounting standards in Saudi Arabia, stock market regulations, Saudi corporate law and the code of governance. Chapter 2 then explains why Saudi Arabia was chosen for this study. The most important reasons are the economic and cultural differences from other countries. This is followed by a justification for not applying the results of previous studies in other locations to the Saudi context. For example, Saudi Arabia is a power distance culture with an emphasis on collectivism and not individualism, which can affect corporate voluntary disclosure and corporate governance mechanisms.

Chapter 3 covers the theoretical framework, literature review and the development of the related hypotheses to be tested in this study. In the first section, five theories related to this study are presented and discussed: agency theory, stewardship theory, legitimacy theory, stakeholder theory and institutional theory. The use of these theories and the justifications for using them are presented. The second part of this chapter discusses the previous literature critically and presents the different streams in the previous results, about each variable, separately. This helps to develop the hypotheses, which are presented after discussing each variable. The literature review is important because it provides the reader with an overview of the most important studies on the thesis topic. Summaries of these studies are presented at the end of the chapter.

Chapter 4 presents the research design and research methodology. This chapter is divided into five main sections, which cover different aspects of the methodology. The first section deals with the research design and research philosophy in terms of research paradigm, research approach and research method. Section 1.2 deals with the scope of this study in terms of place, time, data sources and sample size. In the third section, measurements of the study variables are presented. This chapter ends by presenting the mathematical equations and the statistical tests used in this study.

Chapter 5 presents the empirical results. Descriptive analysis is presented in the first section to help answer the first research question, which is about the extent of corporate voluntary disclosure in the study sample. In sections two and three the correlation and regressions results are presented, which helps to answer the four research questions. These two parts cover the relationships between the dependent and the independent variables.

Chapter 6 deals with a discussion and analysis of the study findings. The results are compared with those documented in previous studies and reasons behind similarities or differences between the results are explained. The results are analysed and discussed under three sections: first, the extent of corporate voluntary disclosure in Saudi companies; second, the determinants of corporate voluntary disclosure in Saudi companies; and third, the relationship between corporate voluntary disclosure and company stock prices.

In Chapter 7, an overview of the study is offered, with a summary of the objectives and answers to the questions. In the second section of this chapter, a summary of the study results and the main findings is provided, followed by the implications of this research. Last, this final chapter ends by presenting suggested opportunities for future research that can extend the current study and add more knowledge to the subject on corporate voluntary disclosure.

Chapter 2 : The Saudi Arabian Context

In essence, culture may hold the key to understanding why certain disclosure styles persist in, and throughout, a society. Additionally, given that companies adjust their disclosure practices to conform to the norms and values of the wider society, there is a valid reason for studying cultural context as a way of understanding disclosure (Gibbins et al. 1990). This argument is still maintained by many today, as it has long been argued that the surrounding environment, including historical, social, political, legal and economic systems, can significantly shape corporate practices (Scholtens & Dam 2007). Therefore, this study argues that we should not separate corporate disclosure practices from the influence of the wider environment. This chapter provides an outline on Saudi Arabia and factors influencing its methods of corporate disclosure. The chapter begins by providing a comprehensive description of Saudi Arabia and ends by discussing the effect of culture in general on corporate disclosure.

2.1 Background of Saudi Arabia

The Kingdom of Saudi Arabia (KSA) is an Islamic Arab state established on principles espoused by the Islamic faith's holy book, the Qur'an, and Islamic law, known as Shari'ah. KSA is situated in Southwest Asia and is the largest state in Western Asia, with a geographical extent of 2,250,000 km^2 (868,730 square miles) (MOFA 2019). The formation of the current kingdom commenced with the capture of Al-Saud's ancestral home of Riyadh in 1902 by Abdulaziz bin Saud and concluded with the institution and recognition of the KSA in 1932 (SNP 2019).

Saudi Arabia is the heartland of Islam, which is among the world's most important monotheistic religions. Muslims are followers of Islam, believe in one god, Allah and his

Holy Prophet, Muhammad. People from all races and cultures make up the worldwide community of Muslims, which currently stands at over one billion people (Embassy of The Kingdom of Saudi Arabia [EKSA] 2019). Saudi Arabia has a special place in Islam, because the Ka'abah—Islam's most sacred shrine—is situated in Makkah, an important Saudi city. Five times every day, Muslims all over the world turn towards the Ka'abah in devout prayer. Given the intricate interweaving of Saudi and Islamic history, an understanding of the Islamic creed—its viewpoint and the historical forces that have shaped it—is essential if one is to develop an in-depth understanding of KSA and its role as a leader of the Muslim world and the Arab nations (MOFA 2019; SNP 2019).

Figure 2-1 Southwest Asia-Middle East (WorldAtlas 2020)

Being the largest Arab country on the Arabian Peninsula, it stretches from the Red Sea, on its western borders, to the Persian Gulf, on its north-eastern borders. To the north and northeast, Saudi Arabia is bounded by Jordan and Iraq; on the east, it shares boundaries with the United Arab Emirates, Kuwait and Qatar; it has Oman to the southeast and Yemen on its southern borders. It is also linked to Bahrain via the King Fahd Causeway.

Figure 2-2: Saudi Arabia's Borders (WorldAtlas 2020)

The origins of the kingdom may be traced back to as early as 1744, with the founding of the original Saudi state. Over the next few centuries, Saudi Arabia emerged to play a significant role in global trade, owing to its strategic location beside the Persian Gulf and the Red Sea; a position that has allowed it to play a major role as facilitator of trade between India, China and Europe. Saudi Arabian history goes back all the way to the Arabian Peninsula's first civilisations, which predated Islam, from its ancient role as a major international trading crossroad. Because of its position as the birthplace of one of the world's major religions, the peninsula was the base for the further geographical and ideological expansion of Islam (Teitelbaum, Ochsenwald & Philby 2019).

KSA relies on oil as its main source of revenue (GOV.SA 2019). The first discovery of oil in Saudi Arabia was in 1936 (EKSA 2019; SACM 2019). By 1950, less than two decades after the initial discovery, the country grew to be one of the world's major oil producers. By current estimates, one-quarter (25%) of the world's untapped crude oil is in Saudi Arabia, earning it an enviable position as the undisputed leader of the global petroleum trade (Teitelbaum, Ochsenwald & Philby 2019). In addition to its role in the

Muslim and Arab commercial worlds, KSA has a plethora of affiliations and is a founding member of some of the world's most important organisations, including the United Nations (UN), Gulf Cooperation Council (GCC), the Organization of the Islamic Conference (OIC) and Organization of Petroleum Exporting Countries (OPEC). It is also a member of the World Bank, as well as the International Monetary Fund (IMF), the World Trade Organization (WTO), and member of the G20 (MOFA 2019). Saudi Arabia's affiliations with the aforementioned bodies emphasises its international importance and justifies the choice to study it in this thesis.

Figure 2-3: Pictures of Participants at the Osaka Summit 2019 (G20 Saudi Secretariat 2019)

2.1.1 Saudi culture

The Saudi way of life is firmly rooted in Islamic principles and Arab customs (SACM 2019). This rich culture has been shaped over the centuries by the country's origins as an ancient trading centre, its vibrant Bedouin civilisations and entrenched Islamic heritage. As Saudi society experienced waves of development in the past few decades, Saudi citizens have responded by taking the values and traditions that shape their customs and adapting these to life in a modern world (GOV.SA 2019). The effect of Islam on Saudi history and economic development and on the rest of the Arabian Peninsula has been profound in all respects. This is not surprising given the kingdom's position as Islam's heartland, its birthplace, the site of its two holiest mosques and the actual focus of Muslims' prayers worldwide (MOFA 2019; SNP 2019).

The country's population comprises mostly villagers, nomads, and townspeople (GOV.SA 2019). These various groups of people are bound together by strong patrilineal bonds. The extended family is the main unit of society, owing to the high value that Saudi society places on the kinship principle. Although Saudi cities are cosmopolitan in nature, a strong presence of the kinship principle is still observable. Additionally, in the cities, a higher degree of social stratification is in evidence compared with other areas. Before Saudi Arabia entered the modern era, when the effects of oil wealth were not yet pervasive, individuals' family or tribal origins and occupations were the primary factors that determined status. Today, material possessions play a more central role in how individuals assess their own status or importance in society (SACM 2019).

2.1.2 The political framework in Saudi Arabia

The country's system of government defines what it stands for, its focus and vision, along with the terms that define the relationship between the government and the people. To this end, KSA is defined as a sovereign Arab and Islamic state, with Islam as its religion and the Holy Qur'an and Sunnah as its constitution. The king, who is also the prime minister, works to enforce adherence to the Shari'ah law, ensures that the state remains true to its general policy and oversees the safety and security of the nation. The king also appoints the crown prince and he has a Council of Ministers to assist him in the conduct of his duties (MOFA 2019).

By-laws introduced in 1992 further expand the purpose of the Saudi state to protect the rights and security for all citizens and residents of the country. They further reinforce the notion of the Saudi family as the core of society, which is seen in the family's role in teaching and enforcing Islamic values in its individual members. Another important tenet of the terms of association between ruler and citizens is the principle of the equality of all citizens of Saudi Arabia: all are equal in the eyes of God, all are equal in their obligations to the health, security and prosperity of the nation, and all must receive equal treatment from the law (MOFA 2019).

2.1.2.1 Council of Ministers system

In 1953, King Abdulaziz bin Abdulrahman Al-Saud established the Council of Ministers, which comprised the prime minister (the king), deputy prime minister (the crown prince), and cabinet ministers (EKSA 2019). The Council of Ministers had the same composition and duties until the by-laws announced in September 1993 by King Fahd bin Abdulaziz Al-Saud. He elevated the primary role of the council to draft and also oversee the execution of the internal and external, financial and economic, educational and defence policies of the kingdom, as well as guidelines for its general affairs. The Cabinet, as the Council of Ministers is called, gives advice to the king and helps the country and its regions to develop. It was restructured in 2015 by King Salman owing to the establishment of a number of new ministries. Its current constitution is the prime minister, deputy prime minister, 22 portfolio ministers and seven ministers of state (MOFA 2019).

The council meets every week and is presided over by the Prime Minister or the Deputy Prime Minister. It has the final authority on all matters of the State's executive, financial or administrative affairs. Unless agreed on by a majority vote, the council's resolutions are not binding and in the event of a tie, the prime ministerial vote serves as the tie-breaker. All functions of the council are in accordance with KSA's primary system of government. It is advised by the Consultative Council or the Majlis Al-Shura (EKSA 2019).

2.1.2.2 Majlis Al-Shura (Consultative Council)

The Consultative Council, or the Majlis Al-Shura, is a law-making body that advises the king on critical issues affecting the kingdom. It became a full member of the Inter-Parliamentary Union on 7 April 2003 and currently has 150 members, who are appointed by the king for a renewable tenure of four years. The members of the council are selected based on their expertise in various areas and are drafted into 12 committees dealing with the following: Islamic affairs, economy and industry, finance, human rights, education, health and social affairs, culture, information, security, administration, services and public utilities, and foreign affairs (MOFA 2019).

Initially, the role of the council extended only to discussions which bordered on matters that were important to the nation and public. To increase the level of accountability among government agencies and to reduce bureaucracy, in 2004 its mandate was expanded to include drafting proposals for new legislation, in addition to amending the country's existing laws without the need for prior recourse to the king. Further, it is able to request the presence of government officials in any of its deliberations or request access to important government documents (EKSA 2019).

2.1.2.3 Provincial system

By-laws established in 1992 by King Fahd resulted in the creation of the Saudi provincial council system. These laws divided the country into 13 provinces, with clear guidelines for their administrative structures and processes, along with the responsibilities of governors and other resulting regional officers. The following year, King Fahd elected 210 individuals as members of the provincial councils. This remained until 2005 when elections were conducted at the municipal level to fill half of the membership positions in the kingdom's 178 municipal councils, with the other half, along with the mayor, being appointed (MOFA 2019). These councils meet to discuss the issues within the province, draw up a developmental budget for the province, oversee current projects and deliberate on future development plans and projects. Reports by the councils are submitted to the minister of the interior, from where they are dispatched to the relevant government ministry or agency for further deliberations (MOFA 2019).

2.1.3 The Saudi legal system

Given its status as an Islamic state, Saudi Arabia's judicial system is based on Shari'ah (Islamic law); this is true for both criminal and civil cases (MOJ 2019). The king sits at the apex of the legal system and serves as the court of final appeal and the recourse for pardon. The Saudi legal system is made up of three principal parts, with the Shari'ah court being the largest, since it hears the majority of cases in KSA's legal system. The Shari'ah court system is organised into various categories, among which are Courts of First Instance—Summary and General Courts, Courts of Appellate, and the Supreme Judicial Council (MOJ 2019). Second, there is a Board of Grievances court that supplements the Shari'ah courts, for hearing cases involving the government. Finally, various government ministries' committees exist for addressing specific kinds of disputes such as labour issues; this forms the third arm of the Saudi legal system (GOV.SA 2019; MOJ 2019).

2.1.4 Economy of Saudi Arabia

The economy has undergone a remarkable transformation within a brief period; growing rapidly from being mostly agrarian into a regional, and even global, economic powerhouse with up-to-date infrastructure (MEP 2019). In view of its position as the number one producer and exporter of oil in the world, petroleum naturally plays a central role in the Saudi economy (GOV.SA 2019). Over the last five decades, the economy has witnessed several efforts by the government at diversification, with the result that the country is now a producer and exporter of a wide range of industrial goods. From 1938, the economy depended on revenues from oil, but Saudi leaders were resolved to change the country's economic structure, by diversifying away from oil (SAV 2019). They realised the need for a detailed economic plan with well-laid out objectives and detailed plans on how to achieve them. This led to the introduction of the first Development Plan in 1970, establishing a series of five-year planning periods which is maintained to this day. By 1995, contributions to GDP from the non-oil sector rose from 46% to 75%, tripling the country's GDP to $125.1 billion. That growth continued so that by 2018, GDP stood at $782 billion (SNP 2019). The government plays a pivotal role in the industrial and economic development of the country. A good proportion of its efforts are channelled through the Ministry of Economy and Planning, which sets long-term goals and formulates plans for the social and economic development of the country. Other industries, such as agriculture, communications, transportation, energy and finance, have their own dedicated ministries (SNP 2019).

The Saudi economy is the largest in the Middle East (Habtoor et al. 2017). The country is also a member of the G20, an organisation which describes itself as ‘a leading forum of the world’s major economies that seeks to develop global policies to address today’s most pressing challenges’ (G20 2019). Further, Saudi Arabia is a vital member of OPEC. The Saudi economy output alone constitutes 25% of the combined GDP of the Arab world (Habbash 2016), and 44% of the global market capitalisation of Arab nations (Habbash, Hussainey & Ibrahim 2016). From 1975, when it stood at 14 (Al-Razeen & Karbhari 2004), the number of companies listed on the Saudi stock exchange has grown phenomenally, to 179 companies in 2017 (Tadawul 2019). Moreover, according to the World Federation (2014), the average size of Saudi companies is double the average size of companies worldwide (Habtoor et al. 2017). The Saudi private sector is increasing in importance within the country’s economy; its current 48% contribution accounts for almost half of GDP (SACM 2019). As the country opens its doors to foreign investors, this sector is expected to grow even more in the near future. In December 2005, Saudi Arabia became a member of WTO, which served to further expand its access to international markets and attract more foreign investors (MEP 2019; SACM 2019).

2.1.4.1 Building a modern economy

The discovery of oil in 1938 made possible the construction of roads, schools, hospitals, airports, seaports and other basic infrastructure (SACM 2019). In the same period, Aramco (the Saudi Arabian Oil Company), expanded oil-exploration activities to further bolster earnings from oil, while at the same time, improving on its existing facilities and infrastructure. By the 1960s, the country had made significant progress in many important areas. A modern education system now existed, a functional network of roads was in place, healthcare had vastly improved, agricultural output was on the rise and many factories had been established.

2.1.4.2 Vision 2030

The Saudi government unveiled Vision 2030 in 2016. It is an ambitious plan that aims to accomplish a more complete departure from oil dependence, diversify the economy and bolster foreign investment in the country. To assure an even better future, the Vision 2030 statement emphasises three keystones that encapsulate the nation's competitive advantage (SAV 2019). First, the vision is built on KSA's central role as the Arab heartland and the centre of the Islamic world. Second, it aims to use Saudi investment power to develop a much more diversified and resilient economy. Third, it will leverage KSA's strategic location to advance its role as an intermediary of global trade and a bridge between the African, Asian and European continents (SAV 2019).

Through its Vision 2030 strategy, the Saudi Arabian government aims to achieve the following economic objectives (SAV 2019):

1. Reduce unemployment from 11.6% to 7%.
2. Boost small and medium enterprises (SMEs) contribution to GDP to 35%; up from the current 20%.
3. Increase the proportion of working women from 22% to 30%.
4. Move up from 25 into the top 10 countries on the Global Competitiveness Index.
5. Bring foreign direct investment from 3.8% of GDP closer to the recommended international standard of 5.7% of GDP.
6. Boost private sector contribution to GDP by 15%; currently at 40%.
7. Become one of the world's top 15 economies; up four points from the current position of 19.
8. Achieve 75% localisation in the Saudi oil/gas sectors; currently at 40%.

9. Increase the Public Investment Fund's assets to over SAR 7 trillion, from 600 billion.
10. Improve global ranking from 49 to 25 in the Logistics Performance Index; to secure KSA's position as the regional leader in logistics.
11. Improve contribution to GDP from non-oil exports to 50%, up from 16%.

2.2 Corporations and Regulations in Saudi Arabia

Saudi regulators have ramped up efforts to increase transparency levels and tighten regulations on how corporations do business in Saudi Arabia. This is to create a more favourable investment climate to boost economic growth. Among the first steps taken by the Saudi government to improve business culture and infuse it with greater corporate transparency were those taken in 1985, by the Ministry of Commerce. The Ministry of Commerce instituted the country's first accounting standard—specifically, the *Disclosure and Transparency Standard* (Nurunnabi 2018). Following this development, SOCPA was established in 1992, with the responsibility of advancing professionalism in accounting, auditing and matters relating to these professions.

The Saudi government's focus on corporate governance reforms continued as part of the broader economic reform goals unveiled at the turn of the millennium (Al-Matari, Al-Swidi & Fadzil 2012). It instituted a set of new agencies, authorities and regulatory bodies, including the Saudi stock exchange (or Tadawul), the Supreme Economic Council and the Saudi Arabian General Investment Authority (SAGIA). In 2003, a move specifically designed to accomplish the desired corporate governance reforms was taken, with the establishment of the Capital Market Authority (CMA) (Al-Nodel & Hussainey 2010; Albassam 2014). In 2006, the CMA released the *Code of Corporate Governance* with the stated goal of protecting shareholders, improving transparency and truthfulness and ensuring a fair and competitive market. To crown these efforts, in 2017 SOCPA adopted the *International Financial Reporting Standards* (Nurunnabi 2017), and listed companies' annual reports were now required to comply with these standards.

2.2.1 Ministry of Commerce

In 1953, the Saudi Ministry of Commerce and Industry was created, with the primary goal of regulating the activities of listed companies and instituting a general assembly for shareholders (SMCI 2019). Its name was subsequently changed to the Ministry of Commerce and Investment (MCI) and, in 1965, it issued the *Companies Act 1965*, which stipulated corporate governance provisions for the protection of shareholders' interests (SMCI 2019). It specified the structure and obligations of companies' boards of directors, along with shareholders' rights. In 1990, MCI followed this up with a Public Disclosure Standard, designed to boost corporate disclosure and improve transparency. Then, in 2006, following a sweep of corporate governance reforms, some of the MCI's functions were taken over by the CMA (2019a).

2.2.1.1 Companies law

The initial Saudi companies law came about through the Royal Decree No. M/6 of 1965; it was the first of several efforts to oversee the activities of business entities in the country and there were many subsequent amendments (Shoult 2006). As the Saudi economy changed in size, scope and complexity, the Companies Law was amended to cope with the rapid economic expansion (Ramady 2010). A new Companies Law was issued by Royal Decree No. M/3 in 2016, with further amendments introduced later. The latest is Royal Decree No. M/79 of 2018, which focuses on the independence of boards of directors. In general, the Companies Law elaborates on regulations for the management of business entities—specifically those entities created by mutual agreement, where the associating individuals or entities agree to jointly conduct business with the intent of sharing profits and losses by a previously agreed-upon formula (Ramady 2010). The Companies Law comprises 227 articles, which elaborate on the guidelines for various facets of business. It covers topics including categories of business, registration procedures and requirements and capital requirements. The articles contain rules regarding the auditing of company accounts, the activities and conduct of boards of directors and guidelines for providing information to shareholders (Companies law 2016).

2.2.2 Saudi Organization of Certified Accountants

SOCPA is the Saudi body authorised to promote the accounting and auditing professions. It was established by Royal Decree No. M/12 in 1992 and it operates under the supervision of the MCI. SOCPA’s goal is to promote and develop the accounting and auditing professions.

Accounting as a profession in Saudi Arabia is still in its emerging stages. The first law to mandate the auditing of listed firms’ financial statements by independent auditors was passed in 1965; this was to protect shareholders’ interests (SOCPA 2018a). Subsequently, the *Certified Accountants’ Act of 1974* was passed into law in 1974. The issuance of this Act served as a milestone in the development of accounting in Saudi Arabia and provided a firm basis for regulating the profession. The Act was supervised by the MCI. However, the profession was unable to develop to desired levels, since there was no specific body tasked with ensuring its improvement (Haniffa & Hudaib 2007).

That gap was filled in 1992, with the establishment of SOCPA, as a semi-independent authority (Alsaeed 2006) charged with the responsibility of advancing professional accounting and auditing in KSA. Its mandate included the reorganisation of auditing firms, licensing of certified auditors and accountants and monitoring the performance of audit firms for quality. In 1992, the 1974 Act was revised and amended (SOCPA 2018a). In 2006, SOCPA was formally recognised by the International Federation of Accountants (IFAC) (SOCPA 2018b), which selected SOCPA, from a list of 16 similar bodies, to help further the development of the accounting and auditing professions (SOCPA 2018a).

SOCPA's role has been essential to improving the quality of Saudi auditing firms (Alsaeed 2006). It allowed investors and shareholders to view companies' annual reports with a greater sense of confidence. Building on its accomplishments, the SOCPA board resolved in 2012 to adopt the IFRS, with a plan to finish the project by 2017. By 2017, this project was completed and SOCPA was able to transfer to the IFRS (Nurunnabi 2017), making it mandatory for the annual reports of listed companies to comply with the standards.

2.2.2.1 Accounting in Saudi Arabia

In 1991, the first law created solely to regulate the accounting and auditing professions in Saudi Arabia—the Certified Public Accountants Law (CPAL)—was issued by Royal Decree No. M/12; it contained 38 articles. The law saw SOCPA instituted as the professional body entrusted with advancing professional accounting and auditing standards in KSA. In addition to those listed on the Tadawul, all for-profit firms were obligated to conform to the accounting standards defined by SOCPA (CMA 2019a). These rules were based on international accounting standards, with adjustments made to accommodate the country's environment.

2.2.3 The Saudi capital market

A formal, fully-fledged capital market did not exist in Saudi Arabia until the early 1980s. In the period preceding formalisation of stock market activities, stock market operations and regulations were insufficient for the protection of shareholders and investors who, in turn, shunned the market (Al-Matari, Al-Swidi & Fadzil 2012; Al-Nodel & Hussainey 2010; Hussainey & Al-Nodel 2008). The informal stock market in Saudi Arabia traces its operations back to the 1930s, when the first joint-stock company was created. The oil boom of the 1970s triggered swift economic growth, which resulted in more banks and public companies. By 1975, 14 of these public companies were already operating, but the stock market retained its informal status until the mid-1980s. In 1985, the Saudi Central Bank, known then as the Saudi Arabian Monetary Authority (SAMA), was charged by the government with the responsibility of monitoring and regulating trading in company shares. This state of affairs persisted until July 2003, when the CMA was established (Tadawul 2019).

2.2.3.1 Capital Market Authority

In 2003, the current Capital Market Law was released under Royal Decree No. M/30 2003 and the CMA was also promulgated (CMA 2019a). The Capital Market Law brought the entire Saudi capital market under the umbrella of a single regulator—the CMA. The CMA is a government agency, empowered with complete legal, financial and administrative independence. It enjoys direct access to the office of the prime minister (the king) (CMA 2019a).

The function of the CMA is to create a framework for implementing the Capital Market Law, which it does by formulating and issuing relevant rules and guidelines. Its primary objectives are to facilitate a favourable investment climate, increase confidence in the stock market by improving and enforcing disclosure standards for listed companies and to protect investors and traders from nefarious activities in the market. The institution of the CMA in 2003 marked a big step forward for Saudi Arabia. It has been noted as the most significant externally-focused corporate reform initiative in the country’s history (Al-Matari, Al-Swidi & Fadzil 2012; Hussainey & Al-Nodel 2008). Owing to its ability to report directly to the prime minister, the CMA has been able to wield its powers to completely monitor the stock market and implement relevant regulations. This has, in turn, increased the momentum of the state’s corporate governance reforms.

In view of its mandate, the CMA has initiated several programs to further prompt the regulation of the financial market (Ramady 2010). One such program is the development of a glossary of terms relating to financial market regulations. This was completed with a view to uphold the legal structure of the market, particularly regulations guiding mergers, acquisitions and listings. Additionally, the CMA updated the procedures for listing and trading. The CMA also conducted programs to promote investor awareness, such as educational programs and awareness campaigns on issues including commitment, compliance and countermeasures against money laundering and the financing of terrorist groups (CMA 2019a). The CMA encouraged firms to adopt proper corporate governance practices for dealing with conflicts of interest. Further, it focused on ensuring that internal controls were effective.

2.2.3.2 Tadawul

Tadawul is a joint-stock company created on 19 March 2007 by the Saudi Council of Ministers, in line with the provisions of the Capital Market Law–Article 20 (Tadawul 2018). Tadawul is the sole entity authorised to control the stock exchange of Saudi Arabia. Tadawul has a board of directors appointed by the Council of Ministers. The main functions of the exchange include all activities related to trade in securities—namely deposits, transfers of securities and trades involving liquidation, settlement and the registration of ownership of all securities traded on the Saudi stock exchange (Tadawul 2018).

2.3 Corporate Governance in Saudi Arabia

Until the new millennium, the 1965 Companies Act regulated the corporate governance practices of listed companies in Saudi Arabia (Al-Abbas 2009; Haniffa & Hudaib 2007). Thereafter, the government aggressively pursued corporate governance reforms, with the aim of significantly improving the framework and mechanisms of Saudi firms' corporate governance practices. Three structures form the core of the Saudi corporate governance framework: Saudi companies law, Saudi corporate governance regulations (CGR) and Tadawul's listing rules.

2.3.1 Companies law and corporate governance

Companies Law is the main source of corporate governance in Saudi Arabia. It regulates and covers all types of for-profit companies in Saudi Arabia. It consists of 12 parts, which cover different types of companies. Part five concerns joint-stock companies and includes 98 articles. A number of articles cover the composition of boards of directors and their level of independence. Additionally, the Companies Law confirms shareholders' rights in many aspects, such as nominating directors and monitoring the company.

2.3.2 Corporate governance regulations

In 2006, CMA released the first set of CGR issued in Saudi Arabia, which mostly originated from the Companies Law of 1965. Since that time, there have been many updates to the CGR, to keep abreast with reforms and changes in the broader economy. The newest regulation was released in April 2018, by the board of the CMA, following Board Resolution Number (8–16–2017) (CMA 2019b).

These regulations define the standards and procedures that constitute the recommended practices for several aspects of corporate governance. These include boards of directors, disclosure and transparency, shareholders' rights and general assembly (CMA 2017). According to the CGR, shareholders have the following rights: to enquire about, and also access, company information; to regulate the activities of the company's board; to file responsibility claims against the board; and to nominate members to the board (CMA 2017).

CGR recommends that the ideal board size is between 3–11 persons. To enable the board of directors to effectively discharge its duties, all members are expected to have adequate access to information about the firm (Robertson, Diyab & Al-Kahtani 2013). Moreover, it is recommended that the majority of members be non-executive members. The minimum acceptable number of non-executive members should be two, or one-third of the board—whichever is greater. Additionally, the role of board chair must not be held by an individual who is also the CEO or who occupies another executive position. Further, directors may sit on the boards of multiple companies, up to a maximum of five at a time (CMA 2017). Finally, without specifying any minimum number, the CGR encourages board chairs to convene ordinary meetings regularly.

2.3.3 Tadawul's listing rules and corporate governance

Pursuant to Resolution Number (3–123–2017), reached by the board of the CMA in 2017, the current listing rules for the Tadawul were approved. There are ten parts to the listing rules; Part five deals with firms' obligations to disclose all relevant information. This is fully elaborated on in Article 26, which states:

> all disclosures made by an issuer to the public must be complete, clear, accurate, not misleading and shall comply with all disclosure requirements prescribed by the Capital Market Law, its Implementing Regulations and the Exchange Rules.

Article 30 further buttresses this point and places particular emphasis on the timing of disclosure, to impress on companies the importance of timeliness in the release of information. According to the Tadawul listing rules, the date for submission of financial statements by companies is set to two months from the end of the financial year and a minimum of 25 days before the company's annual general meeting (CMA 2019b).

With respect to a company's ownership structure, listing rules require that all shareholders holding up to 5% of its shares be listed by name in the board report, regardless of whether they are directors, managers or outsiders. The Tadawul's listing rules are considered an important source and guideline for corporate governance practices among listed companies in Saudi Arabia.

2.4 Influence of Culture on Corporate Disclosure

Throughout relevant literature, 'culture' has been defined in many ways. For example, Kroeber and Kluckholn (1952) were able to document 164 definitions (Haniffa & Cooke 2002). This thesis, however, limits itself to two definitions that are widely accepted among scholars and researchers. The first is offered by Hofstede and Bond (1984), who define culture as 'the collective programming of the mind which distinguishes the members of one group or society from those of another'. The second originates from Harris (1987, cited in Haniffa & Cooke 2002) who defines culture as 'the learned, socially acquired traditions and life styles of the members of a society, including their patterned, repetitious way of thinking, feeling and acting'.

Belkaoui (1983) identified the significance of culture as a factor that affects corporate disclosure practices. To further confirm the role of culture, Haniffa and Cooke (2002) opine that 'the traditions of a nation are instilled in its people and might help explain why things are as they are'. Several authors believe that a society's accounting system is subject to its culture and environment (Belkaoui & Picur 1991; Fechner & Kilgore 1994; Gierusz & Koleśnik 2019; Perera 1989). Culture is often highlighted as a critical factor that influences disclosure practices (Haniffa & Cooke 2002). In accounting literature, the Hofstede–Gray theory is extensively deployed to explain the effect of culture on financial reporting and disclosure practices (Baydoun & Willett 2006; Gierusz & Koleśnik 2019; Orij 2010; Saudagaran & Diga 1997; Van Tendeloo & Vanstraelen 2005; Williams 2003). Hofstede and Bond (1984) categorised four dimensions of value that are common to every country's culture. Gray (1988) linked the four dimensions of value to a study of accounting systems and eventually expanded on them.

2.4.1 Hofstede's culture dimensions

Hofstede and Bond (1984) delineate four dimensions of value which constitute structural elements common to every culture. These are: individualism as opposed to collectivism; power distance of the small versus that of the large; strong versus weak uncertainty avoidance; and masculinity as opposed to femininity. The Hofstede–Gray theory is used extensively for advancing explanations for the observed effect of culture on financial reporting and disclosure (Baydoun & Willett 1995; Saudagaran & Meek 1997; Williams 1999; Dahawy et al. 2002; Van der Laan Smith, Adhikari & Tondkar 2005; Orij 2010; García-Meca, Uribe-Bohórquez & Cuadrado-Ballesteros 2018).

Hofstede's first dimension of culture defines individualism and collectivism. This dimension focuses on the interdependence observable between people in a given society.

Societies that value individualism manifest loose ties between clans, families, tribes, institutions and so on. Conversely, societies that elevate collectivism have ties across most of the institutions and they bind individuals to behavioural and living conventions. The second dimension is power distance, which describes how tolerant the members of a society are to unequal distribution of power and authority in that society. In large power distance societies, hierarchies exist without an acute need to justify their existence. However, in small power distance societies, members tend to seek equality and explanations for existing inequalities (Hofstede 1984). Uncertainty avoidance is the third dimension, which describes people's response to ambiguity about to the future. If a society has weak uncertainty avoidance, it accepts deviance and unexpected occurrences. However, societies that have strong uncertainty avoidance values tend to try to control the future and do not accept or tolerate deviance, either of persons or of ideas (Hofstede & Bond 1984).

The last dimension concerns masculinity versus femininity. This defines how social roles are assigned within a society according to gender (Hofstede & Bond 1984). A society tends to espouse masculine traits when the emphasis is on assertiveness, material success and heroism. However, when a society elevates modesty as an ideal, then femininity emerges, characterised in care for the weak, an emphasis on better and deeper relationships and quality of life. In this way, a society may have sharply defined social roles for every gender type, or it may have a measure of social gender, which may overlap to some extent (Hofstede & Bond 1984).

2.4.2 Gray's accounting values

Gray (1988) applies these dimensions of value to his four dimensions of accounting values, which are: professionalism as opposed to statutory control; uniformity as opposed to flexibility; conservatism as opposed to optimism; and secrecy as opposed to transparency. He uses ‘professionalism’ to describe a tendency to rely on personal professional judgment and regulate oneself. This is in contrast to the disposition to comply with rules and regulations. Gray (1988) explains ‘uniformity’ as a condition in which there is homogeneity in the accounting practices of firms, owing to the need to comply with established rules. Conversely, flexibility defines a scenario where every firm adopts the practice that suits its own particular or special circumstances. In terms of the third value, Gray (1988) describes ‘conservatism’ as a tradition characterised by risk aversion, where measurements are made with caution. In contrast, ‘optimism’ describes a tolerance for risk. Last, ‘secrecy’ describes a condition where privacy is emphasised, interfering with disclosure and limiting it to those deeply who are involved in the business. ‘Transparency’ describes a preference for openness and accountability (Gray 1988).

