Impact of IFRS, ISA and Ownership Structure on Earnings Management: Evidence from Saudi Arabia

by

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Abstract

Earnings management is deemed as one of the most critical issue related to financial statements. It is a creative technique companies can use to manipulate financial reports. Thus, earnings management has attracted attention from practitioners and regulators as well as accounting scholars. This practice is believed to corrupt the quality of earnings reports and to mislead financial statement users. Similar to other governments, the Saudi Government has recognised the growing importance of tackling earnings management.

Earnings management practices have spread amongst firms listed in Saudi Arabia, and the incidence of these practices could be high. Saudi Arabia is attempting to diversify its resources by shifting away from its dependence on oil and increasing foreign investment. To achieve this goal, it should eliminate or at least reduce earnings management and thus improve the financial report quality of Saudi firms. Recently, the Saudi Government implemented considerable economic reforms and introduced some changes to the Saudi business environment. These reforms include adopting international accounting standards and updating corporate governance codes. Therefore, this thesis aims to investigate the role of these reforms in reducing earnings management and thus increasing the financial reporting quality. Specifically, it examines the effects of the International Financial Reporting Standards (IFRS), the International Standards on Auditing (ISA) and ownership structure on earnings management among companies listed on the Saudi stock exchange (Tadawul).

The conceptual framework for this thesis was developed using agency theory. The related literature is highly inconclusive; there are no ongoing studies on the impact of the ISA on earnings management, and few studies have examined the relationship of earnings management with the IFRS, the ISA and ownership structure in Saudi Arabia. Therefore,

this thesis aims to address this literature gap. Its findings may assist various stakeholders, including policymakers and investors, by informing them on Saudi companies' earnings management levels and help them evaluate the role of the IFRS, the ISA and ownership structure in limiting earnings management.

Seven hypotheses were developed to answer the following questions: (a) Does IFRS implementation influence earnings management in listed Saudi companies? (b) Does ISA implementation influence earnings management in listed Saudi companies? (c) Does ownership structure influence earnings management in listed Saudi companies? Generalised least squares regression was utilised to examine these hypotheses using data for 2014–2019 on 92 Tadawul-listed companies.

The thesis findings indicate that the IFRS, institutional ownership and family ownership have significant negative effects on earnings management (discretionary accruals), implying that these factors are efficient in monitoring management, reducing earnings management and improving the financial reporting quality. These outcomes are in line with the present study's theoretical assumptions, which are based on agency theory. In contrast, the analysis showed that ISA implementation has a positive association with earnings management, suggesting that it could increase the level of accruals earnings management. However, this thesis does not find any significant evidence of association of managerial ownership, block-holder ownership and state ownership with accruals earnings management.

Declaration of Authenticity

I, Talal Fawzi Alruwaili declare that the PhD thesis entitled Impact of International Financial Reporting Standards, International Standards on Auditing, and Ownership Structure on Earnings Management: Evidence from Saudi Arabia is no more than 80,000 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.

I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University's Higher Degree by Research Policy and Procedures.

Signature: 

Dedication

This thesis and effort are dedicated with deep love to my wife Alaa. I could not have completed this PhD journey without your assistance, support, encouragement, attention, unending patience, sympathy and love. You sacrificed many things in order to create for me the positive and ideal environment that helped me to focus on my studies. You also eliminated all the obstacles that could negatively affect my studies. You overlooked your happiness in the attempt to make me happy. From the bottom of my heart, thank you a lot for everything that you have done for me. I wholeheartedly appreciate everything you've done for me. I will forever be beholden to you. I will leave your reward to Allah since I can never reward you enough. From the bottom of my heart, I apologise for any act of mine that may have upset you. I also apologise for every moment I was not there for you. From now on, I will consecrate my time to you and do everything I can to make you happy throughout your life. You are not only my adored partner, my heartbeat and my soulmate but also my whole life. You are the best thing that ever happened to me. You mean more to me than you will ever know. I am so fortunate to have you. Words can't describe my deep love for you, and how thankful I am for you. Until my last day, I will love you.

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I acknowledge that my thesis was edited by Elite Editing, and editorial intervention was restricted to the Australian Standards for Editing Practice.