2.4.3 Connecting accounting values to cultural dimensions

Evaluated according to Hofstede’s model, Arab countries display a high degree of collectivism, aversion to uncertainty, significant power distance and masculinity (Hofstede, Hofstede & Minkov 1991). Gray posits that when a society possesses the following combination of value dimensions—inclination to collectivism, high avoidance of uncertainty, large power distance and femininity—it will tend towards secrecy. This will seriously undermine disclosure practices, resulting in a low level of disclosure (Archambault & Archambault 2003; Chau & Gray 2002; Gray, Kouhy & Lavers 1995; Gray 1988). In Gray’s matrix, Arab countries are societies that incline towards authoritarian and strong statutory control, placing an emphasis on uniformity, tending to be secretive, and are averse to risk (Gray 1988). Salter and Niswander (1995) opine that secrecy is characteristic of societies that avoid uncertainty and individualism. Zarzeski

(1996) found that uncertainty avoidance compromises disclosure practices. Masculinity was also found to negatively affect disclosure practices, which supports the conclusions drawn in studies on corporate social disclosure by Orij (2010) and Van der Laan Smith, Adhikari and Tondkar (2005).

2.4.4 Criticisms of Hofstede's and Gray's theories

To conclude, it should be noted that several authors have criticised Hofstede's theory (Lee & Baskerville 2003). This is mainly due to Hofstede having based his work on a survey of IBM employees, which comprised studies in 50 countries, three regions made up of various countries and survey questions answered by employees in similar positions. Based on this survey, Hofstede divided the world into seven regions, namely Nordic, Anglo, Germanic, Asian, more developed Latin, less developed Latin, and Near Eastern (including Arab countries). The Hofstede–Gray theory lacked the precision and contextual analysis required for financial reporting (Haniffa & Cooke 2002), yet, it still enjoys great popularity in accounting literature; for example, Baydoun and Willett (1995), García-Meca, Uribe-Bohórquez and Cuadrado-Ballesteros (2018), Orij (2010), Saudagaran and Diga (1997), and Van der Laan Smith, Adhikari and Tondkar (2005).

Chapter 3 : Theoretical Framework, Literature Review, and Hypotheses Development

This chapter has three objectives: first, present and discuss the theoretical framework of the current study; second, discuss and present previous studies on corporate voluntary disclosure, its determinants and its effect on the corporate stock price; and third, develop a set of hypotheses to be tested. This chapter is divided into four sections. Section 3.1 presents and discusses the theoretical framework in terms of agency theory, stewardship theory, stakeholder theory, legitimacy theory and institutional theory. The justification for using multiple theories is presented and explanations are provided of how each theory is connected to the current study and its variables.

Section 3.2 is a critical discussion of the relevant studies. This section includes four subsections, which cover the dimensions of this study, namely corporate governance mechanisms, accounting standards and corporate characteristics. Each dimension includes a number of variables, except the accounting standards dimension, which includes only one variable. Corporate characteristics factors (firm profitability, size, industry and age) are included as control variables, so no hypothesis in this study refers to these factors. Hypotheses about the variables of corporate governance mechanisms and accounting standards are presented after each variable is discussed.

Section 3.3 focuses on the effect of corporate voluntary disclosure on corporate stock price, followed by an elaboration on the hypotheses. Last, Section 3.4 presents a summary of the major studies on this topic. Section 3.4 is sub-divided into four subsections: studies of determinants of corporate voluntary disclosure in developed countries, studies of developing countries, studies of Saudi Arabia and a summary of previous studies of the effect of corporate voluntary disclosure on corporate stock price.

3.1 Theories and Corporate Voluntary Disclosure

The literature review on corporate voluntary disclosure identified many theories that could explain corporate voluntary disclosure and its determinants (Boesso & Kumar 2007; Roberts 1992; Shehata 2014). The current study applies multiple theories, these being the agency, stewardship, stakeholder, legitimacy and institutional theories. Corporate voluntary disclosure is a complex matter and includes various types of information, which could be interesting to different stakeholders. Each one of those stakeholders has different motivations and different expectations. Moreover, companies have different characteristics, different situations and different operational environments. It is difficult to explain the determinants of corporate voluntary disclosures using only one theory. Therefore, this study needs applies multiple theories to understand corporate voluntary disclosure, explain its determinants and identify its effect on company stock prices (Boesso & Kumar 2007; Roberts 1992; Shehata 2014).

3.1.1 Agency theory

The agency relationship is defined by Jensen and Meckling (1976) 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.' Based on this definition, it appears that managers of a company work as agents for the shareholders. The agency relationship is clear in listed companies, where management and control are separated from who owns the firm. This separation became obvious after the Industrial Revolution (Mallin 2007), when manufacturing companies needed a tremendous amount of money to operate, along with highly qualified experienced managers to oversee the company. It led to the emergence of two parties, managers and owners, and the separation between company ownership and company management created the agency problem (Jensen & Meckling 1976). One of the earliest attempts to explain this relationship was made by Berle and Means (1932). They argue that corporation ownership is widely separated through a large number of shareholders who own a small portion of the total outstanding shares, which weakens their control over corporate management.

The agency problem includes three major issues, according to Jensen and Meckling (1976). The first issue is the conflict of interest between the agent and the principal. Although the ideal scenario is that the agent (management) would behave and run the company in the best interests of the principal (shareholders), it is not always the case, and a conflict of interest may arise. Fama (1980) connected this conflict of interest to self-interest and opportunistic behaviour by agents (managers). The second issue that an agency relationship raises is the problem of information asymmetry (Jensen & Meckling 1976). Managers, owing to their connection to the company's day-to-day operations and their knowledge about the details of company activities, have access to high volumes of information, compared with shareholders. It is this access that leads to information asymmetry between the agent and the principal (Healy & Palepu 2001; Morris 1987). Last, because of the differences in the nature of each party, they may have different attitudes towards risk (Eisenhardt 1989).

To reduce and contain the agency problem, agents and principals bear some costs, referred to as 'agency cost' (Jensen & Meckling 1976). Schroeder, Clark and Cathey (2009) explain agency cost as 'the sum of (1) monitoring expenditures by the principal, (2) bonding expenditures by the agent, and (3) the residual loss'. Monitoring includes many mechanisms that could help reduce opportunistic behaviour by agents and reduce information asymmetry. Corporate governance is an important monitoring tool, among other monitoring mechanisms (Haniffa & Hudaib 2006; Solomon 2010). For this reason, the current study examines a range of variables in corporate governance mechanisms as determinants of corporate voluntary disclosures. This examination will help identify whether the tested mechanisms are effective at reducing agency cost and increasing transparency (through corporate voluntary disclosure). The 'bonding cost' is another part of the agency cost. Bonding cost refers to the agents' (the managers') attempts and expenditures to confirm to the principal (shareholders) that he or she (the agent) works for the principal's best interests (Jensen & Meckling 1976). Thus, corporate voluntary disclosure could be part of bonding costs (Hossain, Perera & Rahman 1995; Watson, Shrives & Marston 2002). Corporate voluntary disclosure is considered a tool to reduce information asymmetry between managers and shareholders and as a mechanism that mitigates the agency problem (Barako, Hancock & Izan 2006a; Edelen, Evans & Kadlec 2012). Last, another aspect of agency cost is the 'residual cost'. It refers to any differences in decisions and actions between agent and principal, even in the presence of monitoring and bonding costs (Schroeder, Clark & Cathey 2009). Examples of residual cost are disclosing information that could benefit competitors and different behaviour towards risks. These costs are a result of the agency. However, a company should benefit from disclosure and reduce agency cost if it is operating in an efficient market and that information disclosure is reflected in stock prices (Schulze et al. 2001). This is explored as an aspect of the current study, which aims to examine whether the extent of corporate voluntary disclosure affects the company stock price.

Agency theory has been applied widely in the literature surrounding corporate governance and corporate disclosure and its determinants (Allegrini & Greco 2013;

Barako, Hancock & Izan 2006b; Donnelly & Mulcahy 2008; Eng & Mak 2003; Muttakin, Khan & Belal 2015). It helps to explain and justify many aspects of corporate business and associated hypotheses, and so forms a cornerstone of this study's theoretical framework. In this study, agency theory will test how different aspects of ownership structure, board structure and accounting standards could be mechanisms to mitigate agency cost, reduce information asymmetry and increase monitoring through corporate voluntary disclosure.

3.1.2 Stewardship theory

Stewardship theory is considered another attempt to describe and explain the relationship between managers and owners (agent and principal relationship) (Davis, Schoorman & Donaldson 1997). Interestingly, this theory has its roots in sociology and psychology (Benn & Bolton 2011; Donaldson & Davis 1991; Van Puyvelde et al. 2012). Davis, Schoorman and Donaldson (1997) describe managers' stewardship behaviour as follows:

> a steward whose behavior is ordered such that pro-organizational, collectivistic behaviors have higher utility than individualistic, self-serving behaviors. Given a choice between self-serving behavior and pro-organizational behavior, a steward's behavior will not depart from the interests of his or her organization.

Stewardship theory stands on a number of principles—the fundamental principle being that stewards are working in the best interests of the business.

Stewardship theory supports the view that managers have various motivations other than self-interest and a desire to engage in opportunistic behaviour (Davis, Schoorman & Donaldson 1997). It suggests that a manager's behaviour is guided by normative assumptions, which align shareholders' interests with other interests, for example, those of the manager themselves, or of wider society (Donaldson & Davis 1991). Conyon and

He (2011) argue that managers are eager to maintain their reputations and careers and that any misconduct or misuse of company resources could negatively affect them. Therefore, stewardship theory emphasises that there are other motivations that drive managers' behaviour, rather than simple self-interest and opportunism. Further, it negates the conflict of interest between the two parties (managers and shareholders), arguing that their interests are aligned (Arthurs & Busenitz 2003; Van Puyvelde et al. 2012). Consequentially, stewardship theory emphasises the idea that managers are rational, trustworthy stewards who work for the principals' interests and that both parties have alignment interests (McWilliams, Siegel & Wright 2006).

This thesis argues that it is difficult to eliminate the agency problem completely and to ignore any possible conflicts of interest. However, can be argued that appointing qualified professional managers who have experience in overseeing corporations may mitigate the agency problem (Muth & Donaldson 1998). Further, it is arguable that beliefs, values, norms, and culture may place pressure on managers making decisions and their need to consider other stakeholders' interests before their own (Azhar 2009; Opwis 2005); this may lead to more disclosure. Last, it has been argued that, regarding concentrated ownership, managers tend to disclose more information to justify their stewardship (Alnabsha et al. 2017).

3.1.3 Stakeholder theory

Freeman (1983) defines stakeholders as 'any identifiable group or individual on which the organization is dependent for its continued survival' and those groups or individuals can 'affect and are affected by the achievement of an organization's mission'. It is important to note the difference between stakeholders and shareholders. According to Boesso and Kumar (2007), 'The stakeholder theory suggests that an organization's management is expected to take on activities expected by those identifiable groups or individuals who can affect and who are affected by the achievement of an organization's objectives.' Companies disclose information voluntarily to meet the stakeholders' expectations and to deliver more information about the company's activities that may affect these stakeholders. Solomon (2010) explains the principles of stakeholder theory:

> companies are so large, and their impact on society so pervasive, that they should discharge accountability to many more sectors of society than solely their shareholders.... Not only are stakeholders affected by companies, but they in turn affect companies in some way.

According to stakeholder theory, companies are obligated and accountable to a variety of stakeholders who affect and are affected by business activities (McWilliams, Siegel & Wright 2006). These stakeholders are not limited to shareholders (owners of the company), because stakeholders include employees, customers, suppliers, creditors, government and other groups in society (Clarke 1998; Mallin 2007). Further, consistent with stakeholder theory, when managers are making decisions, they should take into consideration the variety of stakeholders and their interests (Deegan & Samkin 2009). However, relationships among stakeholders are complicated and they have different, sometimes conflicting, interests (Chen & Roberts 2010). Therefore, managers need to make balanced judgments about how to satisfy these different stakeholder interests (El-Diftar 2016). Freeman (1984) states that in order for companies to be successful, they should be proactive, identify different stakeholders' needs and respond to their concerns. The process of answering these concerns could include good communication with stakeholders through different channels, such as corporate voluntary disclosure (Alkayed 2018). However, managers should remember that each group of stakeholders require different types of information, as they have different priorities (Wolfe & Putler 2002).

Abdel-Fattah (2008) argues that managers should assess the importance of each group and fulfil their wants accordingly.

According to Deegan (2006) stakeholders could be classified into two groups: primary stakeholders and secondary stakeholders. These classifications are based on their effect and influence on the company and its survival. Mitchell, Agle and Wood (1997) argued that when stakeholders' power varies, companies tend to be more responsive to powerful stakeholders—who influence the company directly and control its resources—which could affect the type and level of disclosure. This could mean that companies disclose more information to more powerful stakeholders and do not consider secondary, or less important, stakeholders. Moreover, it could indicate an effect of the ownership structure on corporate voluntary disclosure. Stakeholders' power may vary between countries, which may explain the variations in disclosure level from country to country.

The larger the board of directors size, the more likely a wider range of stakeholders will be presented and the higher the level of corporate voluntary disclosure. Ullmann (1985) stresses the need to meet the stakeholders' expectations to gain their approval and support. This could support the view that if stakeholders (especially shareholders) care about corporate voluntary disclosure, it should be reflected in the relationship between the extent of corporate voluntary disclosure and stock price. Further, if the stakeholders require different types of information, this should be reflected in the relationship between different types of disclosure and stock price. The stock price should respond differently depending on the stakeholders' power and the type of disclosure they care about. Abdelsalam and El-Masry (2008) argue that managers should consider different types of disclosure to satisfy the types of information stakeholders demand.

3.1.4 Legitimacy theory

Legitimacy theory emphasises the social contract between the company and the society in which it operates. The theory argues that a company must maintain its values to match society's values to survive and thrive (Dowling & Pfeffer 1975; Lindblom 1994; Magness 2006; Rizk 2006; Shehata 2014). Companies need to operate in a manner that is socially responsible and acceptable to legitimise their activities and make profits (Alkayed 2018; Deegan 2002; Mathews 1993; Michelon, Pilonato & Ricceri 2015; Patten 1991; Reich 1998). Consequentially, any illegitimate or 'shady' practices (hypothetically, engaging in less disclosure) could be punished by investors and other stakeholders, leading to a reduced company stock price and market value.

Companies may consider to disclose voluntarily (corporate social responsibility disclosure, environmental disclosure) to preserve their reputation. Legitimacy theory has been applied widely in corporate disclosure literature and it has been used as a lens to explain determinants of disclosure as well as its effect (Deegan 2002; Guthrie, Petty & Ricceri 2006; Khan, Muttakin & Siddiqui 2013; Khan 2010; Muttakin & Khan 2014; O'Donovan 2002). Academics argue that corporate voluntary disclosure through annual reports is a proper and formal way for a company to communicate to the wider community (Deegan 2002; Deegan, Rankin & Tobin 2002; Guthrie, Petty & Ricceri 2006). Suchman (1995) defines legitimacy 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'. What constitutes legitimacy in a certain society could be very different elsewhere, because of differences in systems norms, values and beliefs. Deegan, Rankin and Tobin (2002) argue that legitimacy mechanisms will vary from country to country and from community to community.

The legitimacy of a company could potentially be developed over time by meeting society's expectations (Tilt 1994). This may be an advantage for older companies with long-amassed experience. Another factor to consider is that public expectations and media (including social media) pressure varies from company to company and that bigger and more public companies are exposed to a higher level of social pressure and scrutiny (Alkayed 2018; Reverte 2009). This indicates that company size and industry context may be important determinants of corporate voluntary disclosure. These considerations demonstrate legitimacy theory's importance in this study. It may explain the connection between a number of the study variables and corporate voluntary disclosure. It ties in with the idea that Saudi Arabia is vastly different from the West, with its own cultural norms and values, and consequently, what counts as legitimacy and disclosure in Saudi Arabia will differ from what counts as such in the West. The stock price may respond differently to different types of corporate voluntary disclosure, depending on the cultural context. For example, if a society is not interested in corporate environmental disclosure, the level of corporate environmental disclosure may have little or no effect of on the company stock price. This study aims to investigate the validity of this hypothesis

3.1.5 Institutional theory

Institutional theory concerns the influence of external and surrounding environments on an organisation. It differs from legitimacy theory in that the relationship between the organisation and society depends on different restrictions and boundaries, which, in institutional theory, are imposed on organisations by force, either directly or indirectly (Deegan, Rankin & Tobin 2002). Institutional theory emphasises the fact that organisations are influenced by institutional forces, which shape their systems, operations, behaviours and attitudes—ultimately altering their approaches to achieving goals and surviving in their specific environments (Scott 2004). The theory explains the role of institutional pressure in determining organisations' behaviour. This theory stresses the phenomenon of the surrounding environment, including legal, political and cultural factors, and considers each factor as a subsystem of the larger system (Hussain & Gunasekaran 2002; Ribeiro & Scapens 2006). According to DiMaggio and Powell (1983), institutional theory explains the influence of institutional forces on an organisation's behaviour in a specific environment. Institutional theory is adopted in this study to examine institutional influence (i.e. adoption of IFRS) on organisations' behaviour (corporate voluntary disclosure) in Saudi Arabia.

Institutional theory focuses on homogeneity, rather than variations (DiMaggio & Powell 1983), through isomorphic processes (Carpenter & Feroz 2001), which are defined as 'a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions' (DiMaggio & Powell 1983). The current study considers the adoption of IFRS an isomorphic process. Institutional theory includes three isomorphic processes (mechanisms) that influence organisations, namely coercive, mimetic and normative. DiMaggio and Powell (1983) explain that these processes place pressure on organisations in different ways. Coercive pressures originate from the state and include legal actions and laws. Normative pressures derive from other organisations and shape norms. Last, mimetic pressures emerge from the wider society, such as cultural expectations, beliefs and behaviours. These three forces shape organisations' behaviours and are considered cornerstones of surviving in a specific environment (Hussain & Gunasekaran 2002; Ribeiro & Scapens 2006).

Despite the value of the isomorphic processes, institutional theory also provides the basis for arguing that corporate voluntary disclosures and their determinants still vary immensely between countries, to the extent that it is unreliable to generalise study results. The differences between the environments in which firms operate are too numerous. In the current study, institutional theory can explain the researcher's contention that different institutions (different countries), exert different pressures, which affect organisations behaviour (corporate voluntary disclosure practices) in a variety of ways. Institutional theory justifies the view that countries' individual laws, cultures and circumstances affect corporate disclosure.

3.2 Determinants of Corporate Voluntary Disclosure

Generally, the literature surrounding corporate disclosure determinants focuses on corporate characteristics and corporate governance mechanisms (Ahmed & Courtis 1999; García-Meca & Sánchez-Ballesta 2010; Khlif, Ahmed & Souissi 2017; Madi, Ishak & Manaf 2014; Samaha, Khlif & Hussainey 2015). In addition to the previously mentioned dimensions, this thesis also considers accounting standards, which will be examined as a determinant of corporate voluntary disclosure. The current study investigates variables from each dimension that either have not been examined in the Saudi Arabian context, or have produced conflicting results in other studies. Moreover, investigating variables from various dimensions (corporate governance mechanisms, accounting standards and corporate characteristics) will lead to a deeper understanding of the drivers of corporate disclosure, and if determinants from one category dominate all others.

3.2.1 Corporate governance mechanisms

Corporate voluntary disclosure has attracted an increasing level of attention over the last two decades; the effect of company characteristics on the level of corporate voluntary disclosure was one of the main topics to attract scholarly interest (Ahmed & Courtis 1999). However, following a series of financial crises, corporate governance is capturing much more attention and is now worrying investors (Ho & Wong 2001; Gul & Leung

2004). The focus of corporate voluntary disclosure literature has shifted towards corporate governance and its effect on voluntary disclosure (García-Meca & Sánchez-Ballesta 2010; Khlif & Souissi 2010; Samaha, Khlif & Hussainey 2015: Khlif, Ahmed & Souissi 2017; Ali, Frynas & Mahmood 2017; García-Sánchez et al. 2018). The link between corporate voluntary disclosure and corporate governance mechanisms has also become stronger, and studies have already considered how to reach a higher level of disclosure by designing more effective corporate governance systems (Gul & Leung 2004; Li & Qi 2008). A significant number of studies reveal that corporate governance mechanisms function to clarify voluntary disclosure (García-Meca & Sánchez-Ballesta 2010; Khlif & Souissi 2010; Samaha, Khlif & Hussainey 2015; Khlif, Ahmed & Souissi 2017). The significance of corporate governance mechanisms became more obvious in literature after a substantial number of studies deemed corporate governance mechanisms to be vital determinants.

Agency theory offers a strategy for connecting the level of disclosure to corporate governance. It has been suggested that good corporate governance mechanisms enhance the protection of investors and help to reduce agency conflicts. Corporate governance mechanisms have been tested through a number of studies to identify whether they are related to voluntary disclosure practices and corporate attributes. More weight is placed on particular features of corporate governance mechanisms, including the composition of boards of directors and ownership structure (García-Meca & Sánchez-Ballesta 2010; Samaha, Khlif & Hussainey 2015). Within the literature surrounding corporate voluntary disclosure, the mechanisms of corporate governance can be classified as internal and external. Specifically, the composition of the board of directors and the structure of ownership are considered internal mechanisms, while laws, regulations and other country factors are considered external mechanisms. Both the composition of the board of directors and the structure of ownership are vital factors affecting corporate voluntary disclosure. They play a significant role as mechanisms for controlling and monitoring and are considered a key element in companies' decision-making processes (Khlif & Souissi 2010; Samaha, Khlif & Hussainey 2015).

3.2.1.1 Board composition

Boards of directors are an essential way to reduce agency conflict, curtail information asymmetry and elevate transparency within the company. Further, the board of directors is a vital player in the control and decision-making processes (Dalton et al. 1998). The literature surrounding voluntary disclosure shows that many aspects of the board of directors have been generally considered an explanatory factor in voluntary disclosure. However, special consideration has been given to board composition in terms of: board size (Abeysekera 2010; Akhtaruddin et al. 2009; Hidalgo, García-Meca & Martínez 2011), board independence (Donnelly & Mulcahy 2008; Eng & Mak 2003) and CEO duality (Allegrini & Greco 2013; Hidalgo, García-Meca & Martínez 2011). Analyses on these themes have produced mixed results (positive, negative, no relationship) regarding the relationship between board composition and voluntary disclosure (Khlif, Ahmed & Souissi 2017; Samaha, Khlif & Hussainey 2015).

Samaha, Khlif and Hussainey (2015) add to the discussion by emphasising the need to consider the country's geographical location when studying the relationship between board composition and voluntary disclosure. Results derived from studies in other countries may not be applicable to Saudi Arabia. This study examines the composition of the board of directors—specifically, board size, board independence and CEO duality—in Saudi Arabia, where research in this area is significantly lacking.

3.2.1.1.1 Board size

The size of a board of directors refers to the total number of directors on the board. This has been identified as an important governance mechanism and an essential monitoring tool (Bhuyan 2018; Giannarakis 2014; Lee & Chen 2011). According to agency theory, the composition of the board of directors could add to our knowledge regarding variations in the level of transparency and disclosure among companies (Alhazmi 2017; Fama & Jensen 1983). Since ownership and management are separate in listed companies, the board of directors can serve to reduce agency cost (Rao, Tilt & Lester 2012; Ntim & Soobaroyen 2013). Along with the monitoring role that the board of directors plays, it is also significant in the process of strategic decision-making, which includes decisions about disclosure policy (Alotaibi 2014; Boshnak 2017; Xie et al. 2003). It has been argued that directors represent shareholders, and that they ought to protect the shareholder's interests, since they have been elected by them (Healy & Palepu 2001; McWilliams, Siegel & Wright 2006). Nevertheless, other recent studies show conflicting results regarding the association between board size and corporate voluntary disclosure (Dhouibi & Mamoghli 2013; Muttakin et al. 2018).

A positive association between the board size and corporate voluntary disclosure is revealed in several analyses (Donnelly & Mulcahy 2008; Kaymak & Bektas 2017; Muttakin & Subramaniam 2015; Ntim et al. 2012). The proponents of this positive association make a number of claims to justify the relationship. It has been argued that a large board size could have an advantage over a smaller board size because it has more experience, knowledge and decision-making expertise (Bhuyan 2018). Having many directors may bring a wide range of experience to the company, based on their varied backgrounds (Ahmed Haji 2013; Haniffa & Cooke 2002; Ntim & Soobaroyen 2013). It has also been argued that directors' experience collectively enhances corporate governance, so transparency is higher and the company's market value increases (Akhtaruddin et al. 2009).

Dias, Rodrigues and Craig (2017) document results that support a positive effect of board size on corporate voluntary disclosure. They emphasise the possibly greater knowledge and experience that a larger board size makes possible. Further, it has been argued that a larger board will bring more expertise to the process of reporting, which increases the level of disclosure and reduces information asymmetry (Abdel-Fattah 2008; Chen & Jaggi 2000; Mallin & Ow-Yong 2009; Shehata 2013). A positive association between board size and corporate voluntary disclosure has been justified with the argument that a larger board size could provide better monitoring capabilities than a smaller board size, which improves transparency and disclosure (Alkayed 2018; Kaymak & Bektas 2017). Ntim and Soobaroyen (2013) also assert that a higher level of monitoring would positively affect company disclosure policy. Agency theory supports the idea that a larger board would provide a higher level of monitoring and additionally reduce agency cost (Albassam 2014; Allegrini & Greco 2013; Alotaibi 2014; Fama & Jensen 1983). Last, a positive association between board size and corporate voluntary disclosure is evident, owing to the presence of a higher number of directors (Abdel-Fattah 2008; Alkayed 2018; Kaymak & Bektas 2017) who have the capacity to represent more stakeholders and offer more extensive protection (Alhazmi 2017; Eisenberg et al. 1998; Jizi et al. 2014).

Conversely, other studies have reported a negative association between board size and corporate voluntary disclosure (Alotaibi 2014; Cerbioni & Parbonetti 2007; Dhouibi & Mamoghli 2013; Veronica Siregar & Bachtiar 2010). It has been argued that the board of directors is an important corporate governance mechanism, to control and monitor the management of the company and reduce agency cost (Rao, Tilt & Lester 2012; Ntim & Soobaroyen 2013). However, a large board size could suffer from more communication problems than a smaller one, such as issues with properly coordinating information and communication issues between directors (Kota & Tomar 2010; O'Connell & Cramer 2010). This could lead to disclosure being incorrect, inconsistent or not delivered on time (Albassam 2014). A small board of directors is able to communicate more effectively, which helps raise the level of cooperation among board members (Alhazmi 2017; Bennedsen et al. 2008). Further, poor communication among directors could lead to slowing down the decision-making process and subsequently undermining the board's effectiveness (Cheng & Courtenay 2006; Kholeif 2008; Shehata 2013). Abdel-Fattah (2008) argues that an effective board of directors requires more involvement from directors and that directors sitting on large boards would be less involved in making decisions, including those regarding disclosure policy. He asserts that a large decision-making group could be unwieldy and suffer from a lack of equal participation and inconsistent involvement.

In light of the previous discussion, in line with previous empirical evidence, and supported by agency and stakeholder theories, this study presents the following hypothesis:

H1: There is a significant, positive association between board size and the extent of corporate voluntary disclosure.

3.2.1.1.2 Board independence (non-executive directors)

The composition of boards of directors has garnered a great deal of attention in relation to company performance (Klein 1998). However, more recently, board independence has been attracting more scholarly focus as a corporate governance mechanism (Albassam 2014; Johanson & Østergren 2010; Lee & Chen 2011). The attention is growing mostly in developing countries (Ezzine 2011; Mahadeo, Oogarah-Hanuman & Soobaroyen

2011), where board independence is now an issue. Board independence is a monitoring tool that affects management behaviour (Rosenstein & Wyatt 1990; Shehata 2013). It has been identified as a critical factor affecting the management decision-making process and a tool for controlling a company's operations and procedures (Dalton et al. 1998). Therefore, it is expected that board independence may affect policy decisions and consequently affect corporate disclosure (Bhuyan 2018; Eng & Mak 2003; Ho & Wong 2001; Khan, Muttakin & Siddiqui 2013).

This study aligns with previous studies by measuring board independence according to the number of non-executive directors on the board (Cheng & Courtenay 2006; Ibrahim & Hanefah 2016; Samaha, Khlif & Hussainey 2015). It is argued that non-executive directors will balance the needs of all stakeholders, instead of focusing only on shareholders' interests (Alkayed 2018). Additionally, it has been argued that non-executive directors on the board enhance the board's effectiveness and improve monitoring procedures (Haniffa & Cooke 2005). This view has been supported by Barako (2007), who argues that non-executive directors reduce the agency cost and mitigate the conflicts of interest between managers and owners. Alkayed (2018) claims that non-executive directors improve management's decision-making processes and enhance outcomes for the board. Further, non-executive directors have been deemed an internal control and monitoring mechanism (Alhazmi 2017; Beasley 1996; Fama 1980; Fama & Jensen 1983). For these reasons, researchers have paid more attention to the work of non-executive directors (Alkayed 2018; Khan, Muttakin & Siddiqui 2013; Muttakin & Subramaniam 2015). As in many other areas of corporate disclosure, previous studies show mixed and conflicting results regarding the connection between non-executive directors and corporate voluntary disclosure (Alkayed 2018; Alotaibi 2016; Samaha, Khlif & Hussainey 2015).

A positive association between the number of non-executive directors on the board and the extent of corporate voluntary disclosure has been reported (Cheng & Courtenay 2006; Ibrahim & Hanefah 2016; Khan, Muttakin & Siddiqui 2013; Lim, Matolcsy & Chow 2007; Samaha, Khlif & Hussainey 2015). Supporters of this argument claim that the existence of non-executive directors on the board enhances the board's monitoring ability. By applying agency theory, they argue that non-executive directors on the board reduce the agency cost and enhance monitoring. Some believe that improving the independence of the board effectively limits any possible opportunistic behaviour of company managers (Alhazmi 2017; Fama 1980; Fama & Jensen 1983; Jensen & Meckling 1976; Post et al. 2011). It has also been argued that non-executive directors are an internal control mechanism, which effects decision-making and monitoring management behaviour (Alotaibi 2014; Stapledon & Lawrence 1997). The strength and independence of non-executive directors is due to their not being employees of the company—they are free from any possible pressure or control by internal executives, specifically CEOs (Alhazmi 2017).

The presence of non-executive directors affects the transparency of the company and a higher level of corporate disclosure can be expected (Alkayed 2018; Chen & Jaggi 2000). It has also been suggested that the independence of the board reduces agency cost, by means of more effective monitoring of management, which results in much less information asymmetry (Albassam 2014; Alhazmi 2017; Allegrini & Greco 2013; La Porta et al. 2002). Abdel-Fattah (2008), Ajinkya et al. (2005), and Beasley (1996) suggest that boards with a higher percentage of outsider-directors will receive more consistent and correct forecasts and will not experience financial statement fraud. Clarke (1998) and Solomon (2010) also suggest a positive association between non-executive directors and the extent of corporate voluntary disclosure. They argue that independent directors on the board enhance the possibility of representing a wider range of stakeholders. Alhazmi (2017) and Brammer and Pavelin (2006, 2008) claim that non-executive directors (outsiders) have more concern for outside stakeholders, compared with executive directors (insiders), which may lead to further disclosure. For example, non-executive directors may be interested in social and environmental disclosure compared with internal executive directors, who focus on financial performance (Khan 2010). Further, non-executive directors may be eager to maintain the company's reputation and legitimise its activities compared with executives, who may focus primarily on short-term financial goals (Alkayed 2018; O'Dwyer et al. 2011). The perspectives of non-executives could affect the company disclosure policy, leading to a higher level of disclosure (Jizi 2013; Post et al. 2011).

In contrast with the aforementioned arguments, which present a positive association between non-executive directors and corporate voluntary disclosure, other authors suggest there is a negative relationship (Albassam 2014; Alkayed 2018; Barako, Hancock & Izan 2006b; Esa & Ghazali 2012; Haniffa & Cooke 2002). It is contended that both executive and non-executive directors are concerned with the performance of the company and do not pay much attention to voluntary disclosure (Alotaibi 2014; Hanson & Song 1998). Bhuyan (2018) argues that directors' concentration on the company's performance drives them to reduce the level of voluntary disclosure, for reasons of cost-efficiency. Another explanation of the negative effect of non-executive directors on the extent of corporate voluntary disclosure is that a high proportion of non-executive directors may result in excessive monitoring, which reduces initiatives by management to disclose more information (Bozec 2005). Another issue is concerned with the level of involvement of executive and non-executive directors (Crowther & Jatana 2005; Lawrence & Stapledon 1999). It is argued that non-executive directors usually hold multiple positions and this makes them less involved and less knowledgeable about a single company's activities and operations (Alotaibi 2014). Abdel-Fattah (2008), Clifford and Evans (1997), Crowther and Jatana (2005) and Eng and Mak (2003) all extend this argument to include the findings that block-holders usually elect non-executive directors, who in turn focus on the interests of those block-holders and ignore other stakeholders. Further, Clifford and Evans (1997) argue that because a large number (almost 35%) of non-executive directors are involved in various types of transactions with the company, their independence is reduced. It has been further argued that non-executive directors develop personal relationships with executive directors, which places their independence under question (Crowther & Jatana 2005; Patelli & Prencipe 2007).

Once again, Abdel-Fattah (2008) draws attention to context and suggests that executives' roles in different countries could explain the conflicting documented results. Based on the above discussion, and in line with previous empirical evidence supported by agency theory and stakeholder theory, this study presents the following hypothesis:

H2: There is a significant, positive association between the presence of non-executives on boards of directors and the extent of corporate voluntary disclosure.

3.2.1.1.3 CEO duality

CEO duality is another variable that this study will examine within the consideration of board composition as a determinant of corporate voluntary disclosure. CEO duality happens when one person occupies two roles, at the same time, in the same company. These roles are typically that of the CEO and board chair (Alhazmi 2017; Alkayed 2018; Boyd 1995; Rechner & Dalton 1991). CEO duality has been investigated as a determinant of corporate voluntary disclosure in many studies, with mixed results. An executive chair has more access to a company's information, compared with non-executive directors, and he or she may enjoy concentrated power from holding two positions. This differs from other situations, where these roles are separate (Bhuyan 2018; Ho & Wong 2001). This area of study has become significant and gained much attention in recent years. However, the research indicates a dichotomy of results similar to aforementioned study areas.