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List of Abbreviations

CEO	Chief executive officers
FDI	Foreign direct investment
GAAP	Generally Accepted Accounting Principles
GDP	Gross domestic product
GICS	Global Industry Classification Standard
GLS	Generalised least squares
GMM	Generalised method of moments
IAASB	International Auditing and Assurance Standards Board
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IPO	Initial public offerings
ISA	International Standards on Auditing
MSCI	Morgan Stanley Capital International
OLS	Ordinary least squares
OPEC	Organization of the Petroleum Exporting Countries
SAMA	Saudi Arabian Monetary Authority
SCM	Saudi capital market
SEO	Seasoned equity offerings
SME	Small and medium-sized entities
SOCPA	Saudi Organization for Certified Public Accountants
VIF	Variance inflation factor

Chapter 1: Introduction

Section 1.1 of this chapter covers the background of this study on earnings management. Section 1.2 explains the motivation for this study. Sections 1.3 and 1.4 discuss the aims of this study and its contribution to knowledge, respectively. Finally, Section 1.5 outlines the thesis structure.

1.1 Background of This Study

From the 1990s to the early 21st century, several corporate accounting scandals occurred in Europe and the United States, involving companies such as HealthSouth, WorldCom and Enron. According to Goncharov (2005), earnings management was the essence of these scandals. Earnings management occurs 'when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers' (Healy & Wahlen, 1999, p. 365).

Regulators and practitioners consistently express serious concerns about earnings management, and the issue is also widely discussed in accounting literature. The main reason for this attention to earnings management is that this practice is believed to impair earnings quality and mislead the users of financial statements (Jaggi & Tsui, 2007). To highlight the importance of earnings management, Gaio (2010) argued that a lack of transparency in financial reporting alongside a lack of quality in financial accounting information are attributed to the global decrease in equity markets in the early 2000s. The author also indicated that earnings quality has become a key topic of debate for actors ranging from investors and the financial press to regulators and analysts.

Earnings management is considered a type of creative accounting. The term 'creative accounting practices' can describe any steps involving aggressive choices around accounting principles, including fraudulent financial reporting and earnings management (Comiskey & Mulford, 2002). Earnings management may be defined as a fraudulent activity; however, it differs from fraud because managers may take advantage of the flexibility in the Generally Accepted Accounting Principles (GAAP) and thereby engage in earnings management without violating these standards. In such cases, the practice is legal.

While earnings management may not be fraudulent, it can be opportunistic, which makes it an important issue. Opportunistic earnings management occurs mostly when accounting choices are specifically made to mislead stakeholders about an organisation's economic performance (Healy & Wahlen, 1999). According to Rezaei (2012), managers engage in opportunistic earnings management to benefit themselves and mislead stockholders to a significant extent. This represents the 'bad side' of earnings management; when extreme, earnings management can also become fraudulent. Furthermore, Healy (1985) developed the first model for measuring earnings management practices and noted that management might have an incentive to engage in such practices when the company plans to increase bonuses. Kamel and Elbanna (2010) also collected 464 questionnaire surveys and conducted 16 interviews. This study found that managers benefit from earnings management because it increases their chances of securing a loan.

From the perspective of agency theory, merely the differences in the interests of shareholders as owners and of managers as their agents are sufficient motivation for managers to engage in earnings management. Prior accounting studies have concluded that management teams engage in earnings management to attain specific objectives,

including meeting market expectations, avoiding losses and increasing rewards to top managers. Regardless of the incentive, earnings management may corrupt earnings quality and mislead the users of financial statements (Jaggi & Tsui, 2007). This practice also has many victims, including investors, customers, regulators, creditors and suppliers (Alkhabash & AlThuneibat, 2009). There are three types of earnings management: accruals-based earnings management, classification shifting earnings management and real activities earnings management.

Prior academic studies have attempted to identify factors that could be used to estimate or reduce managers' opportunistic behaviour, including earnings management. For example, Constantatos (2018), Gulzar (2011), Katmon and Al Farooque (2017) and Lin and Hwang (2010) examined the impact of corporate governance in constraining the level of earnings management. Alzoubi (2018), Chen, Lin and Zhou (2005) and Piot and Janin (2005) investigated the association between earnings management and audit quality. Hong and Andersen (2011) explored whether corporate social responsibility is negatively related to earnings management. However, the current study seeks to fully explore the role of some factors in constraining earnings management, using data from Saudi Arabia. These factors are the IFRS, the ISA and ownership structure.

1.2 Motivation for the Study

Financial statements play an important role in delivering accounting information to users of financial statements. These users employ accounting information because it meets the criteria for their decision usefulness (Kieso et al., 2013). Therefore, financial information must be credible and timely. Published earnings are one of the financial reporting items that most influence business activities and investment and management decisions. Therefore, managers may be tempted to adjust earnings to obtain desirable incentives.