A number of studies have shown a positive effect of CEO duality on corporate voluntary disclosure (Andersson & Daoud 2005; Boshnak 2017; Haniffa & Cooke 2002; Hassaan 2013a; Ho & Wong 2001). This positive relationship between CEO duality and corporate voluntary disclosure is explained as a result of (i) the unified leadership between the company and the board, and (ii) the increase in CEO incentives that emanate from good stewardship. It has been argued that the advantages of CEO duality overcome the disadvantages (Hidalgo, García-Meca & Martínez 2011). Hidalgo, García-Meca & Martínez (2011) argue that CEO duality reduces conflicts of interest between the CEO and the chair and enhances communication throughout the board. A positive relationship between CEO duality and corporate voluntary disclosure could be a result of unified leadership of the CEO and chair positions (Anderson & Anthony 1986; Samaha, Khlif & Hussainey 2015).

CEOs benefit from being closer to the company and more knowledgeable about it, which may lead to better decision-making, better leadership and consequently, better corporate disclosure (Abdel-Fattah 2008; Brickley et al. 1997). Boshnak (2017) and Haniffa and Cooke (2002) further argue that a positive relationship between CEO duality and corporate voluntary disclosure could be explained by stewardship theory. Stewardship theory argues that CEOs, as managers, are good stewards who run the company effectively and in the best interests of shareholders. Therefore, CEO duality is a better leadership style compared with the style that separates the CEO and board chair positions. Further, CEO duality could reduce conflicts of interest and interventions that may occur with a board chair, which may lead to a more united and coordinated board of directors, thus better serving shareholders' interests (Alhazmi 2017; Davis, Schoorman & Donaldson 1997; Donaldson & Davis 1991). Jizi (2013) suggests that CEOs are concerned with their legacy and want to maintain their reputation and that it is this concern that drives them to function as decent stewards, rather than as opportunists (Alhazmi 2017; Davis, Schoorman & Donaldson 1997). In conclusion, stewardship theory supports the argument for CEO duality's positive effect. Proponents of this argument state that CEOs are guardians of the company, who will work to maintain their reputations—and by extension, the interests of shareholders—ultimately bringing more harmony and coordination to a more effective board. (Dahya et al. 1996; Haniffa & Cooke 2002; Rechner & Dalton 1991; Shehata 2013).

Conversely, there are a number of researchers who suggest a negative relationship exists between CEO duality and corporate voluntary disclosure (Allegrini & Greco 2013; Bhuyan 2018; Gul & Leung 2004; Huafang & Jianguo 2007; Samaha, Khlif & Hussainey 2015). These researchers support their position by noting the dual role's access to more information and potential for opportunistic behaviour, weak monitoring and the perception that CEOs as board chairs are more managerial oriented (Al-Janadi, Rahman & Omar 2013; Chau & Gray 2010; Haniffa & Cooke 2002; Jizi 2013). The arguments proceed along the lines that, since the CEO is closer to the company than non-executive board chairs, he or she will have access to more information, which leads to more opportunistic, self-interested behaviour. This may affect decision-making, including decisions related to disclosure policy (Bhuyan 2018). CEOs in a dual role may also have the opportunity to conceal significant information from other non-director board members (Alhazmi 2017; Jizi 2013) and potentially hide fraud or weak performance. Additionally, the two positions (CEO and board chair) are considered the most powerful positions in a company and some argue that allocating this power to just one pair of hands may reduce the efficiency of the board and its exercise of control (Abdel-Fattah 2008; Whittington 1993). The dual role has the potential to reduce the quality of corporate disclosure by facilitating the concealment of unfavourable or negative information (Al-Shammari & Al-Sultan 2010; Ho & Wong 2001; Shehata 2013). The potential negative relationship between the dual role and disclosure has also been explained using agency theory (Jensen & Meckling 1976). Supporters of this position suggest that CEO duality increases agency cost and compromises monitoring by the company board. Abdel-Fattah (2008) argues that CEO duality affects the independence of the board and reduces governance, including disclosure.

It is further argued that the separation between the CEO and board chair positions would allow a higher level of monitoring and control by the board over the actions of the CEO (Al-Janadi, Rahman & Omar 2013; Alhazmi 2017; Jizi 2013). The independence of the chair will increase board independence, which will strengthen the monitoring role of the board (Arcay & Vazquez 2005; Chau & Gray 2010). Bhuyan (2018) emphasises that CEO duality can lead to weak monitoring, which then leads to a lower level of transparency and disclosure. A further justification for the existence of a negative relationship between CEO duality and corporate disclosure is built on the basis that CEOs are more managerial oriented compared with the non-executive board members (Barako, Hancock & Izan 2006a; Haniffa & Cooke 2002). CEOs, it is argued, are concerned with company activities and compliance with mandatory disclosure, with little comparable interest in voluntary disclosure (Bhuyan 2018; Cheng & Courtenay 2006). This managerial tendency gives rise to the suggestion that CEOs may focus on direct economic performance and financial disclosure, while ignoring other types of disclosure, such as social or environmental. This indicates the potential for a lower level of voluntary disclosure owing to CEO duality

(Alhazmi 2017; Khan et al. 2013). In conclusion, in terms of the relationship between CEO duality and corporate voluntary disclosure, agency theory supports the separation of the two positions (CEO and chair of the board) (Ntim & Soobaroyen 2013).

Scholars seek to explain this conflicting mixture of results. Abdel-Fattah (2008) argues the need to consider culture as the most important variable. Samaha, Khlif and Hussainey (2015) support Abdel-Fattah, emphasising that geographical location moderates the relationships between board characteristics, including CEO duality and corporate voluntary disclosure. However, this study is focused on Saudi Arabia, where research on voluntary disclosure is lacking. Saudi Arabia is also different from Western cultures in many aspects (Alhazmi 2017), such as power distance. Based on the previous discussions, and in line with previous empirical evidence supported by agency theory, this study presents the following hypothesis:

H3: There is a significant, negative association between CEO duality and the extent of corporate voluntary disclosure.

3.2.1.2 Ownership structure

The attention paid to corporate ownership structure has increased in recent years and emerged as a crucial factor in corporate governance mechanisms (Hope 2013; Khlif, Ahmed & Souissi 2017). Different types of business owners require their own accounting information systems—a phenomenon driven by economic and industry incentives and affected by agency conflicts (Armstrong et al. 2010; Douma et al. 2006). Previous studies show mixed and conflicting results in regards to the effect of ownership structure on corporate voluntary disclosure (Brown et al. 2011; García-Meca & Sánchez-Ballesta 2010; Khlif, Ahmed & Souissi 2017). Some argue that this is a result of treating all groups of owners as one homogeneous group during previous studies, which analysed ownership structure’s effect on corporate voluntary disclosure (Hautz et al. 2013; Khlif, Ahmed & Souissi 2017). Another factor that may affect corporate voluntary disclosure, as well as ownership structure, is ownership concentration (García-Meca & Sánchez-Ballesta 2010). This study examines the effect of both the concentration and the type of ownership on corporate voluntary disclosure.

3.2.1.2.1 Block-holder ownership

The term ‘block-holder’ refers to a company shareholder who owns 5% or more of the outstanding company shares (Dhouibi & Mamoghli 2013; Eng & Mak 2003; Puspitaningrum & Atmini 2012). Block-holders can be individuals or institutions, and it is argued that the influence of a block-holder depends on the number of shares they hold. A larger block may indicate a more active ownership (Donohoe & McGill 2011; Makhija & Patton 2004).

A positive view of the effect of block-holders (concentrated ownership) asserts that this type of ownership could be an effective monitoring tool (El-Diftar 2016). This argument assumes that a large portion of ownership will reduce the agency problem and lead to the effective monitoring of the company’s management, by negating any opportunistic behaviour and reducing the agency cost (Shleifer & Vishny 1997). Fama and Jensen (1983) argue that a low-concentrated ownership will increase the possibility of conflict of interest between the company’s management and shareholders. This would arguably be motivated by the incentive for block-holders to protect their significant interests in the company, since they hold a significant portion of the company’s shares (Konijn et al. 2011). However, Barnea and Rubin (2010) argue that these motivations are restrained by self-interest (e.g. concern for personal reputation) and the desire to increase the company’s market value. This could indicate that the type or identity of block-holders may affect the correlation between block-holder ownership and corporate voluntary disclosure, if it exists.

In contrast, literature surrounding the effects of block-holder ownership on corporate voluntary disclosure suggests that this kind of ownership undermines corporate voluntary disclosure. Supporters of this view argue that a conflict of interest will arise between the block-holders and other stakeholders (Juhmani 2013; Li, Huiyun & Zhao 2011; Shleifer & Vishny 1997). They see block-holders as a tool that exerts pressure on the company's management by revealing only the information that serves their interests, at the expense of other stakeholders. This raises a red flag suggestive of the conflict of interest problem and leads to less disclosure. Further, Ntim et al. (2015) suggest a possible collusion between block-holders and company management, which may lead to expropriation of the company's resources—disadvantaging the smaller shareholders. This could be a result of block-holders having better access to information, compared with smaller shareholders, through representation on the board, or directly through the company's management (Makhija & Patton 2004; Tsamenyi et al. 2007). This view is supported by stakeholder theory, wherein block-holders could potentially jeopardise other stakeholders' interests (Solomon 2010). In the case of highly concentrated ownership, the company's management would be less motivated to produce high levels of voluntary disclosure. The block-holder's ability to obtain information directly from the company places less pressure on management to disclose information through voluntary disclosure. This leads to the idea that the diffusion of ownership structure would require management to disclose more information, to fulfil a wider range of stakeholders' needs (El-Diftar 2016)—a requirement that could be absent in concentrated ownership.

Conflicting results in literature could be a result of variables such as the type of block-holder, the level of ownership and the country being evaluated. The first argument is that block-holders (especially institutions) are significant tools for monitoring the company's management—up to a certain level of ownership. However, if that ownership becomes a controlling ownership, the self-interest of the block-holders will jeopardise other stakeholders' interests (Salehi, Hematfar & Heydari 2011). Makhija and Patton (2004) have suggested a nonlinear relationship between block-holder ownership and corporate voluntary disclosure. Another explanation, driven by previous studies, attributes the results to contextual differences (Robertson, Diyab & Al-Kahtani 2013; Salterio et al. 2013). Bauwhede and Willekens (2008) propose that the block-holder problem is more obvious in developing countries. They argue that the weakness of legal systems in those countries (compared with legal systems in developed nations) increases block-holders' advantage (Haniffa & Hudaib 2006). Based on the previous discussion, this study posits the following hypotheses:

H4: The association between concentrated ownership and the extent of corporate voluntary disclosure depends on the type of block-holder.

H5: There is a significant, negative association between individual block-holder ownership and the extent of corporate voluntary disclosure.

3.2.1.2.2 Institutional ownership

Shareholders of a company could be categorised into different groups depending on their identity. One of the main players in terms of ownership could be the institutional owners. Banks, financial institutions, companies and mutual funds usually invest in other companies, becoming part of the ownership structure of the company and creating what is referred to as institutional ownership (Farrar 2008). It is argued that institutional ownership affects many aspects of corporations, including corporate voluntary disclosure.

The impact is felt through corporate governance practice (Ruiz-Mallorquí & Santana-Martin 2011).

Commonly, institutions as shareholders have a number of advantages, which previous studies argue allow institutional owners to influence corporate voluntary disclosure. First, institutions as shareholders have timely access to information before other investors, through their board representation. Second, because of their financial power, they usually acquire a large portion of shares, which gives them a voting power that could be used as a monitoring and correctional tool for the company's management. Third, institutions usually enjoy more experience, skills and resources than other investors, which allows them to evaluate management's finance-related decisions. The fourth advantage, and that of greatest importance, is the ability to interpret disclosed information more effectively than other investors (Bos & Donker 2004; Shehata 2013). Each of these advantages could affect corporate disclosure differently—a circumstance that characterises the current debate on the effect of ownership structure on corporate voluntary disclosure (Bebchuk & Weisbach 2010).

The first stream argues that institutional ownership positively influences corporate voluntary disclosure. It appears that institutions have a financial power, allowing them to invest and hold a large portion of the company shares and become one of the main investors (Lakhal 2005). This advantage means that institutions exert their influence on management decisions, including corporate voluntary disclosure (Shehata 2013). Conversely, the power of institutions as investors could be an effective management-monitoring tool (Aggarwal et al. 2011) which may lead to better corporate disclosure and a higher level of transparency.

Some argue that institutions as investors become an important monitoring tool. Institutions reduce the agency cost by providing a higher level of monitoring, compared with ownership structures with no institutional investors (Jensen & Meckling 1976; Solomon 2010). Agency theory is widely used in literature to describe a positive relationship between institutional ownership and the extent of corporate voluntary disclosure. It is argued that institutional ownership is an important tool of corporate governance (Solomon & Solomon 2006), which reduces information asymmetry (Boone & White 2015). Further, it has been argued that the existence of institutional stakeholders puts pressure on management to disclose more information, to justify their sustained stewardship (Alnabsha et al. 2017).

In contrast, an argument has been put forward that institutional ownership negatively affects corporate voluntary disclosure. Supporters of this argument, such as Laidroo (2009) and Lakhal (2005) argue that since institutional owners are powerful investors, compared with other investors, they may have better access to more timely information about the company. Thus, the need for voluntary disclosure will be lower, compared with a scenario of no institutional ownership—especially if the financial health of the company is good and there are no financing or capital acquisition needs (Alhazmi 2017; Jiang & Habib 2009). Proponents of this argument point to the representation of institutions (through large shareholdings and voting power) on the boards of the companies in which they have invested (Donnelly & Mulcahy 2008), which could lead to less disclosure on the part of the company.

One explanation for the conflict of results, regarding the effect of institutional ownership on the extent of corporate voluntary disclosure, is that there are two types of institutional ownership, namely active ownership and passive ownership (Habbash 2017). Some institutions have a long-term goal and invest in companies—bringing with them their experience and resources. This type of investor has an active ownership, and they function as a good monitoring tool that leads to a high level of disclosure (Ntim & Soobaroyen 2013). In contrast, there is passive ownership, which is usually related to investors with short-term goals. They invest for short periods, focusing on stock trading, with less attention to monitoring the company's management or corporate disclosure (Alves et al. 2012). Another explanation for the conflicting results is the nature and the environment of the country (Shehata 2013). Shehata argues that established theories are not applicable to some countries, which have specific characteristics. According to the previous discussion, this study presents the following hypothesis:

H6: There is a significant, positive association between institutional ownership and the extent of corporate voluntary disclosure.

3.2.1.2.3 Government ownership

Government ownership (state ownership) describes the number of shares that a government or its agencies hold in a company in the private sector (Eng & Mak 2003). This type of ownership forms what are known as 'governmental linked companies' which usually fall under the control of the government (Eng & Mak 2003; Esa and Ghazali 2012). It is claimed (with reference to stakeholder theory) that government ownership plays a significant role in corporate voluntary disclosure, as it influences disclosure practices and policies, especially in developing countries, where it is common for listed companies to have concentrated ownership structures (Al-Moataz & Hussainey 2012; Boshnak 2017; Cornett et al. 2010). The government is a powerful shareholder and it has the financial and political power to influence a company's policies, including its disclosure policy (Alhazmi 2017; Freeman et al. 2010; Ntim & Soobaroyen 2013). Amran and Haniffa (2011) stress that governments are accountable to the public and that governments-stakeholders would influence disclosure policy. However, government ownership may lead to a conflict of interest, wherein the government is supposed to provide services to the people, but instead becomes caught up in helping the private sector make profits (Eng & Mak 2003).

The current study includes governmental ownership as a variable because the Saudi government, through its agencies, has a significant stake in listed companies (World Bank 2009). The Saudi government invests heavily in the stock market through its agencies, namely the Public Investment Fund, the General Organization for Social Insurance, and the Public Pension Agency (Alhazmi 2017). These factors make testing the effect of governmental ownership on corporate disclosure in Saudi Arabia important.

Previous studies have arrived at conflicting results concerning the effect of governmental ownership on corporate voluntary disclosure. Agency theory suggests that companies with governmental ownership are more likely to disclose more information, to alleviate the agency and monitoring costs (Eng & Mak 2003; Haddad et al. 2015). Meanwhile, legitimacy theory supports the argument that a government will place pressure on company management to disclose more information to enhance transparency. This indicates a positive relationship between governmental ownership and corporate disclosure (Alkayed 2018; Cheng & Courtenay 2006; Said, Hj Zainuddin & Haron 2009). Li and Harrison (2008) argue that governmental ownership forces company directors to be more legitimate and responsible to the public, to achieve certain government political goals. Ghazali (2007) argues that high governmental ownership in a company means that the company is publicly owned, which places it under the public spotlight. Since governments take on the dual role of shareholder and regulator, this could lead companies with high levels of governmental ownership to disclose more information, to reduce any conflict of interest with other stakeholders (El-Diftar 2016; Conyon & He 2011).

Conversely, other empirical studies have revealed a negative relationship between governmental ownership and corporate voluntary disclosure. It is argued that companies with high governmental ownership have more access to capital and financial resources (through government funds or local banks). This access to financial resources reduces the need to attract further investors and, in turn, reduces the need to disclose more information (Alnabsha et al. 2017; Ghazali & Anum 2004). Ghazali and Anum (2004) claim that political affiliations could reduce corporate disclosure practices to protect the owners, in this case the government and its interests. It has been argued that governmental ownership compromises corporate governance by intervening in the company's operations, policies, and decision-making processes (Konijn et al. 2011).

In this way, the government could easily appoint directors and executives who provide it with greater access to resources and more information, negating the purpose of proper corporate disclosure (Alhazmi 2017; Esa & Ghazali 2012; Ghazali & Weetman 2006; Rao, Tilt & Lester 2012). Last, companies with high levels of government ownership may feel, or could actually be, more protected from scrutiny. Therefore, they disclose less information, compared with other companies (Chaney et al. 2011; Shehata 2013). It is important to note here that the government in Saudi Arabia is essentially the royal family (Shehata 2013), which may give this study a further dimension to consider (and makes this study more significant). From the previous discussion, and in line with previous empirical evidence, this study hypothesises the following:

H7: There is a significant, positive association between governmental ownership and the extent of corporate voluntary disclosure.

3.2.1.2.4 Foreign ownership

Another type of ownership that can form a company's ownership structure is foreign ownership. Foreign ownership refers to the percentage of outstanding shares of a company owned by foreign investors. This type of ownership plays a significant role in developing countries, where there is a desire to increase foreign investment, and a good corporate reputation may make this possible (Bhuyan 2018). Generally, countries with developing market economies are attempting to attract more international investors, mainly from Western countries, who require more disclosure in annual reports (Boshnak 2017). Boshnak argues that companies may disclose more information to attract more foreign capital. Elsewhere, Haniffa and Cooke (2005) focus on the need to pay extra attention to companies with foreign ownership characteristics, to avoid any information asymmetry, which may be caused by differences in the language and values of those investors. El-Diftar (2016) argues that a high level of foreign and international investment in developing countries is a positive and healthy sign that may indicate a higher level of technology and more advanced corporate practices. It is argued that corporate governance forces, such as powerful shareholders and foreign investors, play a significant role in enhancing corporate practices (including corporate disclosure) in developing countries (Ali, Frynas & Mahmood 2017).

Most of the empirical evidence on corporate voluntary disclosure supports the case that foreign ownership has a positive effect on corporate voluntary disclosure (Azizul Islam & Deegan 2008; Imam & Malik 2007; Muttakin & Khan 2014; Rahman Belal & Owen 2007). Studies argue that external pressure, including that from foreign investors, plays a crucial role in companies' reporting and accountability. The supporters of this school of thought view foreign investors as a powerful monitoring tool, who require more corporate disclosure to satisfy and comply with their foreign standards (Imam & Malik 2007;

Muttakin & Khan 2014). Monitoring by powerful owners could be an attribute of many types of ownership. However, Baik, Kang and Kim (2010) argue that the monitoring by foreign institutional investors would be stronger than that of the local investors, owing to increased monitoring costs from the extra expense involved in communication. Further, the presence of foreign investors may motivate companies to satisfy more demand for transparency and accountability to justify these investments (Rahman Belal & Owen 2007). The uncertainty of new situations necessitates more information and explanations, such as when new foreign investors start investing in a company. These foreign investors may place pressure on the company to disclose more information (Mangena & Tauringana 2007; Young & Guenther 2003). Haniffa and Cooke (2005) claim that the possibility of information asymmetry, due to different values and culture, could be avoided with more disclosure. These same authors assert that a legitimacy gap may increase as a result of foreign investors' presence, which could require further corporate voluntary disclosure to legitimise operational activities, comply with foreign investors' needs, and attract further foreign capital (Haniffa & Cooke 2005).

It is for these reasons that agency theory and legitimacy theory have been widely used in corporate disclosure literature to advocate for a positive relationship between corporate voluntary disclosure and foreign ownership (Bhuyan 2018). Foreign investors positively affect corporate voluntary disclosure by (i) putting more pressure on a company's management to fulfil international standards, (ii) and increasing the ownership diffusion, which requires a higher level of disclosure to fulfil the different owners' needs (El-Diftar 2016).

In contrast, a less empirically supported argument proposes a negative relationship between the extent of corporate voluntary disclosure and foreign ownership (Laidroo 2009). Laidroo argues that foreign owners have fewer incentives to maintain a positive reputation, which could result in less corporate disclosure. This could be applied more clearly on the grounds of social responsibility and environmental disclosures, which can be part of the total corporate voluntary disclosure. Based on the previous discussion, and in line with previous empirical evidence supported by agency theory and legitimacy theory, this study proposes the following hypothesis:

H8: There is a significant, positive association between foreign ownership and the extent of corporate voluntary disclosure.

3.2.1.2.5 Directors' ownership

Directors' ownership may be an important and influential type of ownership that makes up part of a company's ownership structure. Directors' ownership could be described as the percentage of the company's outstanding shares that are owned by members of the company's board of directors (Bhuyan 2018). The board of directors plays a significant role in a company, by monitoring and directing the company's overall strategies and policies. Further, individuals on the board are relatively close to company management and, compared with other stakeholders, have access to timely information (Eng & Mak 2003; Khan, Muttakin & Siddiqui 2013). Previous studies have suggested that directors' ownership affects the extent of corporate voluntary disclosure and other aspects of disclosure policies (Chalevas 2011; Eng & Mak 2003; Donnelly & Mulcahy 2008; Eng & Mak 2003; Khan et al. 2013; Ghazali 2007). Directors' ownership serves as a verification mechanism to align directors' interests with those of other shareholders' and ensure convergence between management and shareholders (Alhazmi 2017). However, it is argued that directors could be opportunistic and benefit from having more access to timely information, which other stakeholders may not have (Healy & Palepu 2001), and that this may create a conflict of interest. This type of ownership is common in Saudi

Arabia, since many family companies are now listed in the Saudi stock market (Alhazmi 2017). Many company shares become owned by families, who in turn become board members (Albassam 2014).

The previous empirical evidence has revealed mixed results relating to the effect of directors' ownership on the extent of corporate voluntary disclosure. Some studies have revealed a positive association between the two variables and justified their findings with agency theory (Jensen & Meckling 1976; Jiang & Habib 2009; Li & Qi 2008). Supporters of this view claim that directors' ownership helps align the interest of both parties—directors and other shareholders—which helps to mitigate the agency problem (Ahmed Haji 2013; Jensen & Meckling 1976). They argue that directors' ownership will help protect other shareholders, since they have the same interests (Samaha, Khlif & Hussainey 2012). Thus, directors will want to enhance corporate transparency and increase disclosure in an effort to lift the company's market value and thereby maximise shareholders' wealth (Boshnak 2017).

The alternative argument contends that there is empirical evidence supporting a negative relationship between directors' ownership and the extent of corporate voluntary disclosure (Ahmed Haji 2013; Bhuyan 2018; Boshnak 2017; Chau & Gray 2002; Eng & Mak 2003; Ghazali & Weetman 2006; Hussainey & Al-Najjar 2012; Ghazali 2007; Bauwhede & Willekens 2008). Supporters of this school of thought claim that directors, compared with the rest of the shareholders, have access to more information (Eng & Mak 2003), and that insider and outsider shareholders may have a different and greater conflict interest (Demsetz & Lehn 1985). Further, the directors' and other shareholders' interests are not always aligned and directors may want to maximise their own wealth by using the most up-to-date information, which could be withheld from other shareholders (Albassam 2014; McConnell & Servaes 1990). Htay et al. (2011) go even further, expecting a lower level of corporate disclosure to conceal any possible managerial incompetence or fraud. This opportunistic behaviour of directors could lead to less corporate voluntary disclosure, causing a negative relationship between the two variables. Interestingly, agency theory is used by both streams to justify the results. Eng and Mak (2003) claim that directors' ownership leads to monitoring issues and agency conflicts, as suggested by agency theory.

This confusing situation, wherein one theory explains different results for the same variable, may result from the dual role played by directors who own company shares: that of both shareholder and director. Proponents of the negative relationship between directors' ownership and corporate disclosure justify their results using agency theory and potential conflicts of interest between insider and outsider shareholders. Further, they see the advantage directors have to timely information, which enables them to engage in opportunistic behaviour and, subsequently, a lower level of disclosure. It is suggested that directors' ownership is an effective tool for monitoring the company management, by increasing the incentives for directors to act in alignment with shareholders' interests (Albassam & Ntim 2017; Alhazmi 2017; Eng & Mak 2003; Fama & Jensen 1983). However, this ownership at high level could lead to an agency problem (Eng & Mak 2003). From the previous discussion, and in line with previous empirical evidence supported by agency theory and stakeholder theory, this study offers the following hypothesis:

H9: There is a significant, negative association between directors' ownership and the extent of corporate voluntary disclosure.

3.2.2 Accounting standards

Increasing transparency and reducing information asymmetry in financial reports is a significant goal for accounting regulators and government agencies. In early 2004, countries around the world began adopting the IFRS to achieve better and comparable financial reporting, at a lower cost (Deloitte 2017). Since then, researchers have started to question and investigate the effects of IFRS adoption from different perspectives. IFRS are standards of mandatory disclosure, but it is now argued that accounting standards go beyond mandatory disclosure to influence corporate voluntary disclosure (Al-Asiry 2017). Researchers such as Bischof (2009), Broberg et al. (2010) and Soderstrom and Sun (2007) have argued that adopting IFRS has a positive effect on corporate disclosure, while others such as Ahmed, Neel and Wang (2013) have argued the opposite. Meanwhile, researchers such as Jones and Finley (2011) argue that even though IFRS acceptance will reduce the cost of preparing financial reports and will make them more comparable around the world, it does not influence corporate disclosure.

3.2.2.1 IFRS adoption

IFRS are accounting standards issued by the International Accounting Standards Board. These standards aim to improve comparability, reduce agency cost and improve the transparency of financial statements around the world (Mylonas 2016; Ball 2006; Mylonas 2016). Further, it is argued that implementing IFRS may reduce information asymmetry between the company and its stakeholders by increasing corporate disclosure (Ashbaugh 2001; Leuz & Verrecchia 1999; Ling & Sultana 2015). However, it is difficult to arrive at a definitive conclusion, given the mixed results of previous studies. Aksu and Espahbodi (2016) examined a sample of Istanbul-based companies listed on the Turkey stock exchange and found that IFRS wielded a significant and positive effect on corporate disclosure. They argue that IFRS plays a significant role in improving information disclosure in emerging markets. Similarly, Li and Yang (2015) found that IFRS adoption has a significant positive influence on corporate disclosure and they argued that it gives rational, economic incentives to disclose more. In contrast, Karampinis and Hevas (2011) found no empirical evidence for the effect of IFRS adoption on corporate disclosure, arguing that culture, law enforcement and the general environment drive the quality of financial reports and disclosure more than accounting standards. Alali and Foote (2012) also qualified the argument by noting that embracing IFRS is not enough and that more regulations and enforcement mechanisms are required for investors to trust and use financial reports. Van Tendeloo and Vanstraelen (2005) found no differences before and after IFRS adoption on reporting quality, and Ahmed, Neel and Wang (2013) discovered that IFRS actually reduced reporting quality.

Ball et al. (2003) argues that incentives faced by managers and auditors in issuing financial statements are crucial drivers of disclosure, and that those incentives outweigh accounting standards; thus, IFRS adoption will not affect corporate voluntary disclosure. Karampinis and Hevas (2011) reinforce the need to consider a wide range of variables when they argue that culture, law enforcement and the general environment drive financial report quality and disclosure more than accounting standards. Moreover, it is argued that disclosure quality varies between countries due to variations in the characteristics and factors of those countries (Soderstrom & Sun 2007). Mylonas (2016) affirms that IFRS adoption is not symmetric and that it is affected by firm and country attributes. These factors prevent the generalisation of previous studies in Saudi Arabia. The circumstances of this thesis make it more significant, as it is conducted in a unique culture with its own accounting and corporate disclosure practices.

Corporate voluntary disclosure is considered a complement of mandatory disclosure. Thus, changes in accounting standards that directly affect mandatory disclosure should, in turn, affect corporate voluntary disclosure. Therefore, this study offers the following hypothesis:

H10: There is a significant relationship between IFRS adoption and the extent of corporate voluntary disclosure.

3.2.3 Corporate characteristics

Companies have distinctive characteristics that may affect policies, decision-making processes and corporate practices (Camfferman & Cooke 2002; Lang & Lundholm 1993; Wallace et al. 1994). This is because each company has a different level of public pressure, varying abilities and different channels of financing and resources (Adams 2002). These characteristics are considered corporate attributes that may affect the extent and level of corporate disclosure (Alkayed 2018; Alotaibi 2014).

Corporate disclosure and accounting literature have considered and focused on the relationship between the characteristics of companies and their corporate disclosure since the early 1960s (Ahmed & Courtis 1999). The literature surrounding disclosure has established a significant relationship between companies' characteristics and corporate voluntary disclosure. It is strongly argued that a company's characteristics play an essential role in determining corporate voluntary disclosure. It is argued that company characteristics dominate corporate policies and more specifically, disclosure policies (Ahmed & Courtis 1999; Alsaeed 2006; Camfferman & Cooke 2002; Donnelly & Mulcahy 2008; Fama & Jensen 1983; Orlitzky 2001; Raffournier 1995). Company characteristics are classified according to three categories (Alsaeed 2006). The first is structure-related and includes the company's size and age. The second is market-related and includes the industry. The third is performance-related and includes profitability. These variables are significant factors for determining variations in corporate voluntary disclosure (Ahmed & Courtis 1999; Alsaeed 2006; Cooke 1992; Fifka 2013).

Empirical studies provide explicit evidence that the extent of corporate disclosure is related to specific companies' characteristics such as size, industry, age and financial performance (Rao, Tilt & Lester 2012). Rao, Tilt and Lester (2012) argue that disclosure practices are more important to large companies, and more obvious in businesses operating in sensitive industries, where they are exposed to a higher level of public pressure, compared with companies in other industries. Moreover, older companies may have more experience and more flexible resources. Sotorrío and Sánchez (2010) argue that experienced and profitable companies are more capable of maintaining the interests of a wider range of stakeholders. Thus, they tend to have a higher level of voluntary disclosure. Experienced and profitable companies can afford disclosure costs and more disclosure attracts further funding from different sources.

As with previous studies, this thesis includes company size, age, industry and profitability as control variables. The reason for their inclusion is that their impact has been strongly established in previous studies. All of the independent variables will be tested while controlling the company size, age, industry and profitability. The control variables will be included in all empirical models. Including and employing control variables helps to reduce any possible variable bias in the tested data (Albassam 2014; Ntim et al. 2012). Those control variables are chosen for two main reasons. First, these variables are demonstrated to have a significant relationship with the extent of corporate voluntary disclosure. Second, including the control variables will make the current study's results more comparable with those reported in other studies.

3.2.3.1 Company size

A determinant of corporate voluntary disclosure examined in previous studies is company size. A high level of disclosure was found to be a factor in the low cost of capital, which is associated with the size of the company (Botosan 1997). This indirect, positive relationship became apparent when Botosan (1997) examined the relationship between the level of corporate disclosure and the cost of capital—with large companies tending towards more voluntary disclosure (Hassan, Giorgioni & Romilly 2006). In contrast, a negative relationship was found between corporate voluntary disclosure and company size in a number of studies (Khlif & Souissi 2010; Yhim, Karim & Rutledge 2003). The variation of the results could be attributed to varying degrees of media and social media power from country to country. Fifka (2013) argues that large companies tend to disclose voluntarily, because of greater media pressure, compared with the media pressure on smaller companies.

3.2.3.2 Experience

Older companies may have more experience, which could help them avoid internal problems, allowing them to disclose more information. Younger companies may have more problems in internal control, which could result in less disclosure (Ji, Lu & Qu 2015). However, according to signalling theory (Titman & Trueman 1986), it can be argued that younger companies have better disclosure practices and can therefore compete with their opposition. Company experience could be an important factor that determines the company's corporate disclosure practices. Controlling variables that have been tested in previous studies will give this study more reliability and help to identify the most important determinants of corporate voluntary disclosure, among the available variables.

3.2.3.3 Industry

Mixed results were also found across previous studies relating to industry as a determinant of the extent of corporate voluntary disclosure. Although many studies agree that the level of disclosure is related to the industry in which a company operates, some studies found that industry has no effect on the level of disclosure. In terms of both frequency and intensity of voluntary disclosure, the effect of industry was noted in Holder-Webb et al. (2009) and Sobhani, Amran and Zainuddin (2009). In contrast, several studies found that industry had no effect on the level of voluntary disclosure (McMurtrie 2005; Stanny & Ely 2008). McMurtrie (2005) argues that companies in more sensitive industries are more sensitive to stakeholder pressure and will disclose more information; yet some companies in non-sensitive industries are conservative and disclose more. Stanny and Ely (2008) found that industry is not associated with the level of voluntary disclosure and that some companies in more sensitive industries actually disclose less.

3.2.3.4 Profitability

Profitability is important to consider in this study. However, findings regarding the relationship between profitability and corporate voluntary disclosure are mixed due to conflicting evidence (Khlif & Souissi 2010). Several studies found a positive relationship between profitability and corporate disclosure (Chau & Gray 2002; Naser 1998). Naser (1998) found that the accumulation of disclosure information is costly, and only profitable companies can bear the agency cost attached to a high level of disclosure. In contrast, some studies found a negative relationship between profitability and corporate disclosure (Barako, Hancock & Izan 2006a; Yhim, Karim & Rutledge 2003). Yhim, Karim and Rutledge (2003) argued that managers tend to disclose more if there is a high degree of earnings volatility. Although Barako, Hancock and Izan (2006a) detected a negative relationship between profitability and corporate disclosure, it was not a significant relationship, owing to a statistically weak correlation. Although there are no consistent results regarding the relationship between profitability and corporate voluntary disclosure, the aforementioned research remains valuable and makes profitability a factor to consider when testing the determinants of corporate voluntary disclosure.

3.3 Corporate Voluntary Disclosure and Stock Price

The theorised associations between corporate disclosure and the stock price vary. For example, de Klerk, de Villiers and van Staden (2015) and Reverte (2016) examined the association between stock price and corporate social responsibility disclosure (part of voluntary disclosure). They found a positive association. Earlier, Healy and Palepu (1993) argued that corporate managers hold more information about the current and future performance of their company than outside investors, which makes disclosure strategies an important instrument that affects outside investors, even if the capital market is efficient. Holm and Rikhardsson (2008) found that disclosure influences investment allocation decisions for investors, that it is likely that various sources of financial and non-financial information influence investment decisions and that different types of disclosure have different effects on investors' allocations. These arguments could be used to establish the relationship between corporate disclosure and stock price.

Haggard, Martin and Pereira (2008) examined the relationship between voluntary disclosure and co-movements in stock prices and found that enhancing the extent of voluntary disclosure reduces information acquisition costs and enhances business transparency, which reduces stock price co-movements. They argued that an effective disclosure policy would contain stock returns and reduce stock crashes. Although previous studies have examined different aspects of corporate disclosure, few have examined the association between voluntary disclosure and stock price. Mandatory disclosure contains more financial information than voluntary disclosure and affects the stock price more.

The results of this thesis are important because they will help to evaluate how much time, effort and money companies should spend on voluntary disclosure. Public confidence in companies that disclose more is expected to drive up the stock price. Gunawan and Lina (2015) found that voluntary disclosure affects investors' reactions (measured by the volume of stock trading). This could be evidence of a link between voluntary disclosure and the stock price, even if it is not a direct or causal relationship. Balakrishnan et al. (2014) refined the argument by asserting that voluntary disclosure should be more important to retail and institutional investors than to individual investors, as it increases firm value. It is important to examine the association between voluntary disclosure and stock price to understand if disclosure has a positive financial effect, and if companies should disclose more, especially costly, information.

The preceding discussion highlights the importance of voluntary disclosure and its possible association with stock price. Yet, more empirical evidence is required if the relationship is to be fully understood and accepted. This study will examine the possible association between voluntary disclosure and stock price. At present, evidence regarding Saudi Arabia and the Middle East is not sufficient to resolve this issue. This study will distinguish between the categories of voluntary disclosure, and it will study each of them and their effect on stock prices separately. This is a distinguishing feature of this study, compared with previous studies. According to signalling theory, managers' incentive to provide voluntary disclosure is to provide information that increases the company's value and stock price. To this end, the current study suggests the following hypothesis:

H11: There is a significant, positive relationship between the extent of corporate voluntary disclosure and the company stock price.

3.4 Summary of Previous Studies

3.4.1 Studies of determinants of corporate voluntary disclosure in developed countries

Table 3-1: Summary of Major Previous Studies in Developed Countries on Determinants of Corporate Voluntary Disclosure

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
1	Cooke (1989)	B Q2	Sweden	90 firms (38 unlisted firms and 52 listed firms)	Unweighted approach	6 various groupings which included 146 items; the scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The mean of VD is 37%; the minimum of VD is 13%, while the maximum is 70%.	Political cost theory Capital need theory Agency theory	Listing status Size Foreign ownership (owned by foreign company) Industry	Listing status (+) Size (+) Industry (+/-)
2	Cooke (1991)	B	Japan	48 firms (35 listed firms and 13 unlisted)	Unweighted approach	106 information items; the measurement of VD is 1 (disclosed item) and 0 (undisclosed item).	The mean level of VD is 32%.	Political cost theory Capital need theory Agency theory	Size Stock market listing Industry type	Size Stock market listing Industry type
3	Hossain, Perera and Rahman (1995)	B Q2	New Zealand	55 listed firms (15 firms listed on international stock markets and	Unweighted approach	11 groups of VD included 95 information items; the scale of VD is 0 (undisclosed	The mean extent of VD is 18%; the maximum value is 55%, and the minimum is 2%.	Signalling theory Agency cost theory Agency theory	Firm size Leverage Assets-in-place Type of auditor Foreign listing status	Size Foreign listing status Leverage

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
				40 listed on New Zealand's)		item) to 1 (disclosed item).				
4	Meek, Roberts and Gray (1995)	A*	Europe, UK and US	226 listed firms	Unweighted approach	12 groups of VD contained 85 information items; the measurement of VD is 1 (disclosed item) and 0 (undisclosed item).	18% is the mean extent of VD.	Agency theory	Size Country Industry Leverage Multinationality Profitability International Listing Status	Size Country Listing status Industry
5	Raffournier (1995)	A* Q2	Switzerland	161 public firms	Unweighted approach univariate analyses and multiple regressions	30 information items; the scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The mean level of VD is 40%.	Political cost theory Agency theory Information cost theory	Size Leverage Profitability Ownership structure Internationality Auditor's size Percentage of Fixed assets Industry type	Size Internationality
6	Inchausti (1997)	A* Q2	Spain	138 listed firms	Unweighted approach	20 voluntary information items; the measurement of VD is 1 (disclosed item) and 0 (undisclosed item).	The average extent of VD is 18%.	Signalling theory Political cost theory Agency theory	Size Leverage Profitability Industry Auditing firm Dividend pay-out Cross-listing Accounting rules	Size Auditing firm Cross-listing Accounting rules

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
7	Depoers (2000)	A* Q2	France	102 listed firms	Unweighted approach	2 VD groups involved 65 information items; the scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The mean extent of VD is 29%.	Proprietary cost theory Information Cost theory Agency theory	Size Leverage Auditing firm Foreign activity Ownership diffusion Proprietary costs Labour pressure	Size Foreign activity Proprietary costs Labour pressure
8	Chau and Gray (2002)	A	Singapore and Hong Kong	122 listed firms (62 firms in Singapore and 60 in Hong Kong)	Unweighted approach	Meek, Roberts and Gray (1995) checklist, which included 133 information items; the measurement of VD is 1 (disclosed item) and 0 (undisclosed item).	The mean level of VD is 14% in Singapore and 12% in Hong Kong.	Agency theory	Firm size Proportion of Independent Directors CEO duality Family ownership Size of audit firm. Growth	Firm size (+) Proportion of independent Directors (+) CEO duality (–) Family ownership (–)
9	Gul and Leung (2004)	A Q2	Hong Kong	385 public companies	Unweighted approach	The VD checklist involved 44 information items; the scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The average level of VD is 14%.	Agency cost theory Stewardship theory Agency theory	Independent & experienced directors CEO Duality Independent directors Director ownership Audit Firm	Independent directors (-) CEO Duality (-)
10	Makhija and Patton (2004)	A* Q1	Czech	43 firms	Unweighted approach	3 VD checklists (comprehensive, somewhat broad and narrow	The mean extent of VD is 44% for the comprehensive	Agency cost theory Agency theory	Size Profitability Intangible assets Debt	External ownership Audit firm

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
						indices) contained 66 information items.	checklist, 49% for the somewhat broad checklist and 55% for the narrow checklist.		Industry Audit firm Listing status Internal ownership Government Ownership Block-holders	
11	Arcay and Vazquez (2005)	B Q3	Spain	117 listed firms	Weighted approach Structural Equation	18 voluntary information items; the measurement of VD is 1 (disclosed item) and 0 (undisclosed item).	The mean level of VD is 48%.	Information cost theory Agency cost theory Agency theory	Independent directors on Board Existence of audit committee CEO Duality Board participation (Director ownership) Stock options in directors Remuneration Board Size Ownership Concentration Foreign stock listing	Independent Directors on Board (+) Existence of Audit Committee (+) Board Participation (Director ownership) (+) Stock options in directors Remuneration (+) Ownership Concentration (+) Foreign stock listing (+)
12	Cheng and Courtenay (2006)	A	Singapore	104 public companies	Unweighted approach Ordinary Least	The VD index contained 72 items divided into three VD groups; the scale of VD is 0	The mean extent of VD is 29%.	Proprietary cost theory Agency theory	Independent directors CEO duality Board size	Independent directors External governance mechanism

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
					Squares (OLS)	(undisclosed item) to 1 (disclosed item).			External governance mechanism Regulatory environment	Regulatory environment
13	Patelli and Prencipe (2007)	A*	Italy	175 listed firms	Unweighted approach Multivariate least squares regression	6 VD groups included 74 information items; the scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The overall extent of VD is 15%.	Signalling theory Agency cost theory Agency theory	Size Leverage Profitability Labour pressure Independent directors Ownership diffusion	Independent directors on Board (+) Ownership diffusion (+)
14	Lim, Matolcsy and Chow (2007)	A*	Australia	181 listed firms	Unweighted approach 2SLS	11 VD groups contained 67 items based on Meek, Roberts and Gray's (1995) checklist; the scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The average extent of VD is 18%.	Agency cost theory Signalling theory Political cost theory Agency theory	Size Leverage Profitability industry Audit firm Board composition Board Size Type of auditor Shareholders concentration Management Compensation	Board composition (+) Shareholders concentration (-) Size Industry Management Compensation Profitability
15	Bauwhede and Willekens (2008)	A	14 European countries	130 listed firms	Weighted approach	4 VD groups; the scale of VD is 1 to 5 (best practice)	The mean extent of VD is 65%.	Agency theory	Leverage Ownership concentration Legal system Working capital accruals	Ownership concentration (-) Legal system Working capital accruals (+)

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
16	Donnelly and Mulcahy (2008)	A	Ireland	51 public firms	Unweighted approach Poisson regression Technique	3 VD groups included 79 information items based on Eng and Mak (2003) checklist.	The mean level of VD is 21%; the minimum level of VD is 13%, and the maximum level is 40%.	Agency cost theory Signalling theory Agency theory	Size Non-Executive Director on Board CEO duality Institutional ownership Managerial ownership Index of managerial Ownership Board size	Non-Executive Director on Board (+) Non-Executive Director as Chairman (+)
17	Allegrini and Greco (2013)	Q2	Italy	177 listed firms	Unweighted approach OLS	6 VD groups included 60 information items.	The mean extent of VD is 35%.	Proprietary cost theory Agency cost theory Agency theory	Size Leverage Listing status Profitability Ownership diffusion Board independence Board size CEO Duality Lead independent director Board committees Board meetings Audit committee meetings	Size Board size (+) CEO Duality (-) Board meetings (+) Audit committee meetings (+)

N	Author	Journal Rating	Country	Sample	Disclosure Method	Voluntary Disclosure (VD) Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
18	Pisano, Lepore and Lamboglia (2017)	B Q1	Europe	150 European firms	Unweighted approach regression	5 groups of VD about Human Capital (HD)	The mean extent of VD about HD is 6.33%.	Agency theory	Size Leverage Profitability Ownership concentration	Ownership concentration (-)

3.4.2 Studies on determinants of corporate voluntary disclosure in developing countries

Table 3-2: Summary of Major Previous Studies in Developing Countries on Determinants of Corporate Voluntary Disclosure

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
1	Ho and Wong (2001)	B	Hong Kong	98 public firms	Weighted approach Multiple regression	20 items measured by a survey. The measuring method is 1 (unimportant) to 5 (very important).	The highest level of VD is 85%, and the lowest value is 5%; the mean extent of VD is 29%.	Agency cost theory Information theory Agency theory	Family Board members Audit committee Independent directors CEO duality Assets-in-place Leverage Industry Size	Audit committee (+) Family Board member (-)
2	Haniffa and Cooke (2002)	A	Malaysia	167 listed firms	Unweighted approach Multiple regression	65 information items (6 groups) based on Hossain (1994); (Soh 1996).	The mean level of VD is 31%; the highest value is 70%, and the lowest level is 6%.	Cultural theory Capital need theory Stewardship theory Agency theory Cost benefit theory Signalling theory Resource theory	Ownership structure Assets-in-place Size Profitability Industry Role duality Family members Audit firm Listing status Cross-directorships Qualification of directors Complexity	Size (+) Profitability (+) Assets-in-place (+) Foreign investors (+) Ownership by top ten shareholders (+) Diversification (+) Industry (-) Independent chair (-)

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
									Culture (race and education)	Family members on the board (-)
3	Eng and Mak (2003)	A	Singapore	158 public listed firms	Weighted approach OLS	3 groups of VD which included 46 information items measured by study assistants. The measuring method is 1 (unimportant) to 5 (very important).	The minimum level of VD is 22%, and the maximum extent is 66%; the mean level of VD is 22%.	Signalling theory Agency theory	Industry Size Profitability Leverage Audit firm Managerial ownership Block-holder ownership Government ownership Board composition	Managerial ownership (-) Government ownership (+) Board composition (-) Size Leverage
4	Barako, Hancock and Izan (2006a)	A	Kenya	43 financial firms	Weighted approach OLS	4 categories of voluntary information contained 47 information items. The measuring method is 1	In general, the mean extent of VD is so low over the study period, only one listed firm disclosed more than 50%.	Agency theory	Board composition, CEO Duality Audit committee Shareholder Concentration, Foreign ownership Institutional ownership Type of auditor	Board composition (-) Audit committee (+) Shareholder concentration (-) Foreign ownership (+) Institutional ownership (+)
5	Ghazali and Weetman (2006)	B	Malaysia	87 financial firms	Unweighted approach Stepwise regression	The VD checklist is based on Meek, Roberts and	The mean level of VD is 31%; the highest level is 74%, and	Proprietary cost theory Signalling theory	Ownership concentration Number of shareholders	Director ownership (-) Family members on Board (-)

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
						Gray (1995) index, which included 53 information items (11 groups).	the lowest value is 6.3%. Only 12 listed firms presented information more than 50%.	Political cost theory Legitimacy theory Agency theory	Director ownership Government ownership Family members on Board Independent Non-executive Director	
6	Huafang and Jianguo (2007)	B	China	559 listed and unlisted firms	Unweighted approach OLS	30 information items based on Ahmed, K and Nicholls (1994) index.	The mean extent of VD is 5% (very low).	Political cost theory Agency theory Signalling theory	Block ownership Managerial ownership State ownership Legal person ownership Foreign ownership Board composition CEO Duality	Block ownership (+) Foreign ownership (+) Board composition (+) CEO Duality (-)
7	Wang, Sewon and Claiborne (2008)	B	China	110 listed firms	Unweighted approach	79 information items categorised into 11 groups based on Meek, Roberts and Gray (1995) study.	The maximum level of VD is 28%, and the minimum level is 3%; the mean level of VD is 13%.	Litigation cost theory Signalling theory Agency theory Agency cost theory.	State ownership Foreign ownership Firm performance Auditor type	State ownership Foreign ownership Firm performance Auditor type

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
8	Hossain, Mohammed and Hammami (2009)	B	Qatar	25 public firms	Unweighted approach	The VD index included 44 information items categorised into 8 VD groups. The scale of VD is 0 (undisclosed item) to 1 (disclosed item).	The highest extent of VD is 67%, and the lowest extent is 20%; the mean extent of VD is 37%.	Proprietary cost theory Agency cost theory Legitimacy theory Agency theory	Age Size Complexity Assets-in-place Profitability	Age Size Complexity Assets-in-place
9	Al-Akra et al. (2010)	A	Jordan	243 Annual Report	Unweighted approach	2 VD checklists; the first one (81 items) is for the financial period (2003/2004), and the second one (90 items) is for (1996 to 2002). The measurement of	The highest levels of VD are 65% and 44% for the first and second indices, respectively, and the lowest levels are 9% and 3%, respectively; the mean.	Agency cost theory Signalling theory Agency theory Capital need theory	Privatisation Ownership structure Regulations reform Corporate governance reform Non-executive directors Audit committee Size Leverage Liquidity Profitability Audit firm Industry	Privatisation Ownership structure Regulations reform Audit committee Size Leverage Industry Non-executive directors Audit firm

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
10	Bose et al. (2017)	A Q1	Bangladesh	205 Annual reports	Unweighted approach OLS	21 items of corporate voluntary disclosure about Green Disclosure	Average disclosure over the period is 31.9%.	Institutional theory New Institutional-Sociology theory	Firm size Growth Age Leverage profitability Board Size Board independence Female director Institutional ownership Foreign Ownership CEO compensation Female Director Government ownership Regulation Imitation Time and routine	Firm size Growth Leverage Profitability Board size (+) Board independence Institutional ownership (+) Government ownership (+) CEO compensation (-) Time and routine

3.4.3 Studies on determinants of corporate voluntary disclosure in Saudi Arabia

Table 3-3: Summary of Major Previous Studies in Saudi Arabia on Determinants of Corporate Voluntary Disclosure

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
1	Alsaeed (2006)	B	Saudi Arabia	2003 40 companies	Unweighted approach	20 General items	On average, 33% of the voluntary information.	Agency theory	Size Leverage Ownership dispersion Age Profitability Liquidity Industry Audit firm size	Firm size (+)
2	Al-Janadi, Rahman and Alazzani (2016)	B	Saudi Arabia	2006–2007 87 Companies	weighted approach	22 Items of financial information, corporate governance, and corporate social responsibility (CSR)	Disclosure average is 31%	Agency theory Information asymmetry theory Resource dependence theory Legitimacy theory	Government ownership as moderator on: Non-executive directors Family members Board size Independence of audit committee CEO duality	Government ownership has a moderating negative effect on the association between CG factors (e.g. board size, non-executive directors) and VD
3	Habbash (2016)	B	Saudi Arabia	2007–2011 267 observation	Unweighted approach	17 CSR disclosure items	Average disclosure is 24%	Agency theory	Audit committee Board independence CEO duality Government ownership	Government ownership (+) Family ownership (+) Size (+) Age (+) Leverage (-)

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
									Institutional ownership Family ownership Leverage Size Profitability Age Industry	

3.4.4 Studies on the effect of corporate voluntary disclosure on stock price

Table 3-4: Summary of Major Previous Studies on the Effect of Corporate Voluntary Disclosure on the Company Stock Price

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
1	de Klerk, de Villiers and van Staden (2015)	B Q2	United Kingdom	89 largest listed UK firms	Weighted approach	8 groups of corporate social responsibility disclosure (CSRD) include 87 items from KPMG reports and database. global reporting initiative (GRI) guideline.	The average disclosure is 30.17% and the maximum is 64%	Agency theory	Book value Earning Industry CSRD Size Leverage	Book value Earning Industry CSRD Size There is a significant association between the level of CSRD and share price. Industry is a moderator of this association. CSR is relevant to investors.
2	Qiu, Shaukat and Tharyan (2016)	A Q1	United Kingdom	152 listed firms	Unweighted approach	Secondary data from Bloomberg and Thomson databases.	The average disclosure is 21.27% for environmental disclosure and 31.64% for social responsibility disclosure	Socio-political theory Legitimacy theory Voluntary disclosure theory	Book value Earning Profitability Market value (share price) Expected growth rate (residual incomes). Size Leverage	Past profitability drives current social disclosures. Environmental and Social Disclosure positively affects stock

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
									Activity Media exposure R&D Expenditure Analyst coverage Analyst Mean Forecast	price and residual income. Social disclosure is more relevant to investors.
3	Verbeeten, Gamerschlag and Möller (2016)	B Q1	Germany	130 largest German firms	Unweighted approach	Social responsibility disclosure using Word counts by applying GRI guideline. 32 key words.	The average disclosure is 62% for total CSRD. and 30% for social environmental disclosure. And 32% for employee-related disclosure.	Economic theory Legitimacy theory Stakeholder theory Voluntary disclosure theory	Book value Earning CSRD Industry	Book value Earning CSRD CSR is relevant to investors, however different categories of CSRD have different association. Environmental disclosure is not associated with the stock price indicates lower relevance to investors.
4	Reverte (2016)	Q1	Spain	Largest 35 firms Madrid stock exchange.	Social Disclosure	Social responsibility disclosure scores as secondary data from OCSR	The average disclosure is 34%	Agency theory Legitimacy theory Stakeholder theory	Book value Earnings CSRD Industry	Book value Earnings CSRD Industry Social Disclosure positively

N	Author	Journal Rating	Country	Sample	Disclosure Method	VD Index	Extent of VD	Theoretical Framework	Independent Variables	Significant Association
										effects Share price.
5	Bowerman and Sharma (2016)	Q3	Japan and UK	85 Japanese firms and 91 UK firms	Weighted approach	8 groups of CSRD includes 87 items from KPMG reports and database. GRI guideline.	The average disclosure for UK firms is 30% and the average disclosure for Japanese firms is 34%	Agency theory	Book value Earnings CSRD Industry	CSRD is relevant to UK investors and is associated with the stock price. CSRD is not relevant to Japanese investors and is not associated with the stock price.

3.5 Summary and Research Gaps

While there have been many attempts to define voluntary disclosure, there remains no consensus. However, it is generally agreed that a broader concept of voluntary disclosure includes any non-mandatory disclosure. Corporate voluntary disclosure could be classified extensively with wider categories, including financial and non-financial information. It is important to note that this disclosure is voluntary, thus companies may disclose this kind of information in different ways and through different channels. However, annual reports are the major and most frequently used method. Despite different points of view throughout the literature, it is established that corporate voluntary disclosure is important and could potentially affect many aspects of a company.

The literature review identified many theories that could explain corporate voluntary disclosure and its determinants. The current study applies several theories, namely agency, stewardship, stakeholder, legitimacy and institutional theories. Existing research indicates that corporate voluntary disclosure is a complex matter, involving diverse parties with various motivations and expectations. Thus, identifying the determinants of corporate voluntary disclosure and establishing their effect on company stock prices will require more than theory. Determinants of corporate voluntary disclosure are an essential element in this study. For greater clarity, this study investigates determinants from four categories: board composition, ownership structure, accounting standards and corporate characteristics. This categorisation will afford greater insight into the drivers of corporate disclosure. The categorisation of determinants also allows for their ranking.

The first dimension of this study is corporate governance. Corporate governance has been shown to have attracted substantial consideration in corporate voluntary disclosure literature. Corporate governance includes many internal and external mechanisms. Among the most important internal mechanisms are board composition and ownership structure. Their effect on the extent of corporate voluntary disclosure is currently the subject of varying conclusions. This is due to a lack of consideration of country attributes when moderating the relationship between corporate governance mechanisms (board composition and ownership structure) and corporate voluntary disclosure. To clarify the differences in board composition, the current study examined three variables of board characteristics, namely CEO duality, board size and non-executive directors. In terms of ownership structure, previous studies show mixed and conflicting results, regarding its effect on corporate voluntary disclosure. This study examines the effects of both the type of ownership and the concentration of ownership on corporate voluntary disclosure. Specifically, to ensure the current study adequately accounts for variations of ownership, it examines the following variables under the ownership category: individual block-holder ownership, institutional ownership, government ownership, foreign ownership and directors' ownership.

The second dimension of this study is accounting standards. IFRS adoption was seen from different perspectives within accounting literature. It is argued that disclosure level and quality of disclosure vary between countries, due to unique country characteristics and varying application of the standards. Country factors such as culture, law enforcement and the general environment are potentially more powerful drivers of financial report quality and disclosure than accounting standards. This study includes the IFRS adoption to capture any effect it may have on the level of corporate voluntary disclosure in Saudi Arabia.

Corporate characteristics are considered corporate attributes. which play an important role in the extent and level of corporate disclosure. The literature review identifies that each company has different characteristics that possibly affect the extent of its disclosure. The current study takes great care in examining the independent variables in a reliable environment, by including company size, age, industry and profitability as important control variables.

The final area that this chapter covered was voluntary disclosure and stock price. Although previous studies examined different aspects of corporate disclosure, only a few examined the association between voluntary disclosure and stock price. It is clear that more empirical evidence in this area is required. This study will distinguish between the categories of voluntary disclosure, and it will study each of them and their effect on stock prices separately, for which there is little evidence in the literature and none on Saudi Arabia and the Middle East.

Table 3-5: Summary of the Study Hypotheses

Category	*Variable*	*H*	*Related Hypotheses*
Board Composition	Board size	H1	There is a significant positive association between board size and the extent of corporate voluntary disclosure.
	Board Independence	H2	There is a significant positive association between the presence of non-executives on boards of directors and the extent of corporate voluntary disclosure.
	CEO duality	H3	There is a significant negative association between CEO duality and the extent of corporate voluntary disclosure.
Ownership Structure	Type of block-holder	H4	The association between concentrated ownership and the extent of corporate voluntary disclosure depends on the type of block-holder.
	Individual block-holder ownership	H5	There is a significant negative association between individual block-holder ownership and the extent of corporate voluntary disclosure.
	Institutional ownership	H6	There is a significant positive association between institutional ownership and the extent of corporate voluntary disclosure.
	Government ownership	H7	There is a significant positive association between government ownership and the extent of corporate voluntary disclosure.
	Foreign ownership	H8	There is a significant positive association between foreign ownership and the extent of corporate voluntary disclosure.
	Directors ownership	H9	There is a significant negative association between directors' ownership and the extent of corporate voluntary disclosure.
Accounting Standards	IFRS adoption	H10	There is a significant relationship between IFRS adoption and the extent of corporate voluntary disclosure.
Stock	Stock price	H11	There is a significant positive relationship between the extent of corporate voluntary disclosure and the company stock price.

Chapter 4 : Research Methodology

This study focuses on non-financial companies listed on the Saudi stock exchange. The sample included observations from 120 companies for two years, which comprised 240 company-year observations. Data were collected for this study from two main sources: companies' annual reports and Tadawul, which is the official website of the Saudi stock exchange. The extent of corporate voluntary disclosure from each company in the sample was measured using a voluntary disclosure index. The index was constructed using previous, pioneering studies and modified using Saudi regulations and laws, to avoid including any mandatory disclosure items. The index included 72 items representing six categories of voluntary disclosure: financial information (FD), strategy and future expectations (SFED), governance disclosure (GD), risk disclosure (RD), social responsibility disclosure (CSRD) and human resources disclosure (HRD). Each company's level of voluntary disclosure was determined through content analysis of the company's annual report, using unweighted items from the index.

To conduct this study, two models were constructed. The first model investigates variables (derived from four different dimensions) as determinants of corporate voluntary disclosure. The first dimension is corporate characteristics, which include company size, company age, industry and profitability. Corporate characteristics are included as control variables. The second dimension is the composition of the board of directors, including board size, board independence and CEO duality. The third dimension is ownership structure, which includes block-holder ownership, government ownership, institutional ownership, foreign ownership and directors' ownership. The last dimension is accounting standards and it consists of IFRS adoption. The second model constructed for this study investigates the relationship between corporate voluntary disclosure and stock price.

Stock price is considered the dependent variable, while voluntary disclosure is considered the independent variable. In the second model, three control variables were included, namely book value per share, net income per share and industry.

To answer the research questions, various statistical tests were applied to the data. Descriptive statistical measurements were used to answer the first research question, 'To what extent do non-financial companies listed on the Saudi stock exchange disclose voluntarily in their annual reports?' These measurements facilitated the calculation of means, medians and standard deviations among the sample, to describe each variable's statistics'. Two ranking tests were applied to the data to answer the second research question, 'Were there any improvements in the level of corporate voluntary disclosure in the annual reports after IFRS adoption?' Several regression assumptions were investigated before determining the appropriate regression analysis for the collected data. These assumptions were linearity, normality, autocorrelation, multicollinearity and homoscedasticity. Additionally, a number of data validity tests for outliers were applied. Finally, a balanced panel dataset was arranged to answer the third, fourth and fifth research questions. These were, respectively, 'To what extent do board composition, ownership structure and IFRS affect total corporate voluntary disclosure?', 'Do board compositions, ownership structures and IFRS affect corporate voluntary disclosure categories differently?', and 'Does the level of corporate voluntary disclosure contribute to explaining variations in companies' stock prices in Saudi Arabia?' Then, ordinary least squares (OLS) regression examinations were run. The justification for using OLS (among other regression methods) is presented in Section 4.7.3 and discussed in more detail in Chapter 5.

4.1 Research Approach

A research approach comprises the plans and procedures that drive a research topic through its stages. It extends from general assumptions to details of the methods used for collecting, analysing and interpreting data. Research planning involves making many decisions, which the researcher must then implement. Usually these decisions are driven by the researcher's philosophical assumptions, which also lead the study and influence the choice of research method (Creswell & Creswell 2017).

Philosophical worldviews (paradigms) are ideas and assumptions that remain hidden within the research, but nonetheless represent the researcher's views—of the world, the nature of the topic and the research method itself (Creswell & Creswell 2017). Accordingly, the researcher's worldview affects the choice of research method. Worldviews evolve for all researchers, based on their disciplines, origins, expertise and supervisors. Although there is controversy about the worldviews that researchers espouse, however, there are four major philosophical worldviews discussed in the literature: postpositivism, constructivism, transformative and pragmatism (Creswell & Creswell 2017; Wahyuni 2012). Creswell and Creswell (2017) explain that postpositivists have a definite philosophy, which asserts an objective relationship between cause and consequence. Therefore, in problems examined by postpositivists, their worldview is reflected in their need to identify and evaluate the determinates of outcomes. In contrast, constructivists seek a subjective understanding of the world in which they live and work. Constructivists develop a personal meaning towards specific things. They focus on understanding a specific context, for example, the historical and cultural background of research participants. Researchers who hold the transformative worldview emphasise the importance of change. Accordingly, much political research focuses on the change agenda, whereby research is led by the transformative worldviews. Those with the pragmatic worldview believe in—what works—and they apply all strategies and methods available that can solve the problem. They focus on the research questions and the research problem rather than focusing on the method (Creswell & Creswell 2017; Wahyuni 2012; Willis, Jost & Nilakanta 2007).

The data in the current study was analysed with the quantitative method. It is an empirical study, which aims to obtain an overview of the population and reach a generalised conclusion by (i) uncovering trends in the sample; (ii) verifying relationships and conjunctions among the variables; (iii) and confirming or disproving the hypotheses. Statistical tests were applied to increase the level of confidence in the results that were derived from the data in an inductive style and to reach a generalised conclusion on the population. This method has been widely used in similar studies (Ji, Lu & Qu 2015; Plumlee et al. 2015; Reverte 2016), which justifies its selection for this study.

4.2 Scope of the Study

The scope of this research was limited to companies listed on the Saudi Arabian stock exchange on 31 December 2017. Banks, diversified financials and insurance companies were excluded because they are a different kind of entity and operate according to specific accounting regulations (Nurunnabi 2017). SOCPA required all listed companies to report under IFRS for the financial period beginning 1 January 2017. However, dual reporting and reconciliation was required between 1 January 2016 and 31 December 2016 (Nurunnabi 2017). This means that the 2016 reports fell between the two periods and, as a result, are difficult to identify as either before or after IFRS adoption. Because this study aimed to measure the extent of corporate voluntary disclosure before and after IFRS adoption, the 2016 annual reports were excluded. The sample was drawn from the annual reports of non-financial companies listed on the Saudi Arabian stock exchange for 2015 (i.e. prior to IFRS adoption) and 2017 (i.e. after IFRS adoption). This sample was sufficient to reach a conclusion and answer the research questions.

Direct observation of the Tadawul website revealed 173 listed companies in 2015 and 179 listed companies in 2017. This study's initial sample comprised 126 non-financial companies from 2015 and 127 such companies from 2017. To minimise the effects of aggregation errors, the study used a balanced panel data set. To this effect, the study included all non-financial companies listed on 31/12/2015 and excluded companies listed after 31/12/2015, companies unlisted after 31/12/2015, and companies with missing data. The final sample included 240 observations of 120 non-financial companies for two years.

Table 4-1: Population and Sample

Year	*Financial Companies*	*Non-financial Companies*	*Total*
2015	47	126	173
2017	52	127	179
Pooled	99	253	352
Sample	0	240	240
Sample %	0	94.9	68.2

4.3 Measurements of the Study Variables

The study included 17 variables, comprising 2 dependent variables, 9 independent variables and 6 control variables. Each variable and its measurement is discussed in the following sections.

4.3.1 Voluntary disclosure

4.3.1.1 Measurements of voluntary disclosure in literature

Corporate disclosure is not a new topic. Accounting literature is full of disclosure studies, but there is no one, consistent definition of corporate voluntary disclosure, on which all researchers agree. These variations and inconsistencies in corporate voluntary disclosure definitions add vagueness to the disclosure measurements (Kavitha & Nandagopal 2011). Further, corporate disclosure is not a numerical variable, it is a conceptual variable and it cannot be measured in a precise manner. There is an ongoing argument among scholars concerning how disclosure could best be measured (Abed, Al-Najjar & Roberts 2016). Over 25 different measurements of corporate voluntary disclosure have been used in other studies and each measurement has its advantages and disadvantages (Hassan & Marston 2010).

4.3.1.2 Approaches to measure voluntary disclosure

Measurements of corporate voluntary disclosure in the surrounding literature fall between two broad groups: measurements that ***do not rely on*** examining a disclosure tool and measurements that ***rely on*** examining a disclosure tool (Hassan & Marston 2010). These groups are explained in more detail below.

4.3.1.2.1 Measurements that do not rely on examining a disclosure tool

In this approach, researchers use proxies of corporate disclosure without examining a disclosure tool (e.g. annual reports). Measurements in this group provide some inferences about the general level and nature of the disclosure environment of corporates. They may also provide insight into a certain group of stakeholders' satisfaction with the disclosure level. Surveys, interviews, agencies ratings and analysis forecasts are common tools in this group (Hassan & Marston 2010).

For the current study, surveys and interviews are not appropriate for many reasons. First, the study does not focus on one group of stakeholders. It would be difficult and time-consuming to interview every stakeholder and the annual report readership of every company. Second, the consistency and rationality of the data is questionable, which makes it difficult to generalise the results of interviews to all non-financial, listed companies. Third, this study aims to investigate different categories of voluntary disclosure and it would be inefficient to measure every category in one survey—and impractical and problematic to use various surveys in one study.