Earnings management is the manipulation of financial statements to obscure the true data; it significantly affects the quality of firms' financial reports. Companies deliberately use earnings management to inflate or deflate their financial performance (Bens, Nagar, Skinner, & Wong, 2003; Payne & Robb, 2000).

The IFRS, the ISA and ownership structure are some factors that may mitigate earnings management and thus increase the quality of financial reporting. Therefore, the current study seeks to contribute to the extant accounting literature by investigating the influence of the IFRS, the ISA and ownership structure on earnings management, with a specific focus on Saudi Arabia. The current study focuses on Saudi Arabia for several reasons as outlined below.

One of the reasons that the present study focused on Saudi Arabia is the pervasiveness of earnings management in listed Saudi companies. According to Asehaly (2006) and Al-Moghaiwli (2010), Saudi listed firms engage in earnings management practices. Further, the incidence of these practices could be high (Habbash & Alghamdi, 2015). Empirically, a comparison between studies that have been conducted, particularly the mean values of earnings management, in the Saudi context (see Al Shetwi , 2020; Al-Thuneibat, Al-Angari, & Al-Saad, 2016; Habbash & Alghamdi, 2017) and in developed countries, such as France, the United Kingdom and the United States (see Almahrog, Aribi, & Arun, 2018; Chahine, Arthurs, Filatotchev, & Hoskisson, 2012; Lakhal, Lakhal, & Cheurfi, 2014) and in developing countries, such as Egypt, Turkey and Malaysia (see El Moslemany & Nathan, 2019; Aygun, Ic, & Sayim, 2014; Ahmed, 2014) shows that the level of earnings management is high in the Saudi context. A possible explanation for this high level is Al-Moghaiwli's (2010) argument that listed Saudi firms are often controlled

by foreign employees who may tend to engage in earnings management to serve private interests.

However, new rules have been established to develop and regulate the Saudi stock market (Tadawul) while protecting shareholders' rights in Saudi Arabia. Some of these rules include the implementation of the IFRS and the ISA. In 2012, the Saudi Organization for Certified Public Accountants (SOCPA) required all Tadawul-listed companies to apply the IFRS for the financial period beginning 1 January 2017. The SOCPA also issued a compliance decision notice requiring audit companies working in Saudi Arabia to apply the ISA guidelines in 2017 (Nurunnabi, 2017a; SOCPA, 2018a). The Saudi Government has experiencing active efforts to ensure the appropriate, effective implementation of these standards. All companies also have prepared well for implementing the IFRS by training their accountants to understand and apply these standards (Alzeban, 2018). Therefore, the current study expects that these standards could curb the level of earnings management practices and thus improve the quality of financial reporting in listed Saudi firms. As reported by Zéghal, Chtourou, and Sellami (2011), a stronger implementation mechanism for the enforcement of the IFRS must be organised to ensure its effects as regards increasing the quality of accounting information and thus reducing earnings management.

Furthermore, the present study seeks to examine the role of the types of ownership structure in limiting the level of earnings management in listed Saudi firms. Unlike other countries, such as the United States and the United Kingdom, where ownership is often dispersed, most listed Saudi firms have highly concentrated ownership structures. This feature could curb the level of earnings management practices. As reported by Alves (2012), concentrated ownership could curb managers' opportunistic behaviour, such as

earnings management. Jensen and Meckling (1976) also proposed that there is relationship between the presence of large shareholders and lower earnings management. Thus, the current study expects that the types of ownership structure in Saudi could play a role in limiting the level of earnings management practices.

Another reason to focus on Saudi Arabia is the economy. According to Sherif and Sumpio (2015), Saudi Arabia has a rapidly developing economy. The Tadawul constitutes roughly 75% of the total Gulf Cooperation Council market—more specifically, it represents approximately 44% of the Arab market and nearly 26% of the total Arab gross domestic product (GDP; World Bank, 2018). According to Nurunnabi (2017b), Saudi Arabia has experienced steady economic growth since 2009, when it became a member of the G20—the world's 20 largest economies—giving it a crucial economic position. Saudi Arabia is also one of the largest oil producers in the world and a member of the Organization of the Petroleum Exporting Countries (OPEC). In 2017, of all the oil produced by OPEC, 32%was from Saudi Arabia; the country also controls 22% of the world's known oil reserves (OPEC, 2018). The main source of income in Saudi Arabia remains oil, and since the private sector depends heavily on government spending, its impact on diversifying the economy is not as strong as it should be (Banafea & Ibnrubbian, 2018). Nevertheless, in the Middle East and North African (MENA) region the Tadawul is the largest by market capitalisation and is the most liquid stock market. Therefore, it is crucial to prevent earnings management practices in Saudi companies that could have extensive repercussions for stakeholders all over the Middle East and in other developing economies. For example, earnings management practices can create or exacerbate information asymmetry regarding accounting disclosures, which can then discourage potential investors from making substantial investments in the country.

The third reason for this study's focus on Saudi Arabia is related to Vision 2030, which was proposed in 2016 and is now being implemented. The discovery of oil created vast wealth for Saudi Arabia and boosted its economy; however, the country still faces an overwhelming number of challenges. Some of the most crucial are the need to diversify the Saudi economy and reduce the nation's dependence on oil exports, the need to preserve critical state resources and the need to decrease unemployment for Saudi citizens (Vision 2030, 2018). The Saudi Government is aware that the state's economy is going through an intermediate phase. Thus, the main objective of Vision 2030 is to increase productivity by attracting more international investments to the country in order to develop the economy and make it one of the largest in the world. Vision 2030 also aims to deregulate the state's energy market and boost competition, to develop special zones for economic enlargement, to change cities' existing economic modus operandi and to improve the business climate in general (Vision 2030, 2018). Ending oil dependence and attracting more foreign investments are also significant goals of this plan. There is no doubt that the business sector plays a crucial role in fulfilling the goals of Vision 2030. It could be argued that one of the most ambitious economic targets of Vision 2030 is increasing the trust investors in the Saudi market. This would be possible only if Saudi firms refrain from earnings management; better-quality financial reporting will attract more foreign investors. To meet this goal, the Saudi Government has introduced some rules, including requiring Saudi firms to adopt international accounting standards, and updating corporate governance codes to improve firms' financial reports and develop the Saudi business environment.

Lastly, there are a number of studies that have examined the role of external audit in limiting the level of earnings management (e.g., Alzoubi, 2018; Alves, 2013; Alhadab and Clacher, 2018; Chen et al., 2005; Chi, Lisic and Pevzner, 2011; Chen, Lobo, and

Wang, 2011; Habbash, 2010; Piot and Janin, 2007; Van Tendeloo and Vanstraelen, 2008; Yasser and Soliman, 2018). However, to the best of the researcher's knowledge, none of these studies has provided evidence of ISA's effect on earnings management. More importantly, in the Saudi context, studies have scarcely examined the impact of the IFRS, the ISA and ownership structure on earnings management. These gaps in the existing research provide additional motivation for the present study.

1.3 Aims of This Study

One of the creative techniques that companies can use to manipulate financial reporting is earnings management. Earnings management has attracted attention from practitioners and regulators as well as accounting scholars and researchers (Alzoubi, 2016; Banko, Frye, Wang, & Whyte, 2013). This practice is believed to corrupt the quality of earnings reports and to mislead the users of financial statements (Jaggi & Tsui, 2007).

A number of factors may curb earnings management and thus improve the quality of financial information, one of these being the IFRS (Houqe, van Zijl, Dunstan, & Karim, 2012). The IFRS helps prevent the manipulation of accounting information, increases the quality of that information and helps the management to minimise earnings management (Zéghal et al., 2011). However, the prior research that has investigated the effect of the IFRS on earnings management offers mixed evidence and varied conclusions. In Germany and in other countries in the European Union, earnings management has increased since the implementation of the IFRS (Capkun, Collins, & Jeanjean, 2016; Christensen, Lee, Walker, & Zeng, 2015). Meanwhile, in Russia, China, Hong Kong, South Africa and Singapore earnings management has actually decreased after the adoption of the IFRS (Barth, Landsman, & Lang, 2008; Zéghal et al., 2011).

Another factor that minimises management's ability to manage earnings and thus improves the quality of financial reports is ownership structure (Alzoubi, 2016). Ownership structure can reduce earnings management because owners actively monitor management through financial reporting (Lin & Hwang, 2010). A company's ownership structure is an essential mechanism for monitoring managers (Alves, 2012). Therefore, it might play a fundamental role in curtailing and monitoring earnings management (Alzoubi, 2016). Ownership structure can influence or significantly constrain earnings management (Alves, 2012; Alzoubi, 2016). However, El Moslemany and Nathan (2019), Al-Fayoumi, Abuzayed and Alexander (2010) and Siregar and Utama (2008) found no significant relationship between ownership structure and earnings management, which they defined in terms of managerial ownership, institutional holders, blockholders and family ownership. These previous studies have shown no agreement on whether the ownership structures could curb earnings management. This may be due to the nature of ownership structures in the countries where these studies were conducted could have a role in these studies yielding different, unexpected results. Thus, further research is needed to determine the extent to which different ownership structures impact earnings management.