Another type of measurement that does not rely on examining a disclosure tool is scores from agencies' ratings. The main impediment of using agencies' ratings is that they are not available for all listed companies in a country and are not always available, so continuity is not possible. In addition, rating agencies may change their methodology for rating from year to year (Hassan & Marston 2010), which introduces bias when using their scores in longitudinal studies such as this. Therefore, this type of voluntary disclosure measurement is not appropriate for the current study. The final type of measurement that does not rely on examining a disclosure tool is analyst forecast (Hassan & Marston 2010). Analysts' forecasts were not employed in the current study simply because such forecasts about voluntary disclosure are not available in the Saudi context (Alotaibi 2014).

4.3.1.2.2 Measurements that rely on examining a disclosure tool

Researchers using this approach undertake a content analysis based on an examined disclosure tool. Content analysis in disclosure studies involves a rearrangement of both qualitative and quantitative disclosure into predefined categories (Guthrie & Abeysekera 2006). This process helps to establish the levels, patterns, trends and quality of information in the disclosure sources (Kavitha & Nandagopal 2011). According to Hassan and Marston (2010), there are two core types of content analysis: conceptual content analysis and relational content analysis. Researchers use the ***conceptual*** content analysis in disclosure studies to determine the existence, level or frequency of disclosing specific words, concepts or items within the disclosure tool. In contrast, ***relational*** content analysis examines the relationships among certain concepts or words within the disclosure tool. The relational content analysis is not appropriate for this study because the disclosure tool is not itself the focus. Relational content analysis is more appropriate for studies that examine the linguistics or quality of disclosure tools, which is not the case here. Further, using the relational content analysis could create bias in the results, for two reasons. First, using words or sentences as a unit of measurement could be misleading because the repeated appearance of a word would result in a higher disclosure score, which may not reflect the real disclosure level (Marston & Shrives 1991). Second, the linguistic skills and abilities of the coders play a significant role in using relational content analysis (Kavitha & Nandagopal 2011), and variability in such skills will result in different scores for the same disclosure tool, if measured by different coders.

From the above discussion, it appears that applying conceptual content analysis is more suitable for the current study than applying relational content analysis. Typically, researchers conducting a conceptual content analysis choose to use a disclosure index as their voluntary disclosure measurement tool. A disclosure index measures the extent of disclosure in a specific disclosure tool for a specific entity, according to a prepared disclosure items list (Hassan & Marston 2010). This tool was used for the first time in a disclosure study by Cerf (1961) and subsequently became a tool of choice to measure disclosure levels. Hassan and Marston (2010), who have studied disclosure measurements extensively, argue that indices employed in disclosure studies have many different approaches and contexts. According to Hassan and Marston (2010), research purpose, design and context are crucial elements for choosing and designing the index.

4.3.1.3 Choosing disclosure index as a voluntary disclosure measurement

Although there are various tools and proxies to measure the extent of voluntary disclosure, the choice of tool has not been found to affect the results (Abed, Al-Najjar & Roberts 2016). A researcher's choice of measurement tool depends on a number of factors related to the research itself, including the context, research questions, sample size and importantly, data availability (Abed, Al-Najjar & Roberts 2016; Hassan & Marston 2010). The current study investigates the extent of corporate voluntary disclosure in the annual reports of non-financial companies listed on the Saudi Arabian stock exchange. Disclosure surveys and interviews, agencies ratings, analysis forecasts and relational content analysis are not appropriate for the current study, based on the above discussions. A disclosure index serves as the instrument to measure the extent of corporate voluntary disclosure, through a conceptual content analysis of companies' annual reports.

4.3.1.4 Developing the index

To address the aim of this research, the items of the voluntary disclosure index (VDI) were categorised into six types of corporate voluntary disclosure (VD): financial information (FD), strategy and future expectations (SFED), governance disclosure (GD), risk disclosure (RD), social responsibility disclosure (CSRD) and human resources disclosure (HRD). These were chosen to cover as much of a company's expected voluntary disclosure as possible. Choosing a wide range of voluntary disclosure categories makes it possible to capture the interest investors have in each specific type of information.

To construct the index, the study employed the following steps:

1. Using pioneering studies in the literature surrounding disclosure, a primary list of corporate voluntary disclosure information was prepared.
2. The primary list was reviewed against mandatory disclosure requirements in Saudi Arabia, including companies law, accounting standards, governance code and listing regulations. Changes in several laws and regulations in Saudi Arabia between 2015 and 2017 was a major concern and only items that remained voluntary in both periods were included.
3. A number of tests were carried out to ensure the reliability and validity of the developed index. These tests are discussed in the following section.
4. Later, in the analysis stage, a number of items were excluded from the index that either had not been disclosed by any company or were disclosed by every company.
5. The final product was an index that included 72 items, divided into six types of voluntary disclosure.

4.3.1.5 Scoring the VDI items

Previous studies use weighted and unweighted approaches to score the items in the disclosure index. The present study used an unweighted approach (dichotomous approach) weighting an item ‘1’ if it was disclosed and ‘0’ if it was not disclosed. This is consistent with studies by Al-Shammari, Brown and Tarca (2008), Alfraih (2016), Cooke (1992) and Cooke and Wallace (1989). There were several justifications for taking an unweighted approach. First, it has been demonstrated that unweighted approaches are appropriate for studies focused on more than one group of stakeholders. This applies to the current study, which considers all stakeholders and annual report readerships. Cooke (1989) argues that each group of users will attribute different weights to different disclosure items, which will average the weights and lead to each item having the same weight. Some studies that applied both approaches (weighted and unweighted) reported the same results for both approaches (Ferguson, Lam & Lee 2002; Zarzeski 1996). The second justification for the unweighted approach was objectivity. A weighted approach would involve more subjectivity from the researcher weighing the items. Therefore, unweighted approaches are considered more objective. Last, using the weighted approach could introduce bias to the results (Shehata 2013). The importance of each disclosure item is relatively different from time to time and from one company to another, depending on its type and industry (Hassan, Giorgioni & Romilly 2006). For the aforementioned reasons, and in line with relevant studies (Al-Shammari, Brown & Tarca 2008; Alfraih 2016; Aljifri et al. 2014; Cooke & Wallace 1989; Hassaan 2013b; Kolsi 2017), the decision was made to adopt the unweighted approach. The following equation was used to score the disclosure index of each company:

$$VD_f = \frac{\sum_{t=1}^{nf} xtf}{\text{nf}}$$

where:

VD_f = the voluntary disclosure for company f $0 \leq VD_f \leq 1$

xtf = 1 if the item is disclosed, 0 if otherwise

nf = the number of disclosure items expected to be disclosed by the company

f = Name of company

t = item

4.3.1.5.1 Reliability of the index

A measuring instrument is considered reliable if it provides consistent results (Kavitha & Nandagopal 2011). The study assessed the reliability of the VDI by applying the test–retest approach. The extent of voluntary disclosure by a number of companies was re-measured by the same person and by different people, to examine the measurement's reliability.

4.3.1.5.2 Validity of the index

Validity refers to 'the extent to which any measuring instrument measures what it is intended to measure' (Hassan & Marston 2010). This study applied different techniques to ensure the index's validity. First, subjective judgment was sought from six academics and two professionals. Second, voluntary disclosure was measured through different instruments, using page counts (Campbell 2000; Gray, Kouhy & Lavers 1995). A correlation test was applied to both measurement tools. Third, a multi-dimensional index was used. Kavitha and Nandagopal (2011) state that only a multi-dimensional index can measure the true level of a company's disclosure. Last, the index items were adopted from previous, pioneering studies, which give those items validity and consequently, increase the validity of the index as well.

4.3.2 Board size

The size of the board of directors has been identified as an important governance mechanism and an essential monitoring tool (Giannarakis 2014; Lee & Chen 2011). The current study examined the effect of board size, measured as the total number of the directors on the company board.

4.3.3 Non-executive directors

It is expected that board independence may affect policies and decisions made concerning disclosure policies (Khan, Muttakin & Siddiqui 2013). The current study measured board independence by the percentage of non-executive directors among the total number of directors on the company board.

4.3.4 CEO duality

CEO duality happens when one person occupies the positions of both CEO and board chair at the same time, in the same company (Alkayed 2018). An executive chair has more access to a company's information than do non-executive directors. Further, he or she may enjoy concentrated power as a result of holding these two positions. Consequently, opportunistic behaviour and weak monitoring processes could be in place, which may affect voluntary disclosure. The current study measured CEO duality as a dummy variable—with the value of one if the company's CEO is also the chair of the board, and zero if otherwise.

4.3.5 Individual block-holder ownership

A block-holder refers to a shareholder who owns 5% or more of shares (Dhouibi & Mamoghli 2013). It has been argued that the effect of block-holders depends on the amount of shares they hold (Juhmani 2013). Individual block-holder ownership is measured as the proportion of shares held by individual investors who held 5%, or more, of the total number of outstanding shares in the company.

4.3.6 Government ownership

The Saudi government invests heavily in the stock market through its agencies, namely the General Organization for Social Insurance, Public Pension Agency, and the Public Investment Fund (Alhazmi 2017). The current study investigated the effect of government ownership on the level of voluntary disclosure. Government ownership is measured as the percentage of shares owned by the Saudi government (through its agencies), out of the total number of outstanding shares in the company.

4.3.7 Institutional ownership

Banks, financial institutions, companies and mutual funds usually invest in other companies, becoming shareholders of that company and forming a part of the ownership structure of the company. This type of ownership creates what is referred to as institutional ownership (Farrar 2008). The current study measures institutional ownership as the percentage of shares owned by institutions, out of the total number of outstanding shares in the company.

4.3.8 Foreign ownership

Foreign ownership refers to the percentage of the outstanding shares in a company that are owned by foreign investors. It has been argued that this type of ownership plays a significant role in developing countries (Bhuyan 2018). Foreign ownership in this study is measured as the percentage of shares owned by foreign investors, out of the total number of outstanding shares in the company.

4.3.9 Directors' ownership

Directors' ownership could be an important form of ownership and influential on voluntary disclosure (Khan, Muttakin & Siddiqui 2013). The current study measures directors' ownership as the percentage of shares owned by a company's board members, out of the total number of outstanding shares in the company.

4.3.10 IFRS adoption

To achieve comparable, or better, financial reporting at a lower cost, many nations began adopting IFRS in early 2004 (Deloitte 2017). Since then, researchers have questioned and investigated the effects of IFRS adoption from different perspectives, including disclosure. The current study examines the effect of IFRS adoption on voluntary disclosure as a dummy variable. Annual reports from 2017 (after IFRS adoption) have a value of one, while annual reports from 2015 (before IFRS adoption) have a value of zero.

4.3.11 Size of the company

Company size is measured as the total assets of the company in the given year. Large businesses tend to engage in more voluntary disclosure (Hassan, Giorgioni & Romilly 2006). To control for any possible influence of company size on voluntary disclosure, it is included in this study. It must also be considered that a larger company will have more complex activities, which demand a larger board of directors (Albassam 2014; Coles et al. 2008). Therefore, this study considered the company size as a control variable when examining the effect of the board's size on corporate voluntary disclosure. Including the company size as a control variable should reduce endogeneity and help to produce a more reliable finding regarding the effect of board size on corporate voluntary disclosure.

4.3.12 Age of the company

Age is a proxy for the experience of the company, older companies could potentially use their experience and history to help them avoid internal problems and thereby disclose more information (Ji, Lu & Qu 2015). The current study includes each company's age as a control variable, which is measured as years from the first establishment of the company i to the year of the examined annual report.

4.3.13 Company industry type

Some industries are environmentally sensitive. McMurtrie (2005) argues that companies in sensitive industries will acknowledge stakeholder pressure and disclose more information. The current study includes industry as a control variable, to account for possible influence from environmentally sensitive industries on voluntary disclosure level. Industry is measured as a dummy variable; companies engaged in cement, real estate, engineering and petrochemicals sectors have a value of one, while all others have a value of zero.

4.3.14 Profitability

The current study included company profitability as a control variable. Return on asset (ROA) measures companies' profitability and is calculated as net income/total assets. This means ROA covers both liabilities and equity, which gives it a distinct advantage over other profitability proxies, for example, return on equity, which covers only equity. Another advantage of ROA is that it is considered an efficiency proxy, as well as a profitability proxy. Finally, ROA is a preferred measurement of companies' profitability and widely employed in disclosure literature.

4.3.15 Stock price

Stock price is the dependent variable of the second model in this study. It is measured as the closing price of company stock at 31 March after the annual report year. This date falls at the end of the third month after the end of the financial year. This date was chosen to allow enough time for companies to publish annual reports, for readers to analyse the reports and for voluntary disclosure to reflect any possible effect on stock prices (de Klerk, de Villiers & van Staden 2015). It was also prior to the issuance of first quarter reports for the new financial year.

4.3.16 Book value per share

Book value per share is the first control variable in the second model. This variable is adopted from Ohlson's (1995) valuation model. Book value per share is calculated as (total assets minus total liability) divided by the number of shares in issue.

4.3.17 Net income per share

Net income per share is the second control variable in the second model. It is also adopted from Ohlson's (1995) valuation model. Net income per share is calculated as the company's net income, divided by the number of shares in issue.

4.4 Data Sources and Data Collection

The required data were obtained from annual reports, which were available on the Saudi stock exchange's official website (Tadawul 2019). All listed companies are required, by law, to publish their annual reports. Moreover, all historical stock prices and ownership structures are available at Tadawul.com.

4.5 Data Validity and Regression Assumptions

Parametric tests, especially multiple linear regression tests, are common in disclosure studies. Regression tests help researchers discover and understand relationships between variables. It also explains the extent to which the independent variables explain variations in the dependent variables, both within the unit, and the wider sample. This type of regression is a powerful test, but there are a number of assumptions that need to be met to consider the regression results as valid and strong (Allen & Bennett 2012; Kavitha & Nandagopal 2011; Statistics Solutions 2013). First, the relationship between the dependent and independent variables should be linear. Second, the residual errors should have a normal distribution. Third, the variables should not suffer from serious multicollinearity issues. Fourth, the variables should not have serious autocorrelation issues. Fifth, the homoscedasticity assumption (i.e. the estimated model) should have constant error. Before proceeding with statistical analysis, an investigation was conducted to discover any outliers in the collected data. Then, a check was conducted to identify whether the regression assumptions had been met.

4.5.1 Outliers

An outlier in a dataset is an abnormal observation or extreme value in the dataset, compared with the rest of the sample. It is important to check for any outliers in the dataset because it helps to identify observations that need further investigation. Further, checking for outliers can be an effective method for detecting data entry errors.

4.5.2 Linearity

The first assumption that a dataset needs to meet to perform a valid linear regression is linearity. All of the independent variables should have linear relationships with the dependent variable. If the relationships between the dependent and independent variables are not linear, then the researcher should not run multiple linear regression and should instead use other regression analysis methods.

4.5.3 Normality

The residual of errors among the variables should have a normal distribution to consider the normality assumption met. However, this assumption is applied only to small samples. Samples that include more than 200 units are considered normally distributed (Brooks 2008; Coakes & Steed 2001). Although our sample is considered large and included 240 company-year observations, a number of tests were carried out to check normality for more confidence.

4.5.4 Multicollinearity

Multicollinearity happens when two or more of the independent variables are highly correlated to each other (Field, Miles & Field 2012). Multicollinearity is considered a serious violation of the linear regression assumptions. In multicollinearity situations a researcher will face difficulties determining which independent variable is explaining the dependent variable. Therefore, it was checked that this assumption was met among the variables.

4.5.5 Autocorrelation

No-autocorrelation is a linear regression assumption that assumes that all the residuals of errors are independent. If there are high correlations between the residuals and the independence of errors, then a violation of the no-autocorrelation assumption is in place. The current study has checked that this assumption is met.

4.5.6 Homoscedasticity

Homoscedasticity assumes that variance of errors for each independent variable remains constant for all values within the same variable. This constant variation is important for having a model with a constant estimated error. A violation of this assumption is 'heteroscedasticity', which provides untrusted results and a biased model. For this reason, the study data were checked to ensure that this assumption was met.

4.6 Model Construction

To answer the research questions, two models were developed based on the modified frameworks of Ohlson (1995) and Singhvi and Desai (1971). These frameworks were assessed as being suitable and have been used widely elsewhere (Adelopo 2011; Charumathi & Ramesh 2015; de Klerk, de Villiers & van Staden 2015; Elfeky 2017; Kaya 2014; Reverte 2016). However, after reviewing the literature surrounding corporate disclosure, a number of variables with special characteristics were incorporated into the two developed models. This is a significant feature and justified for several reasons. The variables were added to the first model to provide a comprehensive specification and additionally, to test their contribution and dominance (individually or collectively) in different categories. Four categories were identified, each of which includes different variables. 'Board composition' includes board size, board independence and CEO duality. 'Ownership structure' includes block-holder ownership, institutional ownership, government ownership, foreign ownership and directors' ownership. 'Accounting standards' includes IFRS adoption. The variables' effects on voluntary disclosure are measured within each category, and in total. In addition to the independent variables, the study included corporate characteristics (size, age, industry and profitability) as control variables.

Specific, conventional control variables were added to both models. Those added to the first model were profitability, size, industry and age. To the second model, book value per share and net income per share were added. These provide an appropriate and more realistic environment for gathering reliable empirical evidence. Further, including control variables minimises the risk of endogeneity. Both models include variables that have not been tested before in Saudi Arabia, or have undergone only limited testing in developing countries. Including conventional control variables will help to avoid unforeseen influences and facilitate future reproductions of this study. Finally, the two synthesised models were tested using updated data with an IFRS landmark from a major developing country, namely Saudi Arabia, which provided more precise and reliable results for useful, practical policy analysis. The two models and the relevant variables (in their linear form) are written in full below.

4.6.1 First model (determinants of corporate voluntary disclosure)

This included a main model and five sub-models, where each category of disclosure (FD), (SFED), (GD), (RD), (CSRD), (HRD) was regressed separately in addition to the total VD:

$$\begin{aligned} VD = {} & \beta_0 + \beta_1 BOARDSIZE + \beta_2 INDEP + \beta_3 CEODUALITY_{dummy} \\ & + \beta_4 INDBLOCKOW + \beta_5 INSTITUTOW + \beta_6 GOVOW \\ & + \beta_7 FOREIGNOW + \beta_8 DIRECOW + \beta_9 IFRS_{dummy} + \beta_{10} SIZE \\ & + \beta_{11} AGE + \beta_{12} IND_{dummy} + \beta_{13} FP + \varepsilon \end{aligned}$$

Table 4-2: Measurements of Variables in the First Model

Symbol	*Description*	*Type of Variable*	*Measurement*
VD	Voluntary disclosure	Dependent	Scores obtained from self-constructed index included six groups of voluntary disclosure (FD: financial disclosure, SFED: strategy and future expectations disclosure, GD: governance disclosure, RD: risk disclosure, CSRD: corporate social responsibility disclosure, HRD: human resources disclosure)
BOARDSIZE	Board size	Independent	The total number of members on the company's board of directors
INDEP	Board independence	Independent	Percentage of non-executive directors on the company's board of directors
CEODUALITY	CEO duality	Independent	Dummy variable; where 1 if CEO is the chairman of the company's board of directors, and 0 otherwise
INDBLOCKOW	Block-holder ownership	Independent	The percentage of shares held by individual investors who hold 5% and higher to the total number of outstanding shares of the company
INSTITUTOW	Institutional ownership	Independent	The percentage of shares held by institutional investors to the total number of outstanding shares of the company
GOVOW	Government ownership	Independent	The percentage of shares held by the Saudi government through its agencies to the total number of outstanding shares of the company
FOREIGNOW	Foreign ownership	Independent	The percentage of shares held by foreign investors to the total number of outstanding shares of the company
DIRECOW	Directors ownership	Independent	The percentage of shares held by members of the company board of directors to the total number of outstanding shares of the company
IFRS	IFRS adoption	Independent	Dummy variable; where 1 is annual reports from 2017 (after IFRS adoption) and 0 is annual reports from 2015 (before IFRS adoption)
SIZE	Size of the company	Control	Total assets of the company in the given year
AGE	Age of the company	Control	Number of years since the company's establishment
IND	Company industry type	Control	Dummy variable: 1 if the company is engaged in an environmentally sensitive industry (cement, real estate and petrochemicals sectors); 0 if otherwise
FP	Profitability	Control	ROA = (Net income/book value of the total assets)

4.6.2 Second model (effect of corporate voluntary disclosure on stock price)

The Ohlson (1995) valuation model, or one of its modified versions, has been extensively applied to capital market research and social responsibility research (Alfaraih & Alanezi 2011; Barth & Clinch 2009; Clarkson et al. 2013; de Klerk & de Villiers 2012). It is traditionally employed in market-based accounting studies, because of its simplicity, clarity, effectiveness and connection to market capitalisation valuation. The model uses earnings and book value to determine the value as follows:

$$MV_{i,t} = \beta_0 + \beta_1\, BV_{i,t} + \beta_2\, INC_{i,t} + \varepsilon_{i,t}$$

where:

$MV_{i,t}$: the market value of equity of firm i at time t

$BV_{i,t}$: book value of firm i at time t

$INC_{i,t}$: the earnings of firm i during period t

ε: the regression error

The current study examines the stock price specification using the above model. It was used, rather than a direct correlation test with voluntary disclosure, to mitigate any occurrences of incorrect outcomes due to the different prices (referred to as the 'scale effect') (Easton & Sommers 2003). The regression model is represented as:

$$P_{i,t} := \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \varepsilon_{i,t}$$

where:

$P_{i,t}$: the share price of the firm i at time t

$BVP_{i,t}$: book value per share of firm i at time t

$INCP_{i,t}$: earnings per share of firm i during period t

The main study objective was to calculate the value relevance of voluntary disclosure by companies in Saudi Arabia. In the current study, this regression model investigated whether the combined effect of financial accounting information and voluntary disclosure could be used to examine the market value, rather than exclusively focusing on the financial accounting information. Voluntary disclosure was included to represent the other non-accounting information in the Ohlson (1995) model.

$$P_{i,t} = \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \beta_3\, VD_{i,t} + \varepsilon_{i,t}$$

where:

$VD_{i,t}$: voluntary disclosure of firm i at time t.

According to de Klerk, de Villiers and van Staden (2015) the model is extended to determine whether voluntary disclosure by companies in environmentally sensitive industries causes an increase in share prices, when compared with the effect of voluntary disclosure by companies in other industries. The environmentally sensitive industries (SI) were included as a variable. The connection between the industries stands as another variable and the voluntary disclosure represents a third variable, which is used to explain the share price.

$$P_{i,t} = \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \beta_3\, VD_{i,t} + \beta_4\, SI_{i,t} + \beta_5\, (SI_{i,t} * VD_{i,t}) + \varepsilon_{i,t}$$

where:

$SI_{i,t}$: environmentally sensitive industries, including mining, oil and gas, chemicals, forestry and paper, steel and other metals, electricity, gas distribution and water (utilities). Other industries are considered ‘less sensitive’.

Table 4-3: Measurements of Variables in the Second Model

Variable	*Description*	*Type of Variable*	*Measurement*
P	Stock price	Dependent	The company's closing stock price at 31 of March of the following year, three months after the end of the financial year
BVP	Book value per share	Control	(total assets–total liability)/number of shares in issue
INCP	Net income per share	Control	Net income of company/number of shares in issue
SI	Sensitive industry	Control	Dummy variable: 1 if the company is engaged in an environmentally sensitive industry (cement, real estate and petrochemicals sectors); 0 if otherwise
VD	Voluntary disclosure	Independent	Scores obtained from self-constructed index included six groups of voluntary disclosure [(FD), (SFED), (GD), (RD), (CSRD), (HRD)]

4.7 Statistical Tests

Various statistical tests using SPSS and STATA software were applied in this study. These include diagnostic tests, descriptive tests and regression tests. The tests and estimated models were deemed sufficient and appropriate to answer this study's research questions. They are comparable to those used in other studies (Al-Maghzom, Hussainey & Aly 2016; da Silva Monteiro & Aibar-Guzmán 2010; de Klerk, de Villiers & van Staden 2015; Reverte 2016; Wang, Sewon & Claiborne 2008). It is important to acknowledge that many tests and techniques could perform the same statistical analysis, but the following were deemed the most appropriate. First, previous, similar studies of disclosure were searched, to identify tests for the same analysis. Second, the frequency of each test's use was ranked. Third, the tests were compared with each other. Fourth, the tests that could be applied to the current study were listed. Fifth, the appropriateness of each test was discussed with supervisors. Sixth, further discussions with the university's statistics support centre were undertaken. Finally, at least two tests were chosen for each analysis, to increase confidence in the reliability of the results.

4.7.1 Diagnostic tests

Several diagnostic tests were conducted to check data validity and that the linear regression assumptions were met. The following tests were applied to check the outliers, linearity, normality, multicollinearity, autocorrelation and heteroscedasticity.

To check for any **outliers**, two tests were applied: Mahalanobis distance and Cook's distance. Mahalanobis distance measures the distance between each point and the distribution of the sample. In contrast, Cook's distance test measures the effect of deleting an observation on the regression model. These tests were effective and reliable for detecting outliers among the sample (Nur Probohudono, Tower & Rusmin 2013).

The **linearity** assumption was tested via two methods. The first meant analysing the univariate relationship between each independent variable and dependent variable. The second method involved examining scatter plots, where the residuals were plotted against the independent variables.

The assumption of **normality** was tested using Histogram and Shapiro-Wilk tests. These tests provided graphical and numerical outcomes. As discussed earlier in this chapter, normality is not an issue in large samples (more than 200). The current study included 240 observation points. Although normality was not a concern, we tested normality for the sake of increased confidence.

One of the most important assumptions, that should not be violated, is no serious **multicollinearity**. This was tested for to identify any serious multicollinearity issues between the independent variables. A variance inflation factor (VIF) test, Pearson correlation and Spearman correlation were applied. Pearson is a parametric test, while

Spearman is a non-parametric test. For that reason, both Person and Spearman tests were used, taking into consideration the effect of the distribution on the tests.

This study applied the Durbin-Watson test and the residual statistics test to examine the **autocorrelation** assumption. These tests are sufficient to provide assurance that there is no-autocorrelation in the data.

Last, both graphical and numerical tests were applied, to ensure that the **homoscedasticity** assumption was met. The process plotted the residuals of errors against the independent variables. This provided a visual result, which was used to determine whether there was any heteroscedasticity. Both Breusch-Pagan/Cook-Weisberg and White's tests were applied as numerical methods to examine homoscedasticity.

4.7.2 Descriptive tests

Mean, median and standard deviation statistics described all of the variables, including dependent, independent and control variables. The descriptive analysis is critically important in answering the first research question. Further, these descriptive tests describe data and provide initial indications about the sample. In addition, the study applied the Friedman and Wilcoxon tests to rank the level of voluntary disclosure between 2015 and 2017.

4.7.3 Regression tests

For panel datasets, most researchers consider three types of regressions: OLS, random effects and fixed effects. The current study has a panel dataset. Panel data are a combination of time series and cross-sectional data. The current study has observations from two years (2015 and 2017) that constitute a time series observation. There are also variables from many companies; these are cross-sectional observations. Therefore, OLS, random effects and fixed effects regressions are accounted for. If the linear regression assumptions are met, OLS regression is a powerful regression and it provides accurate estimated models (Bhuyan 2018; Gujarati 2009).

4.7.3.1 Endogeneity

Endogeneity occurs when there is a high correlation between dependent and independent variables, not because of the explanatory power of the independent variables, but because other variables, not included in the model, affected both the dependent and independent variables. The study applied a robust regression test using STATA software to ensure there was no endogeneity problem between the dependent and independent variables. Further, the study included control variables in the models to reduce the risk of endogeneity.

Chapter 5 : Empirical Results

This chapter is divided into three main parts. The first provides holistic and descriptive results concerning the extent of voluntary disclosure in six categories, in non-financial, listed companies in Saudi Arabia in two years: 2015 (before IFRS adoption), and in 2017 (after IFRS adoption). These six categories include financial information (FD), strategy and future expectations disclosure (SFED), governance disclosure (GD), risk disclosure (RD), social responsibility disclosure (CSRD) and human resources disclosure (HRD). The second part of this chapter details empirical results concerning the influence of board of directors composition, ownership structure and IFRS adoption on the extent of corporate voluntary disclosure in Saudi Arabia. The third part deals with the results of examining the association between corporate voluntary disclosure in the annual reports of non-financial, listed companies in Saudi Arabia and the companies' stock prices.

5.1 Extent of Corporate Voluntary Disclosure in Saudi Arabia

A VDI was developed for this study, to measure the extent of voluntary disclosure. It is divided into six categories, with 72 items in total. The study measured the extent of voluntary disclosure in 240 annual reports, which were published by 120 non-financial, listed companies in 2015 and 2017. A score for the level of voluntary disclosure in the annual report of each company was awarded, based on the total number of items disclosed. That score was then divided by the maximum number of expected disclosure items (72).

$$VD_f = \frac{\sum_{t=1}^{nf} xtf}{\mathrm{nf}}$$

where:

VD_f = the voluntary disclosure for company f $0 \leq VD_f \leq 1$

xtf = 1 if the item is disclosed, 0 if otherwise

nf = the number of disclosure items expected to be disclosed by the company

f = Name of company

t = item

5.1.1 Descriptive statistics of the extent of corporate voluntary disclosure and its categories

After obtaining all of the voluntary disclosure scores, the minimum, maximum and average disclosure levels were calculated. These calculations allowed the study to determine the extent of corporate voluntary disclosure by Saudi companies. The results of the extent of voluntary disclosure, in total and for each category, are presented in the following table.

Table 5-1: Descriptive Statistics on the Extent of Corporate Voluntary Disclosure

Description	***Statistics on the extent of corporate voluntary disclosure in 2015 (120 observations)***						
	VD	FD	SFED	GD	RD	CSRD	HRD
Minimum	0.1	0	0	0.18	0	0	0
Maximum	0.65	0.86	0.77	1	0.73	0.82	0.58
Mean	0.3132	0.3062	0.3808	0.5527	0.2621	0.2622	0.1177
Std. D	0.13068	0.18589	0.16898	0.1815	0.1719	0.19773	0.13731
Description	Statistics on the extent of corporate voluntary disclosure in 2017 (120 observations)						
	VD	FD	SFED	GD	RD	CSRD	HRD
Minimum	0.11	0.07	0.08	0.18	0	0	0
Maximum	0.69	0.86	0.92	1	0.73	0.82	0.67
Mean	0.3373	0.3393	0.4078	0.5715	0.2887	0.2775	0.1381
Std. D	0.13506	0.17055	0.17059	0.19148	0.18342	0.20599	0.15545
Description	Statistics on the extent of corporate voluntary disclosure pooled data (240 observations)						
	VD	FD	SFED	GD	RD	CSRD	HRD
Minimum	0.1	0	0	0.18	0	0	0
Maximum	0.69	0.86	0.92	1	0.73	0.82	0.67
Mean	0.3253	0.3227	0.3943	0.5621	0.2754	0.2699	0.1279
Std. D	0.13316	0.17878	0.16997	0.1864	0.17788	0.20163	0.1467

Table 5-1 illustrates the statistical results regarding the extent of voluntary disclosure and its categories in the relevant sample years. For total voluntary disclosure, the average disclosure in the sample for both years was around 32.5%, the minimum disclosure was 10% and maximum disclosure reached 69%. In 2015, the minimum disclosure was 10% while the maximum disclosure was 65%. The average voluntary disclosure among companies in 2015 was 31%. These statistics have slightly changed for 2017, during which the minimum voluntary disclosure increased by 1%, to 11%. The maximum disclosure increased from 65% to 69%. Consequently, the average voluntary disclosure also rose to almost 34%, from 31% in 2015. Although it is small, it is evident that improvements occurred in the total voluntary disclosure of the Saudi companies in 2017, compared with 2015.

The average financial disclosure among the sample was approximately 32%. While some companies scored zero for financial disclosure, the maximum financial disclosure recorded for some companies was 86%. The lowest score was zero and it was recorded in 2015. The highest score recorded was the same for both years, at 86%. The average level of financial disclosure was 30% for 2015, and climbed to 34% in 2017. In summary, the minimum and average levels of financial disclosure increased from 2015 to 2017, while the maximum score stayed at the same level. A vast gap exists between the minimum and maximum levels of financial disclosure.

A vast gap also exists between the minimum and maximum strategy and future expectations disclosure provided by the companies. The minimum strategy and future expectations disclosure level was 0% in 2015, which improved to 8% in 2017. The maximum was 77% in 2015 and 92% in 2017. The average in the sample was around 39.5%. The average proved to be slightly different between the two years. Specifically, in 2015 the average was 38% and it improved to reach almost 41% in 2017. In summary, there are differences between the strategy and future expectations disclosure levels of the companies. It is also noted that there was a slight improvement, in terms of minimum, maximum and average strategy and future expectations disclosure, from 2015 to 2017.

The average level of governance disclosure is the highest, compared with the averages from the other categories. The minimum and maximum governance disclosure levels were the same in 2015 and 2017. The minimum disclosure level among companies was 18%, while the maximum was 100%. However, the averages were different to some extent. The average was approximately 55% in 2015, 57% in 2017 and 56% on average. As with the previous categories, the variation in levels of governance disclosure among companies was evident. However, the variation in levels of governance disclosure is the highest among the categories discussed thus far, with a standard deviation of around 19%.

The average risk disclosure was around 26% in 2015, 29% in 2017 and 27.5% on average. As with the previous categories, there is a gap between the minimum and maximum disclosure levels among companies. Some companies disclose nothing about risk disclosure items, while other firms disclosed 73% of the risk disclosure items. Although the minimum and maximum levels remained the same in 2015 and 2017, the average risk disclosure increased by around 3% from 2015 to 2017.

Levels of social responsibility disclosure were the same for 2015 and 2017. However, there was an increase in the average disclosure between the two years. In 2015 the average disclosure was around 26% and it reached 27.75% in 2017. This indicates an improvement in the general level of social responsibility disclosure. It should be noted that the standard deviation was the highest, compared with the rest of the voluntary disclosure categories. Even if the difference is not large, it indicates a wider variation between the levels of social responsibility disclosure among the companies, compared with the other voluntary disclosure categories.

The average level of human resources disclosure is significantly low. It was 11.77% in 2015 and experienced a slight improvement in 2017, when it reached 13.81%. The average disclosure level for all companies in both years was 12.79%. While some companies disclosed nothing about their human resources, some had a human resources disclosure level of 67%. The standard deviation is the lowest, compared with the standard deviations of the other voluntary disclosure categories. This low standard deviation indicates that the variation in the levels of human resources disclosure among companies is small. Further, this suggests that the majority of the companies have low levels of human resources disclosure. In summary, human resources disclosure levels are low among the companies examined in this study. Although there was an improvement in the average level of human resources disclosure from 2015 to 2017, it is still low at under 15%.

5.1.1.1 Frequency distribution

To obtain detailed insights about the extent of voluntary disclosure among these companies, this study calculated the frequency distribution. This revealed the total number of companies that disclosed information in each particular category, as well as the level to which they disclosed items within that category. This provides more detail of the extent of disclosure among the sample. The following table presents the statistics for the frequency distribution concerning the extent of disclosure among the companies.

Table 5-2: Disclosure Frequency Distribution

Frequency distribution on the extent of corporate voluntary disclosure in 2015																
Distribution level	0–10		11–20		21–30		31–40		41–50		51–60		61–70		71–100	
Companies	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%
VD	1	1	25	21	34	28	32	27	16	13	9	8	3	3	0	0
FD	14	12	18	15	43	36	14	12	14	12	8	7	4	3	5	4
SFED	4	3	11	9	17	14	41	34	21	18	11	9	10	8	5	4
GD	0	0	2	2	9	8	19	16	19	16	19	16	24	20	28	23
RD	28	23	22	18	36	30	14	12	7	6	6	5	4	3	3	3
CSRD	38	32	20	17	17	14	19	16	11	9	7	6	3	3	5	4
HRD	73	61	20	17	10	8	11	9	5	4	1	1	0	0	0	0
Frequency distribution on the extent of corporate voluntary disclosure in 2017																
Distribution level	0–10		11–20		21–30		31–40		41–50		51–60		61–70		71–100	
Companies	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%
VD	0	0	19	16	33	28	37	31	13	11	15	13	3	3	0	0
FD	6	5	11	9	45	38	23	19	20	17	4	3	5	4	6	5
SFED	3	3	7	6	18	15	37	31	23	19	15	13	10	8	7	6
GD	0	0	2	2	7	6	17	14	22	18	19	16	17	14	36	30
RD	28	23	17	14	27	23	21	18	10	8	7	6	7	6	3	3
CSRD	35	29	18	15	17	14	23	19	9	8	7	6	6	5	5	4
HRD	75	63	11	9	12	10	11	9	8	7	2	2	1	1	0	0
Frequency distribution of corporate voluntary disclosure pooled data for both years																
Distribution level	0–10		11–20		21–30		31–40		41–50		51–60		61–70		71–100	
Companies	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%
VD	1	0.4	44	18	67	28	69	29	29	12	24	10	6	3	0	0
FD	20	8	29	12	88	37	37	15	34	14	12	5	9	4	11	5
SFED	7	3	18	8	35	15	78	33	44	18	26	11	20	8	12	5
GD	0	0	4	2	16	7	36	15	41	17	38	16	41	17	64	27
RD	39	16	39	16	63	26	35	15	17	7	13	5	11	5	6	3
CSRD	73	30	38	16	34	14	42	18	20	8	14	6	9	4	10	4
HRD	148	62	31	13	22	9	22	9	13	5	3	1	1	0	0	0

The majority of Saudi companies had a disclosure level of less than 50%. In 2015, 90% of the companies had a disclosure level of less than 50%. In 2017, 86% of the companies had a disclosure level of less than 50%. This means that the percentage of companies that disclosed more than 50% increased from 10% in 2015 to 14% in 2017. Over both years, 87.4% of the companies disclosed less than 50%. Within that number, 75% of these companies had a disclosure level of 11–40% and 57% had a disclosure level of 21–40%. The highest frequency distribution, regarding voluntary disclosure levels, was 31–40%, which includes 27% of companies sampled in 2015, 31% in 2017, and 29% for the combined years. The highest level of voluntary disclosure among the companies was 61–70%, which, in effect, represented only 3% of companies, while the lowest level of disclosure was less than 11%, which includes 0.4% of the sampled companies.

The first voluntary disclosure category is financial information disclosure. Details of its levels among sampled companies are represented in the above table. More than half of companies scored less than 30% in financial information disclosure. Among these distributions, most companies had a financial information disclosure level of 21–30%. This includes 36% of the total companies in 2015, 38% in 2017, and 37% for total observations. The lowest level of financial information disclosure was less than 11%. In 2015, 12% of companies fell under this category, followed by 5% of companies in 2017 and 8% of companies on average for both years. The highest range of financial information disclosure levels was 71–100%, which included 4% of companies in 2015, 5% of companies in 2017, and almost 5% on average for both years. In summary, the frequency distribution of financial information disclosure shows there is a wide distribution of the level of financial information disclosure among the sampled companies. However, the majority of businesses remain in the 30% level. Further, the distribution levels increased in 2017, compared with 2015. In 2017, the lower distribution decreased while the highest distribution increased; this reveals a slightly improved financial information disclosure among the participating companies.

The frequency distribution of strategy and future expectations disclosure among companies has the shape of normal distribution. The distributions ranged between less than 10% to more than 70%. Only 5% of the companies disclosed more than 70%, while 3% of the companies had a disclosure level of less than 10%. The highest distribution range was 31–40%, which included 33% of companies, while 66% of companies disclosed 20–50%. Comparing the two years, the number of companies in higher distributions increased from 2015 to 2017. For example, the number of companies disclosing between 31–40% was 41 in 2015. The same distribution included fewer companies (37) in 2017, but the higher distribution (41–50) contained more. To conclude, most of the companies fell in the 30–40% distribution range for strategy and future expectations disclosure. Further, the level of disclosure in this category improved among the sampled companies between 2015 and 2017.

The frequency distribution of governance disclosure is slightly biased to the right. This indicates that a high proportion of companies tended to disclose more governance disclosure items. The distribution table shows that the higher distribution ranges of governance disclosure included more companies than did the lower levels. Unlike other voluntary disclosure groups, there were no companies in the lowest level of the distribution (0–10). Further, the highest proportion of companies is in the highest distribution level (71–100). Moreover, 60% have governance disclosure levels higher than 50%. Only 9% of the companies have governance disclosure levels less than 30%. Of the two years, 2017 recorded the higher level of governance disclosure, compared with 2015, in terms of the aforementioned averages and the high distribution levels, shown in the distribution table.

Risk disclosure frequency distribution is biased to the left. This indicates that a high proportion of companies tended to disclose a small number of risk disclosure items, which, in effect, means a low risk disclosure level. The distribution table shows that 65% of the sampled companies disclosed less than 31%, with around 23% in the lowest distribution level (0–10). Only 13% of the companies disclosed more than 50%. Moreover, only 3% of the companies are in the highest risk disclosure distribution (71–100). The 21–30 distribution level includes the highest proportion of companies. It includes 30% of businesses in 2015, 23% in 2017 and 26% on average. To summarise, the majority of companies tended towards low risk disclosure, yet there was a slight improvement in 2017.

The distribution of social responsibility disclosure among companies was wide, as indicated by the standard deviation. However, the distribution was biased to the left. This suggests that most of the sampled companies tended towards low levels of social responsibility disclosure. Table 5-3 shows that 78% of companies disclosed less than 41%, while 46% disclosed less than 21%. Further, 30% of the companies disclosed less than 11%. This confirms that the highest proportion of companies had significantly low social responsibility disclosure. Only 14% disclosed more than 50%. A small proportion of the companies (4%) exceeded the 70% disclosure level. In summary, although there is a wide distribution of social responsibility disclosure among companies, most scored low. The number of companies in the two low levels of the frequency distribution declined in 2017. This means social responsibility disclosure levels improved among the sample companies. However, Saudi companies have a long way to go to reach a convincing social responsibility disclosure level.

The last category of voluntary disclosure in the current study is human resources disclosure. The frequency distribution of human resources disclosure was extremely biased to the left. This means that most of the companies tended towards low levels of human resources disclosure. As presented in Table 5-3, 84% of the companies disclosed less than 30%. Further, more than 60% of the companies disclosed less than 11%. This disclosure level is very low, compared with the other voluntary disclosure categories. Only 15% of the companies had human resources disclosure levels higher than 30% and only 1% had a level over 50%. To summarise, the majority of Saudi companies fell in the lowest frequency distribution (0–10). This means that the extent of human resources disclosure among them is very low. Comparing the two years, there was a slight improvement, but the level remains low overall.

5.1.2 Trends of corporate voluntary disclosure in Saudi Arabia

5.1.2.1 Trends between 2015 and 2017

The results show that the extent of voluntary disclosure in total and within each category increased from 2015 to 2017. Although the extent of voluntary disclosure remained low, all of the averages increased and there was an obvious upward trend—presented in Figure 5-1 below.

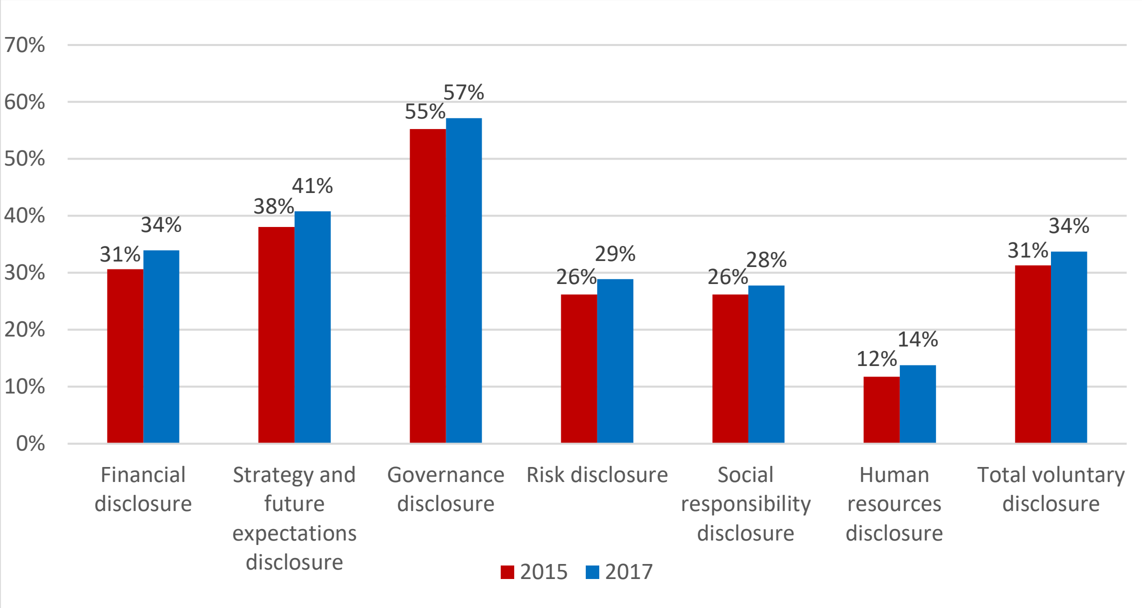


Figure 5-1 Average Corporate Voluntary Disclosure for 2015 and 2017

It is important to examine the statistical significance for the increase in voluntary disclosure. To determine the appropriate type of test (parametric or non-parametric), normality tests were applied to the extent of voluntary disclosure. Both Kolmogorov-Smirnova and Shapiro-Wilk tests were used to identify the distribution of voluntary disclosure. The following table presents the results for both tests.

Table 5-3: Normality Test of VD Scores

Tests of Normality	*Kolmogorov-Smirnova*			*Shapiro-Wilk*		
	Statistic	**Std.**	**Sig.**	**Statistic**	**Std.**	**Sig.**
2015	.112	120	.001	.955	120	.000
2017	.108	120	.001	.953	120	.000
Pooled	.094	240	.000	.956	240	.000

Results for the Kolmogorov-Smirnova and Shapiro-Wilk tests show a statistically significant *P* value. This means that voluntary disclosure scores are not normally distributed. Consequently, the decision was made to apply non-parametric tests to examine the significance of the increase in voluntary disclosure between 2015 and 2017.

Wilcoxon and Friedman tests were conducted to determine the significance of the increase in voluntary disclosure. The results are presented in the following two tables.

Table 5-4: Wilcoxon Test (the Significance of the Increase in VD)

Ranks		N	Mean Rank	Sum of Ranks	Z	Sig. (2-tailed)
2015–2017	Negative Ranks	16	47.66	762.50	−7.213	.000
	Positive Ranks	99	59.67	5907.50		
	Ties	5	-	-		
	Total	120	-	-	-	-

Table 5-5: Friedman Test (the Significance of the Increase in VD)

Ranks	*Mean Rank*
2015	1.15
2017	1.85
N	120
Chi-Square	59.904
df	1
Asymp. Sig.	.000

The results derived from both the Wilcoxon and Friedman tests show that the increase in voluntary disclosure from 2015 to 2017 is statistically significant, in that 99 out of 120 companies reported an increase. In contrast, only 16 companies reduced the extent of their voluntary disclosure and 5 companies maintained the same level between 2015 and 2017.

5.1.2.1.1 Trends among corporate voluntary disclosure categories

The ranking of voluntary disclosure categories remained the same in 2015 and 2017. Governance disclosure took the lead position, scoring an average of 56.21%. The second position was occupied by strategy and future expectations disclosure, scoring 39.43%. The third was financial information disclosure, with 32.27%. Risk disclosure and social responsibility disclosure were ranked third and fourth, respectively, scoring 27.54% and 26.99%. The last position and lowest extent of disclosure was human resources disclosure, scoring 12.79%. A discussion of these results is presented in Chapter 6.

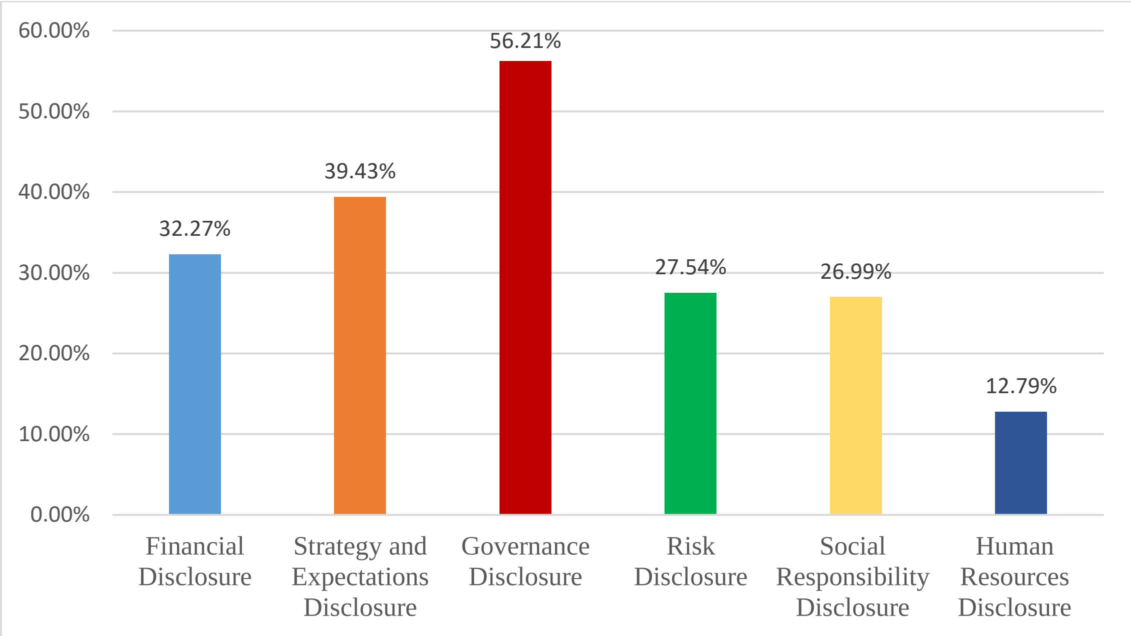


Figure 5-2 Average Disclosure among Companies for Each Voluntary Disclosure Category

5.2 Effect of Corporate Governance Mechanisms and IFRS on Corporate Voluntary Disclosure

Two regression models were created to investigate the determinants and effect of voluntary disclosure. The first model includes 13 variables, across 3 categories. The first category represents board composition and includes board size, non-executive directors and CEO duality. The second represents ownership structure and includes individual block-holder ownership, institutional ownership, government ownership, foreign ownership and directors' ownership. The last category contains the independent variable, IFRS adoption, which represents accounting standards. Further, the study includes four control variables (company size, industry, age and profitability) to provide an appropriate, more realistic environment for gathering reliable empirical evidence and to minimise the risk of endogeneity (Albassam 2014).

5.2.1 Descriptive statistics

The following table provides descriptive statistics for all of the variables in the first model except the statistics of voluntary disclosure, which were provided earlier in Chapter 5 in more detail.

Table 5-6: Descriptive Statistics of the First Model

Variables	Descriptive Statistics of Continuous Variables				
	Observations	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Board of directors size	240	5	13	8.4083	1.53615
Non-executive directors	240	0.14	1.00	.4977	.16799
CEO duality					
Concentrated ownership	240	.00	.95	.3397	.25260
Individual ownership	240	.00	.95	.0810	.13905
Institutional ownership	240	.00	.75	.1890	.22169
Government ownership	240	.00	.84	.0699	.16154
Foreign ownership	240	.00	.38	.0172	.05296
Directors' ownership	240	.00	.95	.0778	.14249
IFRS					
Company size	240	93.47	445760.46	16658.6240	59171.59441
Company age	240	2	66	29.3492	13.48974
Industry					
Profitability	240	−.93	.38	.0475	.10810
	Descriptive Statistics of Dummy Variables				
Variables	**Observations**	**0**	**1**	**Mean**	**Std. Deviation**
CEO duality	240	199	41	.17	.377
IFRS	240	120	120	.50	.501
Industry	240	172	68	.28	.452

As presented in Table 5-6, there is a variation within the variables in the sample. This provides a good dataset to run the regression, and provides reliable results.

The Saudi CGR recommend that board size should be between 3 and 11 directors. Moreover, they recommend that the majority of members should be non-executive members, with the minimum acceptable number being two, one-third of the board, or whichever is greater. Additionally, the role of board chair must be separate from the CEO and other executive positions. The statistics from the table above show that not all listed companies follow these regulations. Board sizes ranged between 5 and 13, with an average of 8 members. The maximum size exceeded the recommended 11, to reach 13 board members in some firms. The independence of the board of directors—measured by non-executive directors—varied. The minimum proportion of non-executive directors on a board was 14%, while some boards had 100% non-executive directors. This means that some companies have less than the recommended number of non-executive directors (33%). The leadership style of those boards, in terms of CEO duality, ranged between 41 instances of the board chair also being the CEO of the company and 199 instances of the board chair being a non-executive. This means that 44 company boards violated the Saudi CGR, which state that the board chair must be a non-executive person.

In emerging and developing countries, a high level of concentrated ownership is common (Alotaibi 2014). This is true for Saudi Arabia, where the study sample shows that, on average, almost 34% of company shares are held by block-holders. Among Saudi companies, individual block-holders hold an average of 8% of the company shares. While some companies have no block-holders, some individuals own as much as 95% of a company’s shares. In terms of institutional ownership, on average, institutions hold 18.9% of company shares. Among the sampled companies, the minimum level of institutional ownership was 0% and the highest was 75%. As stated previously, the government of Saudi Arabia invests heavily in the Saudi stock market through its agencies, the Public Investment Fund, the General Organization for Social Insurance and the Public Pension Agency. On average, the government holds 7% of company shares. Among the sampled companies, the minimum level of government ownership was 0% and the maximum was 84%. Foreign investment in the Saudi stock market is still very low. Although the maximum amount of foreign ownership in some companies reaches 38%, on average, foreign investors hold only 1.7% of company shares. Last, directors on boards hold around 8% of company shares. Some directors hold no shares, while others hold up to 95%. These statistics indicate that ownership structure could be an important factor for influencing companies' disclosure policies and practices.

Corporate characteristics could affect a company's willingness and ability to disclose beyond what is mandatorily required (Alsaeed 2006; Donnely & Mulcahy 2008). The current study included company size, age, industry and profitability as control variables. Company size, as measured by total assets, ranged widely, from 93.47 (million) to 445760.46 (million) Saudi riyal (Saudi currency). The average size of the sample companies was 16.6 (billion) Saudi riyal, which is equal to around 4.44 (billion) American dollars. In terms of companies' ages, the youngest was 2 years old and the oldest had been operating for 66 years. On average, the companies sampled were around 30 years old. To control for industry type influence on corporate voluntary disclosure, industry type was included as a dummy variable. The variable had a value of one if the company did business in cement, real estate or petrochemicals sectors and zero if otherwise. Of the companies, 68 were identified as environmentally sensitive, while 172 were not. The last control variable was profitability, as measured by ROA. The lowest ROA among companies included in the sample was (−0.93) and the highest was (0.38). On average, the companies in the sample had (0.0475) ROA.

5.2.2 Bivariate analysis

Before running the regressions, the correlation between voluntary disclosure and both the independent and the control variables was tested, by applying Pearson and Spearman tests. This step is important to illustrate the strength, significance and direction of the association between the dependent variable (VD) and the rest of the variables.

Table 5-7: Bivariate Correlation between VD and Each Variable

Variables	*Pearson Correlation*	*Spearman Correlation*
Board of directors size	.185***	.178**
Non-executive directors	−.381***	−.370**
CEO duality	−.234***	−.241**
Concentrated ownership	.292***	.317**
Individual ownership	−0.071	0.006
Institutional ownership	0.086	.155**
Government ownership	.400***	.431***
Foreign ownership	.191***	.206***
Directors' ownership	−.143**	−.146**
IFRS	0.091	0.092
Company size	.289***	.417***
Company age	.166***	.194***
Industry	0.040	0.029
Profitability	.218***	.200***

*** Significant at 1%. ** Significant at 5%. * Significant at 10%.

As Table 5-7 shows, the correlation tests identified 11 significant associations and 3 insignificant associations between the variables and voluntary disclosure. Those associations differ in their strengths and directions. Board size had a significant, positive correlation with voluntary disclosure. However, independent directors and CEO duality had a significant, negative correlation with voluntary disclosure. Despite the direction of those links, this shows that board composition is an important factor concerning corporate voluntary disclosure. The study will further examine those associations through multivariate analysis, before a further discussion and conclusions.

Concentrated ownership had a significant, positive correlation with voluntary disclosure. However, when testing each type of ownership separately, various correlations were revealed. Institutional, government and foreign ownership all had significant, positive correlations with voluntary disclosure. In contrast, directors' ownership was negatively correlated with voluntary disclosure. Last, no significant correlation was found between individual ownership and voluntary disclosure. The significant correlation between four out of five ownership types and voluntary disclosure indicates that ownership structures are important factors and should be included in the regression model for further analysis. This will be done by examining the effect of each type of ownership separately, instead of grouping them all together.

Although IFRS was positively correlated with voluntary disclosure, the correlation was not statistically significant. To garner assurance, the study included IFRS in the regression model to confirm the result, before drawing a conclusion about the effect of IFRS on the extent of voluntary disclosure. Finally, three corporate characteristics (company size, company age and profitability) had significant, positive correlations with voluntary disclosure. This finding supports the decision to include corporate characteristics as control variables in the regression models.

5.2.3 Multivariate analysis

To determine the appropriate regression method, the study checked if linear regression assumptions had been met. A number of diagnostic tests were applied to check linearity, normality, issues of multicollinearity and autocorrelation, and if there were any heteroscedasticity problems. The results of those tests can be found in Appendix 2. The results of the of diagnostic tests support the choice of OLS over other regression methods. When the linear regression assumptions are met, OLS regression is considered a powerful regression and it provides accurate estimated models (Gujarati 2009; Alkurdi et al. 2019; Saha 2019).

5.2.3.1 Regressions results

As discussed in Chapter 4, the current study has developed a main model and six sub-models to examine the effect of variables on voluntary disclosure (both in total and within each category). The variables are board composition (board size, board independence, CEO duality), ownership structure (block-holder ownership, institutional ownership, government ownership, foreign ownership, directors' ownership) and accounting standards (IFRS adoption). As well as the independent variables, the study included corporate characteristics (size, age, industry, profitability) as control variables. The models and their variables, in their linear forms, are written in full below.

$$\begin{aligned} VD = \; & \beta_0 + \beta_1 BOARDSIZE + \beta_2 INDEP + \beta_3 CEODUALITY_{dummy} \\ & + \beta_4 INDBLOCKOW + \beta_5 INSTITUTOW + \beta_6 GOVOW \\ & + \beta_7 FOREIGNOW + \beta_8 DIRECOW + \beta_9 IFRS_{dummy} + \beta_{10} SIZE \\ & + \beta_{11} AGE + \beta_{12} IND_{dummy} + \beta_{13} FP + \varepsilon \end{aligned}$$

where:

VD = voluntary disclosure

(VD was replaced in the model six times to test each category separately as FD: financial disclosure, SFED: strategy and future expectations disclosure, GD: governance disclosure, RD: risk disclosure, CSRD: corporate social responsibility disclosure, HRD: human resources disclosure)

BOARDSIZE = board size

INDEP = independence of the board

INSTITUTOW = institutional ownership

GOVOW = government ownership

FOREIGNOW = foreign ownership

DIRECOW = directors ownership

IFRS = IFRS adoption

SIZE = size of the company

AGE = age of the company

CEODUALITY = CEO duality	IND = company industry type
INDBLOCKOW = individual block-holder	FP = profitability

Table 5-8 below shows the regressions results regarding the seven models (VD and each category separately):

Table 5-8: Regressions Results for the Impact of Board, Ownership and IFRS on Corporate Voluntary Disclosure

Variables	*VD*		*FD*		*SFED*		*GD*		*RD*		*CSRD*		*HRD*	
	β	t-test	β	t-test	β	t-test	β	t-test	β	t-test	β	t-test	β	t-test
Board of directors size	0.004	0.87	−0.003	−0.41	−0.002	−0.33	0.030***	3.78	−0.005	−0.68	0.007	0.82	0.002	0.31
Non-executive directors	−0.205***	−4.37	−0.252***	−3.61	−0.210***	−3.45	−0.150**	−2.06	−0.302***	−4.39	−0.157**	−2.05	−0.153*	−2.66
CEO duality	−0.062**	−3.15	−0.092**	−3.16	−0.082***	−3.24	−0.039	−1.28	−0.073**	−2.55	−0.054*	−1.68	−0.022	−0.90
Individual block ownership	0.054	0.76	0.070	0.66	0.027	0.29	0.063	0.57	0.139	1.33	0.063	0.54	−0.038	−0.43
Institutional ownership	0.048	1.31	0.067	1.23	0.033	0.70	0.071	1.25	0.079	1.47	0.060	1.00	−0.019	−0.41
Government ownership	0.200***	3.54	0.203**	2.43	0.250***	3.42	0.196**	2.25	0.081	0.98	0.268**	2.92	0.216**	3.12
Foreign ownership	0.262*	1.86	0.298	1.42	0.450**	2.47	0.065	0.30	0.402**	1.95	−0.023	−0.10	0.344**	1.99
Directors' ownership	−0.167**	−2.40	−0.211**	−2.03	−0.184**	−2.03	−0.132	−1.22	−0.268**	−2.63	−0.131	−1.15	−0.072	−0.83
IFRS	0.008	0.53	0.010	0.45	−0.004	−0.21	0.019	0.82	0.005	0.23	0.006	0.27	0.010	0.57
Company size	0.000*	1.77	0.000	1.15	0.000*	1.79	0.000	0.18	0.000	−0.07	0.000**	3.46	0.000	0.54
Company age	0.002**	3.39	0.001	1.59	0.004***	5.27	0.000	−0.08	0.003**	3.48	0.001	1.58	0.002**	2.68
Industry	−0.012	−0.71	−0.024	−0.93	−0.075***	−3.36	0.002	0.09	−0.018	−0.70	0.034	1.22	0.015	0.72
Profitability	0.127*	1.84	0.039	0.38	−0.005	−0.06	0.268**	2.49	0.152	1.49	0.210**	1.86	0.143*	1.68
Constant	0.315***	5.37	0.425***	4.87	0.416***	5.47	0.350***	3.84	0.373***	4.34	0.197**	2.06	0.110	1.53
F	10.738		5.501		9.949		5.548		5.995		6.891		5.215	
Prob>F (Sig.)	0.000		0.000		0.000		0.000		0.000		0.000		0.000	
R-squared	0.382		0.240		0.364		0.243		0.256		0.284		0.231	
Adjusted R-squared	0.346		0.197		0.327		0.200		0.214		0.243		0.186	

*** Significant at 1%. ** Significant at 5%. * Significant at 10%.

The regressions results in the above table show that all of the models are statistically significant, at 1%. However, the adjusted R-squared is different for each category. This variation in R-squared means that the explanatory power of the tested variables is different, in terms of explaining the extent of each disclosure category among the sample companies. In other words, the determinants of each disclosure category could be qualitatively different. The R-squared for VD, FD, SFED, GD, RD, CSRD and HRD are, respectively, 0.346, 0.197, 0.327, 0.200, 0.214, 0.243, and 0.186. This means that the tested models are predicting and explaining 34.6% of the variation in voluntary disclosure between companies—19.7% of FD, 32.7% of SFED, 20% of GD, 21.4% of RD, 24.3% of CSRD and 18.6% of HRD. Additionally, the above table shows the coefficient (β) of each tested variable, which explains the direction and strength of the association between the independent variables (board composition, ownership structure, IFRS, and control variables), and the dependent variables (VD, FD, SFED, GD, RD, CSRD and HRD). These associations are presented in more detail below.

5.2.3.1.1 Board of directors size

Results show that board size affects governance disclosure positively and statistically, at the significance level of 1%, with a coefficient (β) 0.030. This means that having more directors on the company board will result in a higher level of governance disclosure. However, no statistically significant relationship was found between board size and the other voluntary disclosure categories.

5.2.3.1.2 Non-executive directors

Non-executive directors, as a measurement of board independence, are negatively associated with the extent of voluntary disclosure and all of its categories. This means that more non-executive directors on the board affect the extent of the company's disclosure negatively. The results are statistically significant, at 1% for all of the categories, except for governance disclosure, at 5%, and human resources disclosure, at 10%. Further, among board composition variables, non-executive directors have the highest coefficients (β) ranging between −0.150 and −0.302. The high coefficients of non-executive directors, compared with the other board composition variables, means that the non-executive-directors variable has the greatest effect of all tested board composition variables. This confirms the argument about the independence of the board of directors in Saudi Arabia, which will be discussed further in Chapter 6.

5.2.3.1.3 CEO duality

The regressions analysis indicates that when the CEO is also the board chair, the disclosure level declines. This is the case for all categories of voluntary disclosure, but the significance levels of the results vary. It is statistically significant at 1% for SFED, with a coefficient (β) −0.082; at 5% for VD, FD and RD, with coefficients (β) −0.062, −0.092, and −0.073 respectively; and at 10% for CSRD, with coefficient (β) −0.054. However, it is not statistically significant for GD and HRD. This result aligns with the Saudi CGR, which recommend not appointing the same person to CEO and chair.

5.2.3.1.4 Individual (block-holder) ownership

No statistically significant association was found between individual block-holders and levels of voluntary disclosure. This is true for the total voluntary disclosure and also for each category. This means that individual block-holders who are not board members do not affect the level of voluntary disclosure.

5.2.3.1.5 Institutional ownership

Although the univariate analysis reveals a significant correlation between institutional ownership and voluntary disclosure, the multivariate regression indicates no significant association. This means that there are other variables explaining the variation in voluntary disclosure better than institutional ownership. In other words, this suggests that a moderating role is possibly being played by other variables, regarding the relationship between institutional ownership and voluntary disclosure. This theme needs further investigation in future studies.

5.2.3.1.6 Government ownership

The coefficients (β) of government ownership ranged from 0.200 to 0.268 and they were statistically significant at 1% with VD and SFED, and at 5% with FD, GD, CSRD and HRD. Government ownership is the most statistically significant variable positively associated with voluntary disclosure among the types of ownership. Both univariate and multivariate analysis show a statistically significant, positive association between government ownership and voluntary disclosure. This significant positive association extends to all disclosure categories except for risk disclosure. Although a positive association with risk disclosure remains, it is not statistically significant. It could be argued that companies with high government ownership are normally big, profitable and politically connected. This reduces their risks and consequently lowers the level of risk disclosure. The significant, positive association between government ownership and voluntary disclosure confirms the monitoring role of ownership on companies' disclosure practices. In addition, government ownership is an effective corporate governance mechanism and an important determinant of corporate voluntary disclosure.

5.2.3.1.7 Foreign ownership

Although foreign investment in the Saudi stock market is still low, it does have a positive, significant association with voluntary disclosure. Of all of the variables, foreign ownership has the highest coefficient (β) and ranged from 0.262 to 0.450 among the disclosure categories models. This means that foreign ownership is an important determinant of voluntary disclosure. This is true for VD, SFED, RD and HRD. However, no significant association was found between foreign ownership and FD, GD and CSRD. It could be argued that foreign investors are most concerned about the strategies and risks of each company, as well as human resources disclosure, which highlights the quality of training and social welfare that employees receive. Further, it could be argued the companies with higher disclosure attract more foreign investors, which affects their allocations and investment decision-making.

5.2.3.1.8 Directors' ownership

Both univariate and multivariate analysis show a significant, negative association between directors' ownership and voluntary disclosure. In the multivariate analysis, the associations are statistically significant at 5%, and coefficients of −0.167 with VD, −0.211 with FD, −0.184 with SFED and −0.268 with RD. The remaining categories (GD, CSRD and HRD) are also negatively affected by directors' ownership, but this is not statistically significant. The significant, negative association between directors' ownership with the FD, SFED and RD indicates that directors with ownership protect their own interests and may hide material information from other shareholders.

5.2.3.1.9 IFRS

The current study found no significant association between IFRS adoption and voluntary disclosure categories. This is the case for both the univariate and multivariate analysis. This means IFRS does not affect corporate voluntary disclosure, and that accounting standards are not a determinant of such disclosure.

5.2.3.1.10 Company size

The company size is included in the regressions models as a control variable, along with three other corporate characteristics (company age, industry and profitability). Company size indicated a high correlation with voluntary disclosure in the univariate analysis. However, in the multivariate regression the coefficient of company size dropped significantly, compared with the univariate, from.431 to almost 0. This means that the real effect of company size on voluntary disclosure is positive, but weak, and that other variables are more important than company size as a determinant of corporate voluntary disclosure. Further, the company size was associated only with VD, SFED and CSRD.

5.2.3.1.11 Company age

Company age was positively associated with VD, RD and HRD, at 5%, and with SFED at 1%. However, the coefficient does not exceed 0.004. This indicates a weak effect and a limited explanatory power of the company's age on corporate voluntary disclosure. Interestingly, in the univariate analysis company age was less correlated to voluntary disclosure, compared with company size. However, in the multivariate analysis, the coefficient of the company's age was higher than the coefficient of the company's size. This means that the real effect of company age is higher and stronger than company size on corporate voluntary disclosure.

5.2.3.1.12 Industry

Industry type was negatively associated with SFED at 1%. No statistically significant association was found between industry and other disclosure categories. Results indicate that industrial companies tended to disclose less about their strategies and future expectations. It could be argued that such companies are operating in highly competitive environments. Thus, they do not want to provide their competitors with much information through voluntary disclosure, especially strategic information.

5.2.3.1.13 Profitability

Profitability had significant, positive associations with VD, GD, CSRD and HRD. However, the significance levels did vary, at 10% for VD and HRD and 5% for GD and CSRD. Moreover, among the corporate characteristics (control variables), profitability had the highest coefficient, ranging between.0127 and 0.268 among disclosure categories. This means that profitability affects and explains voluntary disclosure more than the other corporate characteristics. As described in Chapter 2, disclosure is a costly practice, and it seems that profitable companies can afford higher disclosure costs.

5.2.4 Robustness of the results from examining the relationship between board composition, ownership structure, IFRS and corporate voluntary disclosure

As discussed in Chapter 4, if the linear regression assumptions are met, OLS regression provides accurate estimated models (Gujarati 2009). The regression assumptions in the current study were met. Therefore, OLS was applied because it offers a robust result. However, to increase confidence in the results, the study has applied robust regression using STATA software, with the same outcomes, compared with the regular OLS. Robust regression is a powerful regression that detects and eliminates any influential observations that may affect the regression results (Egbunike & Tarilaye 2017). It uses a technique balanced between excluding any influential observations and including all observations and it deals with all of the observations equally. The robust regressions weight the observations differentially, based on their behaviours. In other words, it could be said that robust regression is a weighted and reweighted OLS (UCLA 2019).

Additionally, this study considered whether its results were affected by the construction of the voluntary disclosure measurement, and applied a different voluntary disclosure measurement, using page counts (Campbell 2000; Gray, Kouhy & Lavers 1995). The results from using the alternative voluntary disclosure measurement are qualitatively similar and support the main results. Also considered here are the year effect and constant error effect of the observations on the results. Thus, regressions for each separate year were performed. The results from both years are qualitatively similar and support the main results.

5.3 Association between Corporate Voluntary Disclosure and Stock Prices

The purpose of the second research model is to examine the power of corporate voluntary disclosure to explain the variation of stock prices. It could be argued, using signalling theory, that companies disclose more information for the purpose of sending a signal to shareholders and prospective investors—that they are better than other firms (Shehata 2014). This may result in higher demand for the company stock and a higher share price. Further, providing more information through voluntary disclosure could decrease the information asymmetry between the company and its investors (Bowerman & Sharma 2016), which will stabilise the company's stock price. Therefore, if investors in Saudi Arabia consider voluntary disclosure while making investment decisions, this should result in an association between corporate voluntary disclosure and stock prices. As presented in Chapter 4, the second research model includes four independent variables, namely book value per share, earnings per share, industry and voluntary disclosure.

5.3.1 Descriptive statistics

The following table provides descriptive statistics for the stock prices, book value per share and earnings per share. The descriptive statistics for the remaining variables (industry, voluntary disclosure and its categories) were presented earlier in table 5-1 and table 5-6.

Table 5-9: Descriptive Statistics of the Second Model

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Stock price	240	5.06	132.76	31.7823	23.82047
Book value per share	240	.22	54.64	16.0283	7.79920
Earnings per share	240	−7.02	9.34	1.2556	2.31264

Table 5-9 shows variations in stock prices, book values per share and earnings per share among the sample. In terms of stock prices, the lowest is 5.06 Saudi riyal, the highest is 132.76 and the average is 31.79 Saudi riyal per share. This indicates a wide range of stock prices among the Saudi listed companies. Book value per share ranged 0.22–54.64 Saudi riyals with an average of 16 Saudi riyal per share. In addition, the earnings per share have a wide variation, from −7.02 to 9.34, with an average of 1.2 Saudi riyal. It is interesting that the standard deviations among the variables vary. However, the highest variation is among share prices, compared with the other variables in the sample.

5.3.2 Stepwise regression results

As presented and discussed throughout this thesis, the current study is interested in examining the association between corporate voluntary disclosure and stock prices. It also seeks to determine whether voluntary disclosure can explain variations among stock prices. To accomplish this goal, it applies the Ohlson (1995) valuation model, as did previous studies by Bowerman and Sharma (2016), de Klerk, de Villiers and van Staden (2015), Qiu, Shaukat and Tharyan (2016), Reverte (2016) and Verbeeten, Gamerschlag and Möller (2016). If investors consider voluntary disclosure while making investment decisions, then adding the voluntary disclosure variable to the valuation model should increase the explanatory power of the model. This can be measured by comparing the adjusted R-squared of the model before and after implementing the disclosure variable. This process has four steps, as follows.

5.3.2.1 Step one

In the first step, the study determines the level of the explanatory power of the Ohlson model, using earnings and book value as follows:

$$P_{i,t} = \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \varepsilon_{i,t}$$

5.3.2.2 Step two

In step two, the study adds the industry variable to the price specification of the Ohlson model, to see whether sensitive industries affect the model, before including voluntary disclosure and rerunning the regression:

$$P_{i,t} = \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \beta_3\, SI_{i,t} + \varepsilon_{i,t}$$

5.3.2.3 Step three

In step three, the study investigates the effect of voluntary disclosure on the model to examine the market value, compared with exclusively focusing on the financial accounting information:

$$P_{i,t} = \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \beta_3\, SI_{i,t} + \beta_4\, VD_{i,t} + \varepsilon_{i,t}$$

5.3.2.4 Step four

Finally, the study examines if investors in environmentally sensitive industries pay more attention to voluntary disclosure, compared with non-sensitive industries:

$$P_{i,t} = \beta_0 + \beta_1\, BVP_{i,t} + \beta_2\, INCP_{i,t} + \beta_3\, SI_{i,t} + \beta_4\, VD_{i,t} + \beta_5\, \left(SI_{i,t} * VD_{i,t}\right) + \varepsilon_{i,t}$$

The results from these four models are presented in the following table.

Table 5-10: Regressions Results for the Associations between VD and Stock Prices

Variables	*Step 1 (Model 1)*		*Step 2 (Model 2)*		*Step 3 (Model 3)*		*Step 4 (Model 4)*	
	β	t-test	β	t-test	β	t-test	β	t-test
Book value per share	*** 1.052	6.47	*** 1.146	7.09	*** 1.154	6.98	** 1.138	6.78
Earnings per share	*** 4.482	8.17	*** 4.465	8.31	*** 4.491	8.18	** 4.506	8.19
Industry	-	-	** −8.723	−3.35	** −8.729	−3.34	* −12.344	−1.84
Voluntary Disclosure	-	-	-	-	−2.207	−0.24	−5.530	−0.51
Sensitive industry * VD	-	-	-	-	-	-	11.088	0.58
(Constant)	*** 9.298	3.43	*** 10.276	3.85	** 10.839	3.04	** 12.136	2.89
F	84.926		62.795		46.923		37.501	
Prob>F (Sig.)	0.000		0.000		0.000		0.000	
R-squared	0.417		0.444		0.444		0.445	
Adjusted R-squared	0.413		0.437		0.435		0.433	

*** Significant at 1%. ** Significant at 5%. * Significant at 10%.

The results from step one show that book value per share and earnings per share are associated with share price, positively and significantly. The adjusted R-squared of the first model is 0.413, which means that book value per share and earnings per share explain 41.3% of the variations among stock prices. In step two, the study added industry to the model and reran the regression. Results show that industry has a significant, negative association with stock prices. Moreover, they indicate that by adding industry to the model, the explanatory power of the model has increased, producing a higher adjusted R-squared 0.437, compared with 0.413 from the first step. This means that by adding industry to the model, the explanatory power of the model increased from 41.3% to 43.7%.

In step three, the study added voluntary disclosure as a variable to the previous model (from step two). However, the study did not find any significant association between voluntary disclosure and stock prices. Moreover, the adjusted R-squared fell from 0.437 to 0.435. This means that voluntary disclosure did not add any explanatory power to the model and even weakened it. Thus, one can conclude that the extent of voluntary disclosure is not associated with stock prices in Saudi Arabia. Further, one can argue that investors in Saudi Arabia do not consider voluntary disclosure in their investment decisions.

The study went one-step further (step four), to examine whether the association between voluntary disclosure and stock prices differs in environmentally sensitive industries. The study added an interaction variable between voluntary disclosure and sensitive industry. The results show no significant association between voluntary disclosure and stock prices, even in sensitive industries. Further, the adjusted R-squared decreased from 0.435 to 0.433. This means that investors in Saudi Arabia still do not consider voluntary disclosure, even when investing in environmentally sensitive industries.

5.3.2.5 Voluntary disclosure categories

The study performed step three and four for each disclosure category. This provides deeper insights as to whether the association between voluntary disclosure and stock prices differs among disclosure categories. The results of the relationships between all of the included voluntary disclosure categories and companies' stock prices are presented in the following table.

Table 5-11: Regressions Results for the Associations between VD Categories and Stock Prices

Variables	*FD*		*SFED*		*GD*		*RD*		*CSRD*		*HRD*	
	β	t-test	β	t-test	β	t-test	β	t-test	β	t-test	β	t-test
	Step 3 (Model 3)											
Book value per share	1.155***	7.08	1.174***	7.04	1.151***	7.10	1.131***	6.94	1.138***	6.84	1.145***	7.00
Earnings per share	4.490***	8.31	4.498***	8.33	4.577***	8.23	4.410***	8.14	4.446***	8.13	4.462***	8.19
Industry	−8.753***	−3.35	−9.091***	−3.42	−8.559***	−3.27	−8.606***	−3.30	−8.777***	−3.35	−8.730***	−3.34
Disclosure category	−3.127	−0.47	−5.074	−0.71	−5.089	−0.78	5.556	0.84	1.247	0.20	0.347	0.04
(Constant)	11.114***	3.47	11.891***	3.38	12.877***	3.02	9.024***	2.95	10.103***	3.59	10.253***	3.76
F	46.988		47.12		47.171		47.211		46.915		46.898	
Prob>F (Sig.)	0.000		0.000		0.000		0.000		0.000		0.000	
R-squared	0.444		0.445		0.445		0.446		0.444		0.444	
Adjusted R-squared	0.435		0.436		0.436		0.436		0.435		0.434	
	Step 4 (Model 4)											
Book value per share	1.131***	6.83	1.154***	6.82	1.129***	6.97	1.130***	6.87	1.154***	6.79	1.145***	6.99
Earnings per share	4.500***	8.32	4.478***	8.28	4.653***	8.37	4.413***	8.10	4.454***	8.12	4.437***	8.07
Industry	−12.920**	−2.47	−13.067**	−2.17	−23.898**	−2.53	−8.843**	−1.88	−7.013	−1.55	−7.842**	−2.26
Disclosure category	−6.967	−0.89	−8.512	−0.99	−10.502	−1.45	5.308	0.68	3.011	0.42	2.955	0.28
Industry*Disclosure category	13.107	0.92	10.845	0.74	26.374	1.69	0.887	0.06	−6.080	−0.48	−6.402	−0.39
(Constant)	12.711***	3.48	13.629***	3.21	16.101***	3.45	9.108***	2.71	9.413***	2.97	9.970***	3.52
F	37.742		37.73		38.603		37.61		37.454		37.413	
Prob>F (Sig.)	0.000		0.000		0.000		0.000		0.000		0.000	
R-squared	0.446		0.446		0.452		0.446		0.445		0.444	
Adjusted R-squared	0.435		0.435		0.436		0.436		0.433		0.432	

*** Significant at 1%. ** Significant at 5%. * Significant at 10%.

The results of examining the association between each voluntary disclosure category and stock prices reveal no significant association. Further, the adjusted R-squared for all the models, after including the disclosure categories, is lower than the model in step two (with no disclosure variable included). This confirms the main result that there is no association between voluntary disclosure and stock prices. Examining different categories and maintaining the same results increases confidence in the results and their robustness. The results provide strong support for the argument that investors in Saudi Arabia do not consider voluntary disclosure when making investment decisions.

5.3.3 Robustness of the results from examining the association between corporate voluntary disclosure and stock prices

As discussed in Section 5.2.4, robust regression is a powerful tool that detects and eliminates any influential observations that may affect the regression results (Egbunike & Tarilaye 2017). This study applied robust regression using STATA software and the results are the same, compared with the regular OLS. Moreover, the study considered whether the results were affected by the construction of the voluntary disclosure measurement tool (disclosure index) (Verbeeten, Gamerschlag & Möller 2016). Thus, the study applied different voluntary disclosure measurements using page counts (Campbell 2000; Gray, Kouhy & Lavers 1995). The outcomes using the alternative measurements also support the main results. Additionally, the possibility that investors predict financial information before the release of the financial statements, which affects the share price for the same period, was considered (Reverte 2016). It could be argued that voluntary information needs more time to affect the stock price, compared with the accounting and financial information. Therefore, the study tested stock prices corresponding to one year after the release of the financial statements. However, no significant associations were found, which supports the main results and confirms their robustness.

Chapter 6 : Findings and Discussion

This chapter presents the main findings and discusses the results of the study. It is divided into three sections: (6.1) corporate voluntary disclosure in Saudi Arabia; (6.2) determinants of corporate voluntary disclosure in Saudi Arabia; and (6.3) relationship between corporate voluntary disclosure and companies' stock prices in Saudi Arabia.

Table 6-1: Summary of the Main Results

Variable	*VD*	*FD*	*SFED*	*GD*	*RD*	*CSRD*	*HRD*
Average disclosure %	32.5	32.27	39.43	56.21	27.54	27	12.79
Board size	NS	NS	NS	+	NS	NS	NS
Non-executive directors	-	-	-	-	-	-	-
CEO duality	-	-	-	NS	-	-	NS
Individual block-holder ownership	NS	NS	NS	NS	NS	NS	NS
Institutional ownership	NS	NS	NS	NS	NS	NS	NS
Government ownership	+	+	+	+	NS	+	+
Foreign ownership	+	NS	+	NS	+	NS	+
Directors ownership	-	-	-	NS	-	NS	NS
IFRS adoption	NS	NS	NS	NS	NS	NS	NS
Stock price	NS	NS	NS	NS	NS	NS	NS

*NS: not statistically significant

6.1 Corporate Voluntary Disclosure in Saudi Arabia

This study measured the extent of corporate voluntary disclosure to answer the following research questions:

> Research question 1: To what extent do non-financial companies listed on the Saudi stock exchange disclose voluntarily in their annual reports?

> Research question 2: Were there any improvements in the level of corporate voluntary disclosure in the annual reports after IFRS adoption?

To answer these questions, the study applied a content analysis of 240 annual reports, published by 120 non-financial companies listed on the Saudi stock exchange. As stated previously, these 240 annual reports appeared over a two-year period (2015 before IFRS adoption, and 2017 after IFRS adoption).

6.1.1 The extent of corporate voluntary disclosure in Saudi Arabia

Findings show that non-financial, listed companies in Saudi Arabia have an average voluntary disclosure level of around 32.5%. The extent of corporate voluntary disclosure in Saudi Arabia is higher than Singapore's 29% (Cheng & Courtenay 2006) and China's 28% (Wang, Sewon & Claiborne 2008), but similar to Malaysia's 31% (Ghazali & Weetman 2006) and Bangladesh's 31.9% (Bose et al. 2017). However, corporate voluntary disclosure in Saudi Arabia is lower than Switzerland's 40% (Raffournier 1995), Czech Republic's 44% (Makhija & Patton 2004), Spain's 48% (Arcay & Vazquez 2005), the European Union's 65% (Bauwhede & Willekens 2008) and Italy's 35% (Allegrini & Greco 2013).

These findings confirm that developing and developed countries differ in their level of disclosure. The outcome of applying Hofstede's and Gray's theories (discussed in Chapter 2), and comparing the results with those of other studies, provides solid support for the argument that culture is an important factor that influences corporate voluntary disclosure. The level of disclosure in Saudi Arabia is similar to that in Malaysia and Bangladesh, higher than in Singapore and China—and lower than in Switzerland, Czech Republic, Spain and Italy. According to these results, these countries can be categorised into three groups (similar, higher and lower) to facilitate comparisons in terms of Hofstede's cultural dimensions. Each group of countries that share similar levels of disclosure also share similar levels of Hofstede's cultural dimensions, namely power distance, individualism and masculinity (Hofstede Insights 2019). This finding supports the current study's position that culture exerts a significant influence on the level of corporate voluntary disclosure in general, and specifically in Saudi Arabia.

6.1.2 Culture and the extent of corporate voluntary disclosure

Haniffa and Cooke (2002), state 'the traditions of a nation are instilled in its people and might help explain why things are as they are'. Culture is a pervasive influence that underpins societal attitudes and values. Therefore, it is expected to affect accounting practices in ways that cannot be overlooked (Gierusz & Koleśnik 2019). Given that accounting bridges technical and human dimensions, it cannot be wholly devoid of cultural influences (Violet 1983). These cultural influences affect the extent of disclosure (Haniffa & Cooke 2002). In terms of Hofstede's model, Saudi Arabia displays a high degree of collectivism, uncertainty avoidance, significant power distance and masculinity (Hofstede, Hofstede & Minkov 1991; Hofstede Insights 2019). These characteristics are partly due to two things—Saudi Arabia's Bedouin heritage and its state religion of Islam—both of which value, and are reliant on, collectivism. Further, the Bedouin heritage contributes to power distance and masculinity. As a result, within the framework of the Hofstede–Gray Theory, Saudi society tends towards secretiveness, which portends lower disclosure rates (Haniffa & Cooke 2002).

6.1.3 Improvements in corporate voluntary disclosure in Saudi Arabia

This study documented a slight improvement in the level of corporate voluntary disclosure, both in total and within each category, between 2015 and 2017. The Wilcoxon and Friedman ranking tests determined that this improvement is statistically significant. The increase in voluntary disclosure among Saudi companies could be explained using institutional theory, which posits that a company's external and surrounding environment determines its circumstances and influences its operations. These forces can be imposed directly or indirectly (Deegan 2002). The results confirm the current study’s position that different institutions (countries) exert different types of pressure, which affect organisations’ behaviour (e.g. corporate voluntary disclosure practices) differently. Environmental factors, including legal, political and cultural factors, affect corporate voluntary disclosure. Between 2015 and 2017, legislative changes and updated regulations occurred in Saudi Arabia and these affected the level of voluntary disclosure either directly or indirectly. For instance, between 2015 and 2017, a new Saudi companies’ law was legislated and this was followed by an updated governance code. One significant event was the well-known Ritz-Carlton anti-corruption campaign, instituted by the crown prince, Mohammed bin Salman. All of these events affected the level of voluntary disclosure, either directly or indirectly, as confirmed by the results of this study.

6.1.4 Trends among corporate voluntary disclosure categories

A noticeable improvement occurred in corporate governance disclosure. The results reveal that companies had an average corporate governance disclosure of 56.21%, compared with 44.61% reported elsewhere (Albassam 2014). It is not surprising that governance disclosure was the highest among voluntary disclosure categories. Since the establishment of the CMA in Saudi Arabia in 2003, much effort has been made to promote good corporate governance practices among listed companies. The collapse of the Saudi stock market in 2006 rang alarm bells for the Saudi government and the CMA. It hastened the need to improve corporate governance. Consequently, the governance code was issued in 2006 and went through several updates in 2013 and 2016. Over the last decade, academics and practitioners in Saudi Arabia paid added attention to corporate governance and it became the focus of many studies and conferences. All of this can explain why governance disclosure was the leading voluntary disclosure category among Saudi companies. However, more research is necessary because some companies disclose as little as 18%. Efforts should continue until disclosure reaches high levels in all companies operating in Saudi Arabia.

Strategy and future expectations disclosure was ranked second among voluntary disclosure categories. This could be explained using Friedman's (1970) argument. He asserted that companies are basically accountable to their shareholders and no one else and should not become involved in activities that do not create value for the company and/or increase profitability. It seems that Saudi companies tend to disclose information relating to their strategies and future expectations to attract further investors and to increase the company's value. It could be argued that this type of disclosure is a deliberate policy, enacted by management, to increase investors' confidence, bring in additional investors and enhance market value.

In third position was financial disclosure. The argument applied to strategy and future expectations disclosure could likewise be applied to financial disclosure. However, since there are other ways to release financial information, such as financial statements, it could also be argued that a company's management discloses less financial information voluntarily. On average, half of each annual report comprised financial statements, which contained mandatory financial information. It could be argued that because of this, management feel less motivated to disclose further financial information and are rather motivated to disclose more about other aspects of voluntary disclosure, such as strategy and future expectations.

Risk disclosure comes in fourth place. This can be explained by the secretive or 'closed shop' way in which Saudis generally conduct business. In Gray's matrix (accounting system and culture), Arab countries are examples of societies that are inclined towards statutory or authoritarian control, place emphasis on uniformity and conformity, tend to be secretive, and are averse to risks (Gray 1988). Therefore, management may hide information and disclose less about risks. This tendency to hide information could be motivated by the fact that it is unusual in Saudi Arabia for investors to file lawsuits against listed companies. This is because most companies are either controlled, or heavily invested in, by the government and key institutions, or block-holders. Consequently, small investors could lose more than the invested money if they choose to sue the company for any wrongful behaviour.

Social responsibility disclosure and human resources disclosure have the lowest occurrences among voluntary disclosure groups. Companies are less motivated to disclose information about social responsibility and human resources because this type of information is less relevant to investors. Further, there is no external pressure, such as regulations or codes, as there is in corporate governance. Moreover, the absence of environmental and labour activists, unions and movements reduces the pressure on companies to disclose social responsibility and human resources information. Consequently, Saudi companies have a long way to go when it comes to disclosure concerning social responsibility and human resources.

In conclusion, the extent of voluntary disclosure in total and for each category is still low in Saudi Arabia. However, there was an improvement between 2015 and 2017. Further, compared with previous studies in Saudi Arabia (Al-Janadi, Rahman & Alazzani 2016; Alsaeed 2006; Habbash 2016), an improvement occurred in average disclosure. The current results could help authorities, researchers and other stakeholders to keep working so that the level of voluntary disclosure among Saudi companies improves considerably. A focus should be placed on issues such as social responsibility disclosure and human resources disclosure, where the motivation to disclose information is poorer than in other aspects of voluntary disclosure.

6.2 Determinants of Corporate Voluntary Disclosure in Saudi Arabia

The preliminary stages of this study, including a literature review, identified four dimensions for analysis as possible determinants of corporate voluntary disclosure in Saudi Arabia. These dimensions comprised three groups of independent variables (board composition, ownership structure and accounting standards) and one group of control variables (corporate characteristics). This study produced the following research questions to examine the determinants of corporate voluntary disclosure in Saudi Arabia.

> Research question 3: To what extent do board composition, ownership structure and IFRS affect total corporate voluntary disclosure?

> Research question 4: Do board composition, ownership structures and IFRS affect corporate voluntary disclosure categories differently?

In short, the answers to these questions were that the examined variables explained 34.6% of the variations in corporate voluntary disclosure, among non-financial, listed companies in Saudi Arabia. The examined variables affect corporate voluntary disclosure categories in different ways. The following sections discuss these findings and each variable in more detail.

6.2.1 Board composition

The composition of the board of directors is an important determinant of corporate voluntary disclosure in Saudi Arabia. It plays a significant role as the mechanism for controlling and monitoring management activities, and is a key element in decision-making processes (Khlif & Souissi 2010; Samaha, Khlif & Hussainey 2015). Specifically, three areas of board composition were examined, namely board size, number of non-executive directors on the board and CEO duality. The findings in relation to each variable are discussed in the following subsections.

6.2.1.1 Board size

Board size has a significant, positive association with only one category of voluntary disclosure—corporate governance disclosure. This finding was consistent with a number of previous studies, such as Albassam et al. (2018), Albassam (2014), Allegrini and Greco (2013), Husted and de Sousa-Filho (2019) and Schiehll, Terra and Victor (2013). However, no significant association was found between board size and financial, strategy and future expectations, risk, social responsibility or human resources disclosures. This finding is consistent with Al-Moataz and Hussainey (2012), Al-Najjar (2010), Alhazmi (2017), Bhuyan (2018) and Cheng and Courtenay (2006).

Ownership was separated from management in listed companies, which raises the agency issue, as discussed in Chapter 3. Hence, the board of directors emerged as an essential tool to mitigate the agency problem through its role as a monitoring mechanism. Further, strategic decisions go through the board of directors, which means that it wields significant influence over decisions (Rao, Tilt & Lester 2012; Ntim & Soobaroyen 2013). The study findings confirmed the idea that the size of the board of directors could be important to other aspects of the company but, aside from governance disclosure, not to disclosure practices. It could be argued that companies with large boards of directors try to justify this by disclosing more about corporate governance, especially disclosure with regard to the board itself. However, when it comes to other forms of voluntary disclosure, the board size effect vanishes. It is important to note that this study does not claim that the board of directors is unimportant to corporate disclosure. However, it does emphasise that other factors of board characteristics are potentially more influential. The current CGR in Saudi Arabia recommends the ideal size for the formation of boards as between 3 to 11 people (CMA 2017). This study's findings support this recommendation as acceptable and sufficient, especially in relation to corporate disclosure.

6.2.1.2 Non-executive directors

The current study found that the presence of non-executive directors on the board is associated scientifically and negatively with the level of corporate voluntary disclosure in non-financial, listed Saudi companies. This negative association is true for the overall level of voluntary disclosure and all of its categories. The findings are consistent with Albassam (2014), Alkayed (2018), Barako, Hancock and Izan (2006a), Elgammal, Hussainey and Ahmed (2018), Esa and Ghazali (2012), and Haniffa and Cooke (2002). Board independence is another important factor in relation to corporate governance mechanisms (Chen et al. 2011; Johanson & Østergren 2010). Supported by agency theory and stakeholder theory, board independence is viewed as a tool to reduce agency cost, elevate monitoring and represent a wider range of stakeholders (Samaha, Khlif & Hussainey 2015). The presence of non-executive directors on the board is identified as increasing board independence (Ibrahim & Hanefah 2016). It has been argued that non-executive directors gain this strength of independence on the basis that they are not company employees, and are not pressured by internal executives (Alhazmi 2017).

The independence of non-executive directors is a concern for many stakeholders, especially in developing countries (Ezzine 2011; Mahadeo, Soobaroyen & Hanuman 2012). The election of non-executive directors is under research scrutiny (Crowther & Jatana 2005; Eng & Mak 2003). These researchers argue that block-holders appoint non-executives, which leads those directors to focus on the interests of that block-holder group and subsequently ignore other stakeholders. Many non-executives are involved in various transactions with the company (Clifford & Evans 1997), which, it is suggested, compromises their independence. All of these factors are affected by country and cultural contexts. This is especially true in situations where the appointment of non-executive directors may be based on social connections instead of experience, skills and competence (Alnabsha et al. 2018).

The current study argues that the independence of non-executive directors in Saudi Arabia is under scrutiny for many reasons. Appointing non-executive directors in Saudi Arabia is a concern and involves a non-transparent process (Albassam 2014). Saudi Arabia's population mostly comprises villagers, nomads and townspeople (GOV.SA 2019). Strong patrilineal bonds bind these various groups together and the extended family is the main unit of society; Saudi Arabian society places a high value on the principle of kinship. Although Saudi cities are cosmopolitan in nature, a strong presence of the kinship principle is still observable. This strong kinship obviously overshadows the appointment of company directors. There are many cases where one family dominates boards and non-executive directors are relatives. In other cases, block-holders become directors on the board, which raises red flags concerning the self-interest of block-holders. This possibly jeopardises other stakeholders' interests (Salehi, Hematfar & Heydari 2011).

In many cases, non-executive directors hold a high proportion of the company's shares, which confirms Clifford and Evans' (1997) suggestion that the independence of many non-executives involved in various transactions with the company will be affected. It is arguable that non-executive block-holders on the boards of listed companies in Saudi Arabia focus on profit rather than on elevating voluntary disclosure practices (Bhuyan 2018). All of this explains finding a negative association between the percentage of non-executive directors on the board and corporate voluntary disclosure. The current CGR in Saudi Arabia recommended that most board members should be non-executives and that the minimum acceptable number of non-executive members is two, or one-third of the board—whichever is greater. The findings strongly argue for shifting the focus of current CGR in Saudi Arabia from the number of non-executive directors to the independence of those directors. The idea of having non-executive directors is to increase the board's independence. However, appointing non-executive directors whose independence is under question conflicts with the fundamental aim of their appointment.

6.2.1.3 CEO duality

A negative association was found between CEO duality and corporate voluntary disclosure. This negative association is statistically significant to total voluntary disclosure in all categories, except governance disclosure and human resources disclosure, where the association (though still negative) is not statistically significant. This finding is consistent with previous analyses (Allegrini & Greco 2013, Bhuyan 2018, Bueno et al. 2018; Huafang & Jianguo 2007; Samaha, Khlif & Hussainey 2015; Sarhan & Ntim 2019).

The concept of CEO duality refers to a situation where the CEO is also the chair of the board. These two positions are the highest and, as such, for them to be simultaneously occupied by one individual means a concentration of power. Duality potentially affects corporate disclosure and reduces the quality of financial disclosure, by hiding unfavourable information (Shehata 2013). CEO duality also reduces board independence, which, in turn, weakens the board's monitoring role (Chau & Gray 2010). Agency theory supports the separation of power between these two roles, to prevent opportunistic behaviour and elevate monitoring of the company's management, which reduces agency costs.

The findings support the suggestion that culture and country characteristics strengthen CEO duality's negative effect on business practices, especially on corporate disclosure (Abdel-Fattah 2008; Samaha, Khlif & Hussainey 2015). Hofstede's cultural dimensions indicate that Saudi Arabia's Bedouin heritage increases power distance and masculinity (see Chapter 2). In large power distance societies, hierarchies exist without an acute need to justify their existence (Hofstede 1984). Thus, it can be expected that CEO duality in a power distance culture will result in the CEO having excessive, or absolute, power. This excessive power negatively affects other executives and the effectiveness of the board of directors, which, in turn, negatively affects the level of disclosure. The current Saudi CGR recommends that the role of board chair and the CEO should not be the same person. Yet, this study's results confirm that a large number of companies did not comply with this stipulation. This study strongly encourages Saudi government policy-makers to prohibit CEO duality and enforce proper governance procedures. This opinion is based on the results documenting the negative effect of CEO duality on disclosure and the profitability of companies.

6.2.2 Ownership structure

The second set of variables examined belong to ownership structure—an important determinant of corporate voluntary disclosure in Saudi Arabia. Concentrated ownership, as an internal corporate governance mechanism, is a key factor that influences corporate voluntary disclosure (Khlif, Ahmed & Souissi 2017). However, the findings confirm that the effect of concentrated ownership on corporate voluntary disclosure varies among different ownership structures; variability depends on the type of owner. Owners' power differs within companies; and companies tend to be more responsive to active, powerful shareholders. These results confirm that both the type and level of ownership affect corporate voluntary disclosure in Saudi Arabia. Further discussion of the varying effects of each type of ownership follows.

6.2.2.1 Individual block-holder ownership

The study found no significant association between individual block-holder ownership and corporate voluntary disclosure in Saudi Arabia. This was true in both univariate and multivariate analysis and for all categories of voluntary disclosure. This finding is consistent with studies by Alkayed (2018), Alsaeed (2006), Dias, Rodrigues and Craig (2017), and Said, Hj Zainuddin and Haron (2009).

As presented in the previous section, concentrated ownership is an internal corporate governance mechanism that affects corporate voluntary disclosure. However, the findings confirm that the effect depends on the type of owner. A significant, negative association between individual block-holder ownership and corporate voluntary disclosure was predicted. The prediction was that conflicts of interest between block-holders and other shareholders would put pressure on management to reveal only information preferable to the block-holder, leading to poor disclosure. This was theorised because block-holders have access to more information, compared with smaller shareholders. The study findings support this prediction, but only in the case of powerful block-holders who have access to the company through representation on the board of directors. Block-holders who are not on the board do not affect the level of corporate voluntary disclosure.

Tadawul listing rules require that all shareholders of 5% and more of the company’s shares be listed by name in the board report. This is regardless of whether they are directors, managers or outsiders. Thus, not all block-holders listed in the report are powerful block-holders with direct access to company information. Further, it is common in Saudi Arabia for traders to acquire a block of company shares for trading, not for long-term investment. This type of ownership is known as 'passive ownership' (Habbash 2017). Since people who engage in passive ownership are less concerned about a company's strategies and disclosure policies, they do not affect the disclosure level of the company.

6.2.2.2 Institutional ownership

No significant association between institutional ownership and corporate voluntary disclosure in Saudi Arabia was found. This outcome aligns with Donnelly and Mulcahy (2008), Haniffa and Cooke (2002), Ibrahim, Habbash and Hussainey (2019), Rashid and Lodh (2008), and Shehata (2013). Although the association was significant in the univariate analysis, it was not significant in the multivariate analysis. The variation in the significance between the two analyses indicated that there were other variables in the regression model with more explanatory power of corporate voluntary disclosure than institutional ownership.

As presented in Chapter 3, the current study predicted a significant, positive association between institutional ownership and corporate voluntary disclosure. This prediction was supported by agency theory, which considers institutional ownership an important corporate governance mechanism to increase monitoring and reduce agency problems. This monitoring power derives from financial power, experience, skills and voting power—areas where institutional owners enjoy an advantage over small shareholders. However, the majority of institutional investors in the Saudi stock market are also passive owners. Long-term institutional investors as active owners, who would increase monitoring and bring experience and skills to the company, were lacking. This is because active ownership is a result of investors holding company shares for a long period, for investing purposes, rather than holding them for a short time, for trading purposes (Habbash 2017).

It appears that institutional shareholders in Saudi Arabia tend to be traders, rather than investors. A high turnover of the top shareholders in listed companies emerged. The list of institutional shareholders presented in companies' annual reports constantly changed, which indicates a lack of active, institutional ownership. Findings confirm that to be a good corporate governance mechanism, corporate voluntary disclosure must be positive and ownership must be ethical, powerful and active.

6.2.2.3 Government ownership

Results show a significant, positive association between government ownership and corporate voluntary disclosure in Saudi Arabia. This positive association aligns with the results presented by Al-Hadi et al. (2018), Alkayed (2018), Aly, Simon and Hussainey (2010), Habbash (2017), Haddad et al. (2015), Jiang and Habib (2009) and Ntim et al. (2012). Government ownership is the most statistically significant variable positively associated with corporate voluntary disclosure among the ownership variables. This significant, positive association extends to all categories of voluntary disclosure, except for risk disclosure, which retained a positive association but was not statistically significant. Companies with a high level of governmental ownership are usually large and profitable, and politically connected. As such, the companies' risks were fewer and consequently there was a lower level of risk disclosure.

Supported by the agency, stakeholder and legitimacy theories, this thesis predicted a significant, positive association between governmental ownership and corporate voluntary disclosure. This prediction was supported by the results. Agency theory raised the idea of an agency problem existing between a company's management and its owners. It was theorised that this agency problem could be curtailed by effective monitoring. Governmental ownership proved to be an effective monitoring tool that reduced the agency problem and elevated corporate transparency. Additionally, stakeholder theory confirmed that a company's management is more responsive to powerful stakeholders, which clearly includes the government, especially in developing countries and, more specifically, in Saudi Arabia. A government wields the financial and political power to influence a company's disclosure policy (Freeman et al. 2010; Ntim & Soobaroyen 2013). Last, through the lens of legitimacy theory, the government is a trusted body and is accountable to the public. This emphasised the idea that governmental ownership places pressure on a company to maintain the social contract through good corporate practices, more disclosure and high levels of transparency. Therefore, the study predicted that governmental ownership would positively affect corporate voluntary disclosure, through effective monitoring and legitimising the company's activities.

The Saudi government invests heavily in the stock market through its agencies, namely the Public Investment Fund, the General Organization for Social Insurance, and the Public Pension Agency. These investments reflect the investee company practices, including corporate disclosure. The current study argues that in power distance cultures, powerful stakeholders will influence corporate disclosure more than in small power distance cultures. Power distance describes how tolerant the members of a society are to unequal distribution of power in that society. In large power distance societies, hierarchies exist without an acute need to justify their existence. In Saudi Arabia, this gives the government more power and it wields stronger control over businesses, compared with governments in Western countries. The findings confirm that, along with agency, stakeholder and legitimacy theory, Hofstede's cultural dimensions could explain the association between governmental ownership and corporate voluntary disclosure.

6.2.2.4 Foreign ownership

The results reveal a significant, positive association between foreign ownership and corporate voluntary disclosure, consistent with Bhuyan (2018), El-Diftar (2016), Elgammal, Hussainey and Ahmed (2018), Khan, Muttakin and Siddiqui (2013), Muttakin and Subramaniam (2015), and Wang, Sewon and Claiborne (2008). However, the association was only statistically significant between foreign ownership and strategy and future expectations disclosure, risk disclosure and human resources disclosure. This could be explained by foreign investors' concern about information that affects a company's future performance. This concern centres on factors such as business strategies, risks facing the company and human resources disclosure, which indicates the quality of employees through sufficient training and social welfare.

As discussed in Chapter 3, corporate governance literature indicates that foreign ownership usually plays a significant role in developing countries, especially with reference to corporate disclosure. The current study predicted a significant, positive association between foreign ownership and corporate voluntary disclosure. Agency, stakeholder and legitimacy theories supported this prediction. Along with other governance mechanisms, foreign ownership is an important tool for increasing monitoring of management and mitigating the agency problem, which results from higher disclosure. To reduce the monitoring cost, and because of the extra cost of communication (Baik, Kang & Kim 2010), foreign investors require high levels of disclosure, which places extra pressure on management. Managers convince foreign investors of their effectiveness by providing sufficient information through voluntary disclosure. In terms of stakeholder theory, companies with diffused ownership (a wider range of stakeholders) would be obligated to disclose higher levels of information to fulfil the different needs of various stakeholders. This supports the positive association between foreign ownership and corporate voluntary disclosure. Foreign investors have different values and cultures, which creates a legitimacy gap (Haniffa & Cooke 2005). This gap could be reduced by providing more disclosure that legitimises the company's operational activities and complies with foreign investors' cultures and values. This would result in maintaining the current foreign investors and attracting further foreign capital.

Uncertainty means that investors require more information to clarify and to understand a situation. This is what happens when new foreign investors start a new investment in a company. The current study argued this was the basis of the relationship found between foreign ownership and corporate voluntary disclosure in Saudi Arabia. Foreign investment in the Saudi stock market has only recently been allowed. Thus, companies with higher disclosure attract more foreign investors and this influences their allocations and investment decision-making.

6.2.2.5 Directors' ownership

The results show a negative association between directors' ownership and corporate voluntary disclosure. This result is consistent with Ahmed Haji (2013), Bhuyan (2018), Boshnak (2017), Hussainey and Al-Najjar (2012), Ghazali (2007), Sarhan and Ntim (2019), and Bauwhede and Willekens (2008). The negative association is statistically significant with voluntary disclosure, financial disclosure, strategy and future expectations disclosure and risk disclosure. This means that companies with higher directors' ownership tend to release less information and are less transparent. This is especially true concerning financial, strategies and risk information. This raises a red flag about conflicts of interest between inside and outside owners and the concealment of material information.

Agency and stakeholder theories support a negative association between director ownership and corporate voluntary disclosure. The board of directors plays a significant role in monitoring and directing the company's overall strategies and policies to protect shareholders and represent stakeholders. However, an agency problem becomes obvious when those directors have a significant interest in the company through high ownership. They lose their independence and conflicts of interest with the rest of the shareholders eventuate. Further, the board's representation for many stakeholders becomes narrower. As discussed in Chapter 3, and earlier in this chapter, companies tend to be more responsive to powerful stakeholders who affect the company directly and control its resources, which could affect the type and level of disclosure. Directors with significant ownership are powerful stakeholders who pursue ways to maximise their own wealth by using information withheld from other shareholders. This opportunistic behaviour leads to a lower level of corporate voluntary disclosure, thereby causing a compromised relationship between directors' ownership and corporate voluntary disclosure.

This type of ownership is common in Saudi Arabia, since many family companies end up listed on the Saudi stock exchange. Consequently, a large proportion of the company shares are owned by owner-families, who in turn become board members. Saudi culture reinforces the negative effect of this type of ownership on corporate voluntary disclosure. As discussed in Chapter 2, material possessions play a more central role in the assignment of status to individuals in Saudi Arabia. This makes directors with high levels of ownership in a company more powerful and controlling. This could be explained in terms of Saudi culture being a power distance culture that tends to accept this kind of authority and hierarchy. In short, the findings confirm the negative association between directors' ownership and corporate voluntary disclosure, especially in power distance cultures.

6.2.3 Accounting standards

The last dimension examined as a determinant of corporate voluntary disclosure was accounting standards. Companies follow either domestic or international accounting standards while preparing their financial statements. Accounting standards were predicted to directly influence corporate mandatory disclosure. This conclusion was based on the idea that corporate voluntary disclosure is a supplementary tool of mandatory disclosure and it makes corporate disclosure much more comprehensive. Consequently, changes in accounting standards should affect both mandatory and corporate voluntary disclosure. However, this thesis found no statistically significant association between accounting standards and corporate voluntary disclosure. The findings confirm that accounting standards are not a determinant of corporate voluntary disclosure in Saudi Arabia.

6.2.3.1 IFRS

Results show no statistically significant association between IFRS adoption and corporate voluntary disclosure. This finding is consistent with Gu, Ng and Tsang (2019), Kang and Gray (2019), Ling and Sultana (2015), and Morris and Tronnes (2018). IFRS includes accounting standards issued by the International Accounting Standards Boards (IASB), which set out to harmonise financial statements worldwide (Mylonas 2016). IFRS could reduce the cost of preparing financial statements, especially for international corporations and increase the comparability of financial statements. However, it does not affect corporate disclosure (Jones & Finley 2011). This study's findings confirm those documented by Karampinis and Hevas (2011), who suggested that culture, law enforcement and the general environment drive the quality of financial reporting and disclosure more than do accounting standards.

In Saudi Arabia, the IFRS was adopted in 2017, and all listed companies, by then, were required to report under this system. The current study supported this transformation to provide comparable financial statements that help to reduce information asymmetry and increase foreign investment in the Saudi stock market. This is supported by the documented increase in foreign investment in the Saudi stock market in 2017, compared with 2015. However, in terms of corporate voluntary disclosure, IFRS was not enough and further efforts are required to elevate corporate voluntary disclosure to an acceptable level. Recommendations that may help to elevate corporate voluntary disclosure in Saudi Arabia are provided in Chapter 7. Another possible explanation of the lack of relationship between the IFRS and corporate voluntary disclosure is the misuse of the IFRS by companies. Future studies could extend what has been documented in this research by conducting a longitudinal study in Saudi Arabia once companies are more adept at utilising the IFRS. Such studies might help scholars reach a stronger conclusion about the effect of the IFRS on corporate voluntary disclosure.

6.3 Association between Corporate Voluntary Disclosure and Companies' Stock Prices in Saudi Arabia

The last part of the current study set out to examine the association between corporate voluntary disclosure and companies' stock prices. It widened the view beyond internal corporate factors and drew attention to investors' expectations as a possible determinant of corporate voluntary disclosure. It was worth examining if there was any association between the level of corporate voluntary disclosure and companies' stock prices in Saudi Arabia and to compare the results to those in developed countries. It was theorised that it would help to clarify whether one of the reasons behind low levels of disclosure in developing is investors not paying enough attention to this type of disclosure. Therefore, the current study presented the following research question:

> Research question 5: Does the level of corporate voluntary disclosure contribute to explaining the variation in companies' stock prices in Saudi Arabia?

The association between voluntary disclosure and share prices was examined in a panel dataset by applying OLS regression and using a modified Ohlson (1995) valuation model in the regression.

In contrast to prior studies undertaken in developed countries, including de Klerk, de Villiers and van Staden (2015) in the UK, Verbeeten, Gamerschlag and Möller (2016) in Germany, and Reverte (2016) in Spain, the current study found no link between the level of corporate voluntary disclosure and share prices in Saudi Arabia. The study suggests the reason for this is that investors' expectations for voluntary disclosure in Saudi Arabia are lower than in the West, where voluntary disclosure is identified as an element that can determine share prices. The current results suggest that the low level of voluntary disclosure engaged in by Saudi companies could be attributed to the low interest among investors. This indifference to voluntary disclosure among investors in Saudi Arabia may make companies less motivated to disclose.

This was the first study to examine the association between voluntary disclosure and share prices in Saudi Arabia. The study results provide insight into the relationships between investors' expectations, voluntary disclosure and share prices. The results add to the scholarly argument about determinants of corporate voluntary disclosure and support institutional theory in explaining voluntary disclosure—arguing that the environment a company operates in, including social rules and expectations, constitutes an important determinant of voluntary disclosure. The evidence documented here should provide a springboard for future research to investigate the differences between investors' expectations of voluntary disclosure in developing and developed countries.

6.3.1 Investors' expectations and corporate disclosure

In Chapter 2, it was explained how Islamic teachings influence all aspects of Saudi culture, as well as how its fundamental notions of governance demand that the country be governed in accordance with the precepts of Shari'a. The Islamic law, or Shari'a, urges responsibility towards others and this significantly affects individuals, as well as corporate attitudes throughout the country. Like most Islamic Arab nations, and unlike the majority of developed or developing nations, the governance regime of public companies in Saudi Arabia is deeply affected by values derived directly from Shari'a (Albassam & Ntim 2017; Grais & Pellegrini 2006; Judge 2011; Safieddine 2009). Shari'a is comprehensive in scope and offers all Muslims point-by-point guidance on how to conduct themselves for virtually all aspects of everyday life. Its scope encompasses economics, business, politics, law, environment, religion and wider society (Abu-Tapanjeh 2009; Kamla 2009). Islamic values have a critical role in the decision-making processes of Saudi businesses, corporations and investors—a role that may extend to disclosure practices.

In view of religion's ability to frame the human mind and predispose people to certain views of corporate issues through precepts on the rightness or wrongness of business practices (Dusuki & Abdullah 2007; Farook 2007), Islam clearly propounds a viewpoint that compels Muslims to adopt good business practices (Wajdi Dusuki 2008). In addition, Islam contains an element of religious accounting, which is tied to the Islamic notion of responsibility (Gierusz & Koleśnik 2019). That responsibility is expressed as the individual’s submission to Allah in all aspects of their life. Accordingly, every Muslim holds the belief that they will be judged at the final judgment, since ‘God counts everything’ and will weigh their wrongdoings against their good deeds as recorded in the registers (Gierusz & Koleśnik 2019). These beliefs influence Muslim conduct and reflect how organisational practices should be conducted (Albassam & Ntim 2017; Alhazmi 2017; Gierusz & Koleśnik 2019).

Following a recent study by Gierusz & Koleśnik (2019), there is significant evidence to believe that culture imparts a distinct character to financial disclosures, regardless of whether IFRS has been adopted. In addition, the nature of information included in financial reports varies greatly from country to country and it is differences in culture that can explain why this is the case. Considering the particulars of economics within the Islamic context, as opposed to the objective context of accounting procedures, it can reasonably be surmised that current conventions of accounting practice differ from what ‘Muslim stakeholders’ expect (Gierusz & Koleśnik 2019). For instance, Islam prohibits trade in products and services that could harm people, even if they are legal in other countries. This includes alcohol, gambling and cigarettes (Alhazmi 2017) and emphasises the idea that Muslim investors have different expectations and pay attention to different information, compared with Western investors. These kinds of differences in expectations influence the level and practices of corporate disclosure.

Chapter 7 : Conclusion and Implications

Saudi Arabia has achieved an important role in the global economy. In addition to its role in the Muslim and the Arab commercial worlds, the Saudi economy is the largest in the Middle East (Habtoor et al. 2017). Its economic output alone constitutes 25% of the combined GDP of the Arab world (Habbash 2016), 44% of the global market capitalisation of Arab nations, and around 25% of the world's oil reserve (Habbash, Hussainey & Ibrahim 2016). Globally, it is a member of many of the world's most important organisations, for example, the United Nations, OPEC, World Bank, World Trade Organization and the International Monetary Fund. The country also belongs to the G20 (G20 Saudi Secretariat 2019). However, despite the wealth that oil production created for Saudi Arabia, its economy is under huge pressure and faces many challenges. Chief among these is diversifying the economy so that it is far less dependent on oil (SAV 2019), given that it is a finite resource. The Saudi economy relies too heavily on oil and this places it at great risk of oil price shocks in the global market. Globally, there are continuing international efforts to discover other sources of energy that could replace oil and this too could place the Saudi economy in danger.

Altogether, these factors suggest an urgent need for the Saudi government to diversify the country's economy and increase alternative sources of income, so that the over-dependence on oil can be solved. In 2016, the Saudi government announced the Vision 2030 statement (SAV 2019). One of its most important goals was to diversify the sources of the country's income. This ambitious plan set out to accomplish a more complete departure from oil dependence and to bolster foreign investments in the country. However, to achieve this there is a need for companies to be more transparent through adequate disclosure. Given the significant changes that have occurred in Saudi Arabia, this study was deemed pertinent, to investigate the current level of corporate voluntary disclosure in the country and its determinants. This will help to provide evidence-based recommendations that can increase the level of disclosure and bring in further foreign investments.

Practices of corporate voluntary disclosure vary between countries and companies. This variation is due to a number of factors, including differences in institutional settings, such as regulations and culture, and corporate characteristics, such as company size (Ling & Sultana 2015). Therefore, examining the determinants of corporate voluntary disclosure should not be treated as a homogeneous study—they should be examined in each country separately. Although many studies have examined determinants of corporate voluntary disclosure, the majority of these were conducted in developed countries. To rely solely on these studies would mean neglecting the many differences between developed and developing countries. Additionally, there is a lack of research in developing countries generally, and in Saudi Arabia specifically, concerning avenues of voluntary disclosure. This study contributes to filling this gap.

To conclude this study, a summary of the main results is presented in the following section. This is followed by a discussion of the important implications of this study. The last two sections of this chapter covers the limitations of this study and suggests opportunities for future research.

7.1 Summary of the Main Results

With regard to the first research question (to what extent do non-financial companies listed on the Saudi stock exchange disclose voluntarily in their annual reports?), the current study found that the average corporate voluntary disclosure among non-financial companies in Saudi Arabia is 32.5%. This level of disclosure is comparable to other developing countries, such as Malaysia; however, it is lower than the level of disclosure in developed countries, such as Switzerland, Spain and Italy. Further, the study found that the average disclosure among categories varies.

In terms of the second research question (were there any improvements in the level of corporate voluntary disclosure in the annual reports after IFRS adoption?), this study detected a statistically significant improvement among the sample for the level of corporate voluntary disclosure between 2015 and 2017. Out of 120 companies, 99 increased their voluntary disclosure and 5 maintained the same level. Only 16 companies reduced their level of corporate voluntary disclosure.

In answer to research question three (to what extent do board composition, ownership structure and IFRS affect total corporate voluntary disclosure?), it emerged that board composition and ownership structure affect corporate voluntary disclosure significantly. Board composition and ownership structure, along with corporate characteristics, can explain 34.6% of the variation in corporate voluntary disclosure among the tested sample. However, the study did not find any significant influence from IFRS on the level of corporate voluntary disclosure in Saudi Arabia.

The study also examined the effect of board composition, ownership structure and IFRS adoption on voluntary disclosure categories separately, to provide comprehensive findings and answer research question number four (do board composition, ownership structures and IFRS affect corporate voluntary disclosure categories differently?). The main findings regarding the effect of board composition, ownership structure and IFRS on voluntary disclosure extend to each category, but they affect each category in a different way. This indicates that the determinants of each voluntary disclosure category are qualitatively varying.

The answer to the last question in this study (does the level of corporate voluntary disclosure contribute to explaining the variation in companies' stock prices in Saudi Arabia?) is that no association between the extent of corporate voluntary disclosure and stock prices was detected. This outcome includes each voluntary disclosure category. This means that the extent of corporate voluntary disclosure does not help to explain the variation in companies' stock prices in Saudi Arabia. It is evident that investors in Saudi Arabia do not consider the extent of voluntary disclosure when they are making their investment decisions. This study argues that the indifference shown by investors reduces the pressure on companies to disclose more, resulting in low levels of corporate voluntary disclosure.

7.2 Implications of the Study

This study contributes to the theoretical corpus of knowledge by empirically examining the applicability of several theories for explaining corporate voluntary disclosure and how it works in developing countries. The findings reported in this thesis have a number of notable implications for policy-makers, practitioners and researchers, in terms of elevating corporate voluntary disclosure, improving corporate governance mechanisms, increasing foreign investment and conducting further research.

It is time for Saudi government policy-makers to become more active in this matter. Since the beginning of the 2000s, the government has been creating an appropriate environment, in which its stock market can flourish. Agencies, such as the CMA, have been established, governance codes and updated laws, such as the Saudi companies' law, have been legislated and the IFRS has been embraced to ensure improvements to the accounting profession. However, the investigation carried out in this thesis observed many cases where companies did not comply with these laws and regulations. This requires more monitoring and enforcement by the relevant Saudi authorities.

The Saudi stock market needs further deepening to elevate transparency and disclosure practices. The number of listed companies (179 listed by 31 December 2017) is low, compared with the Saudi economy (World Bank 2009). This small number of listed companies reduces competition for capital and makes listed companies less responsive to prospective investors' needs (e.g. further disclosure). Another issue that needs to be addressed is that many listed companies in Saudi Arabia are relatively small. As the results show, company size is a significant factor in determining the extent of corporate voluntary disclosure. Thus, the results support increasing company sizes by mergers of businesses operating in the same industry. Another factor affecting development in the Saudi stock market is the level of foreign investment. The current average level of foreign ownership among Saudi listed companies, according to this study's results, is 1.7%. This may be due to the lack of access to direct trading in the stock exchange by foreigners. Foreigners are only allowed to invest in the Saudi stock market through funds and institutions. They are not allowed to invest in all of the listed companies and are only permitted to acquire up to a certain percentage of a company's shares. Moreover, there are restrictive conditions for foreign funds and portfolios investing in the Saudi stock market (Tadawul 2019). Additionally, there is an absence of foreign, listed companies on the Saudi stock exchange. All of these obstacles need to be overcome by the country's policy-makers to elevate foreign investments in the Saudi stock market and make disclosure actions meaningful.

Another issue that the Saudi policy-makers must consider is how to improve the protection of small shareholders. Results show that concentrated directors' ownership is common in the Saudi market. This concentration compromises corporate disclosure and jeopardises the rights of small shareholders. Many cases were observed where board members traded their shares heavily in one year, between the beginning and end of the financial year. This raises a red flag about unethical practices and in some cases, criminal acts, such as insider trading. Such behaviour could be prevented by prohibiting any trading of board members' shares until their board memberships end. Another issue affecting small shareholders' protection is the need to increase their awareness of many aspects of corporate voluntary disclosure. This may place some pressure on companies to disclose more information to fulfil investors' expectations.

Additionally, policy-makers should focus on the criteria for independent directors, rather than simply setting a required number of non-executive directors as a proxy for independent directors. This study found that non-executive directors had a negative effect on corporate voluntary disclosure. In many cases, the independence of non-executive directors is under scrutiny. Thus, this study encourages policy-makers to set restricted criteria that ensure the independence of non-executive directors. Current regulations leave the criteria up to each company, which increases the likelihood of conflicts of interest and independence issues. This study also found a weak level of disclosure in relation to social responsibility, environment and human resources disclosure in Saudi Arabia. Policy-makers should work on improving these types of disclosure by requiring listed companies to issue a separate sustainability report.

In terms of implications for practitioners, managers should consider voluntarily disclosing more. The results show that companies with high disclosure policies enjoy higher foreign ownership. It seems that disclosure affects investment allocations of foreign investors and attracts more investors to the company. An improvement was observed in the extent and quality of disclosure in annual reports published between 2015 and 2017, which is a positive sign. However, in some cases, there were repetitions of the same phrases and contexts in the annual reports across the two years. This repetition is a quality and integrity issue that could raise red flags about the truthfulness of those reports. Managers should be aware of this behaviour and prevent it while preparing annual reports. External auditors should benefit from the results of this study and undertake their activities more cautiously in companies with CEO duality, high directors' ownership and many non-executive directors. These variables affect corporate disclosure negatively.

Researchers should consider further investigations into corporate voluntary disclosure and its determinants. Results show that determinants vary among voluntary disclosure categories. This indicates that other categories of voluntary disclosure, which have not been tested in the current study, may have different determinants. Further, the findings show weak disclosure in social responsibility, environment and human resources disclosure, which should be given higher priority in future studies. Culture is a powerful factor in explaining determinants of corporate voluntary disclosure, which prompts the need for further analysis by other researchers. Last, the study found that ownership is an important corporate governance mechanism that affects disclosure in Saudi Arabia. However, it was observed that powerful, active and institutional owners have a more positive effect on the extent of corporate voluntary disclosure than other types of ownership, as discussed in Chapter 6. This requires further investigation to be confirmed.

7.3 Opportunities for Future Research

This study was comprehensive and produced a number of significant findings, with several implications, as presented. However, there are many opportunities for future research, derived from this study. First, insightful policy analysis in Saudi Arabia can be achieved through the use of advanced econometric methodologies, to better model the causality of corporate voluntary disclosure and its effect on stock prices. Future studies could focus on financial firms to address the lack of research on this sector in Saudi Arabia. Other, non-listed companies, such as family firms and small and medium-sized enterprises, contribute to the economy and are also worth special consideration. Future studies could extend what was documented in this research by conducting a longitudinal study in Saudi Arabia, once companies are more adept at utilising IFRS. Such studies might help scholars reach a stronger conclusion about the effect of IFRS on corporate voluntary disclosure. Further, a longitudinal study could enhance our knowledge of the effect of corporate voluntary disclosure on stock price in the long-term.

Future research could extend the framework of this study and include further variables that have been suggested in the literature as possible determinants of corporate voluntary disclosure. These, for example, could include board committees (e.g. governance committee, remuneration committee and compensation committee), personal characteristics of CEOs, executives and directors (e.g. education, background, experience and multiple directorship) and other corporate characteristics, (e.g. listing on foreign stock exchanges, and company risk). Another opportunity for future research is to investigate other channels of corporate voluntary disclosure, such as company websites, social media platforms or other types of reports, such as sustainability reports. It would be of interest to compare the results between two or more channels of corporate disclosure. In addition, future studies could adopt a qualitative approach, such as interviews. This could explain some variables that show negative or no associations with corporate voluntary disclosure, such as CEO duality. Further, future studies could investigate other developing and emerging countries to address the lack of comparative research on this topic. This will provide generalisable results and insights about corporate voluntary disclosure in developing countries. Finally, the current study’s findings provide evidence of the need for research into the differences between investors' expectations of corporate voluntary disclosure in developing and developed countries.

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Appendices

Appendix 1: Corporate voluntary disclosure index

N	Description
FD	Financial disclosure items
1	Contribution of the company to the national economy
2	Analysing the main projects and products of the company
3	Analysis of the company’s operations
4	Division operational review
5	Analysis of the market share of the company
6	Stock price analysis
7	Geographical capital expenditure analysis
8	Divisions analysis on all the company production lines
9	Divisions growth rate and size regarding market share
10	Analysis of current financial results and essential performance factors
11	Analysis of important financial statistics
12	Research and development expenditure
13	Qualitative forecasts of revenues, profits and earnings
14	Quantitative forecasts of revenues, profits and earnings
SFED	Strategy and future expectations disclosure items
15	Declaration of the general corporate strategy
16	Declaration of the general corporate prospects
17	Declaration of the mission and vision statements
18	Information about new products being developed
19	Presenting annual action plans to meet the company’s targets
20	Data on programs and proposals for research and development
21	Marketing strategy overview
22	Analysis of trends in the industry
23	Customer service improvement strategies
24	Analysis of future outcomes regarding the company’s business strategy
25	Description of the development and research efforts put into future products
26	Report on expected future trends in the industry
27	Statistical assumptions for the company future based on the forecast
GD	Governance disclosure items
28	Company structure
29	Major events on the company’s calendar
30	Analysis of foreign and domestic shareholdings

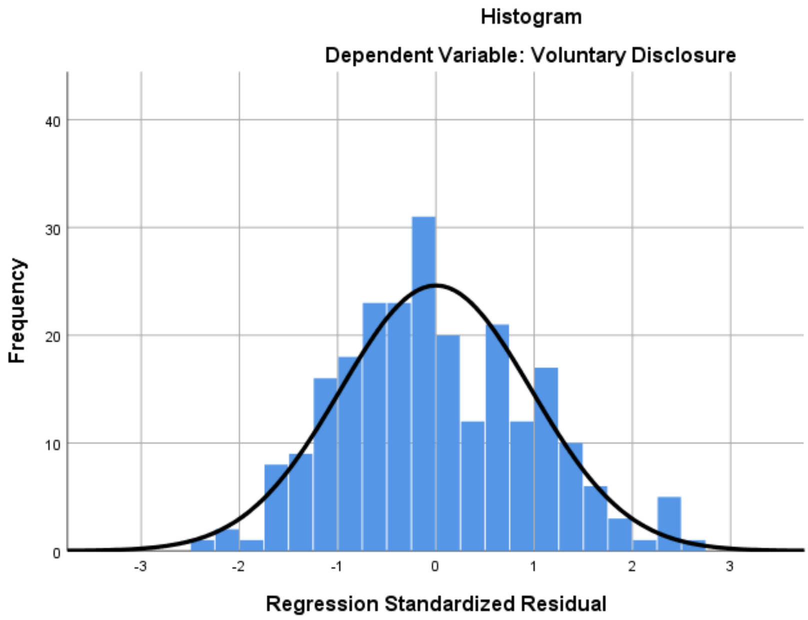
N	Description
31	Statement about ownership structure of the company
32	The board of directors’ composition
33	Details on the role of each executive director
34	Directors’ background (qualifications and experience)
35	Senior management background (qualifications and experience)
36	Senior management structure and names
37	Directors’ names
38	Directors’ ages
RD	Risk disclosure items
39	Changes in planned capital expenditure
40	Risks hinder achieving the company goals
41	Discussion of risks facing the company when attempting to create wealth
42	Statement about main risks facing regional economic development
43	A statement describing risks of not achieving corporate goals
44	Statement regarding regional political stability
45	Data representing the general view of the economy
46	Examining the competitive business environment
47	The impact of market competition on the company’s current profits
48	Divisions and geographical risks
49	Analysis of specific external factors that affect the prospects of the company
CSRD	Social responsibility disclosure items
50	General statement about corporate social responsibility
51	Statement about charity
52	Involvement and participating in social campaigns
53	Providing public services such as educational and health programs
54	Product safety evaluation
55	Statement of environmental policy
56	Environmental protection awards
57	Support provided for environmental protection programs
58	Plans and programs for environmental protection
59	Statement on workers’ welfare
60	Workers’ training and development policies
HRD	Human resources disclosure items
61	Information about employee numbers and/or redundancy
62	Data documenting employees’ welfare
63	Workforce breakdown based on production lines
64	Number of employees
65	Employees appreciation

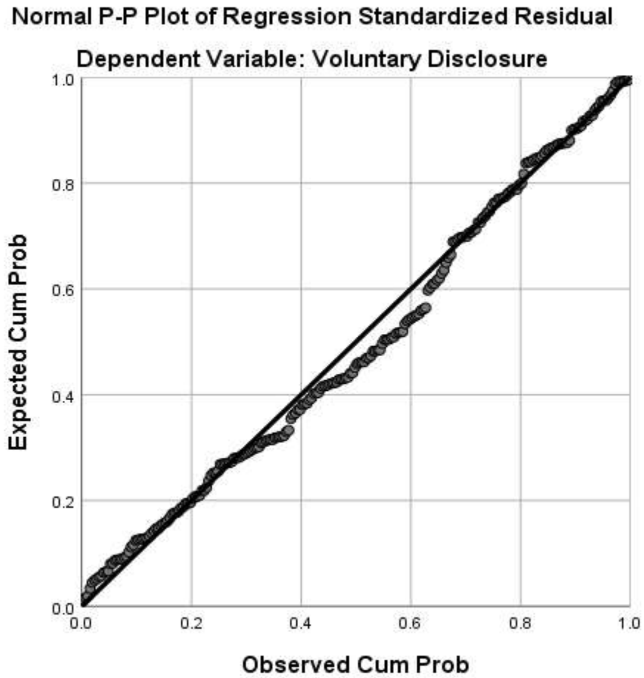
N	Description
66	Training programs
67	Training budget
68	Employees’ classification based on qualifications
69	Information on employees’ morale; strikes, absenteeism and turnover
70	Information on workplace safety
71	Declaration of any fatalities or injuries
72	Health and safety standards

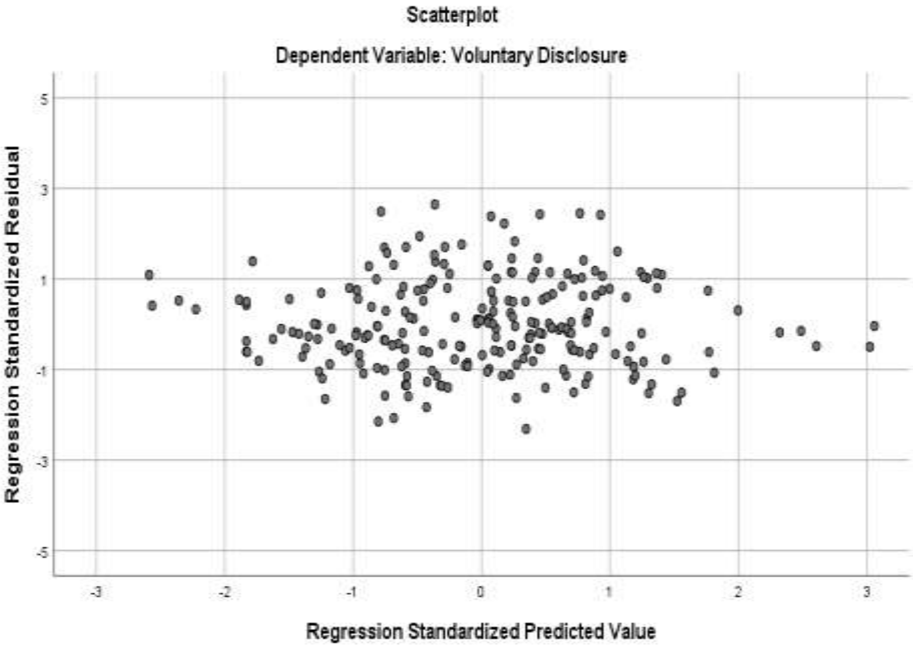
Appendix 2: Diagnostic test results

Description	N	Minimum	Maximum	Mean
Cook’s distance test	240	.00000	.03172	.0040671
Mahalanobis’ s distance test	240	.00140	.99464	.6124828

Variables	Tolerance	VIF	Condition Index
Board of directors size	.802	1.248	1.000
Independent directors	.780	1.283	1.963
CEO duality	.885	1.130	2.282
Individual ownership	.496	2.018	2.517
Institutional ownership	.740	1.351	2.684
Government ownership	.585	1.710	3.019
Foreign ownership	.874	1.144	3.132
Directors ownership	.491	2.039	3.418
IFRS adoption	.906	1.103	4.167
Company size	.705	1.419	4.546
Company age	.833	1.200	5.330
Industry	.808	1.237	6.775
Profitability	.862	1.161	11.239







Durbin-Watson	1.865

Description	$\mathbf{Chi^2}$	*P*
Breusch-Pagan / Cook-Weisberg	2.32	0.1280
White's test	101.08	0.4792