The ISA comprise another factor that might reduce earnings management. The current study proposes that earnings management could decrease with the introduction of the ISA because the quality of auditing performance improves on adopting the ISA. According to Piot and Janin (2005), high-quality auditing could reduce earnings management and the inclusion of misleading information in earnings reports. Boolaky and Soobaroyen (2017) and Vanstraelen and Schelleman (2017) claimed that high-quality audits enhance the reliability of financial reports, and ISA adoption helps improve audit quality. Humphrey, Loft and Woods (2009) indicated that implementing the ISA in auditing financial reports

is expected to enhance the transparency of these reports for global investors. Further, Hayes, Gortemaker and Wallage (2015) argued that the ISA allow auditors to ensure trustworthy, credible financial reporting, which in turn promotes high-quality accounting information. Moreover, Sylph (2005) found that the most effective way to increase the quality of auditing performance is to apply the ISA.

In an empirical study, Köhler (2009) found that after the ISA were adopted throughout Europe, data from the Big 4 audit companies operating in the European Union indicated a considerable increase in the reliability and quality of audited financial statements. Therefore, under the ISA, the quality of auditing performance is likely to improve, which could constrain earnings management. Regarding previous empirical studies, there are a number of studies that have examined the role of external audit in limiting the level of earnings management (e.g., Alzoubi, 2018; Alves, 2013; Alhadab and Clacher, 2018; Chen et al., 2005; Chi et al., 2011; Chen et al., 2011; Habbash, 2010; Piot and Janin, 2007; Van Tendeloo and Vanstraelen, 2008; Yasser and Soliman, 2018). However, none of these studies has provided evidence of ISA's effect on earnings management. Therefore, the current study fills this gap by examining the effectiveness of the ISA in constraining earnings management.

Taking the IFRS and previous studies into consideration, as stated, these studies have offered different results. They have examined the impact of the IFRS on earnings management and have showed different and unexpected outcomes. In other words, it is not yet clear whether the implementation of the IFRS could decrease earnings management. This, in turn, raises the question of whether the implementation of the IFRS could decrease earnings management. It can be argued that the manner of implementing the IFRS in the countries where these studies were conducted could have a role in these

studies yielding different, unexpected results. Undoubtedly, the implementation of the IFRS plays a fundamental role because if the IFRS were implemented improperly and inaccurately, it could have a massive negative impact on the earnings management and the quality of accounting information. As reported by Zéghal et al. (2011), a stronger implementation mechanism for the enforcement of the IFRS must be organised to ensure its effects as regards increasing the quality of accounting information and thus reducing earnings management. Ball (2006) also argued that the adoption of IFRS depends on the motives of the regulators to strictly implement the enforcement of IFRS. Various institutional settings where these studies were conducted could be another probable reason for these different results. In this regard, Campa and Donnelly (2016) examined European firms to determine how IFRS adoption influences earnings quality and found mixed results differing by country. They indicate that a possible reason for the conflicting outcomes is different institutional settings.

Hence, this study focuses on a specific country, Saudi Arabia, which has not only made a significant change from the Saudi GAAP to the IFRS but has also been experiencing active efforts by the Saudi Government to ensure the appropriate, effective implementation of the IFRS. All companies have also prepared well for implementing the IFRS by training their accountants to understand and apply these standards (Alzeban, 2018). This, in turn, means that the IFRS in Saudi Arabia is implemented and enforced properly and effectively. Therefore, because these standards are implemented and enforced properly in Saudi Arabia, the current study tests and evaluate the impact of the IFRS on earnings management.

In terms of prior studies and ownership structure, these have investigated the role of ownership structure in constraining earnings management such as El Moslemany and

Nathan (2019), Alzoubi (2016), Alves (2012), Al-Fayoumi, Abuzayed and Alexander (2010) and Siregar and Utama (2008). There is some controversy over whether ownership structure can eliminate or at least reduce earnings management. Therefore, further research is needed to determine the extent to which different ownership structures affect earnings management in Saudi Arabia, which has different regulations and ownership structures from those of other countries. The Saudi Government mainly adheres to Islamic laws, and most government institutions and systems are required to comply with Islamic laws. Most businesses are public and have concentrated ownership (Al-Bassam, Ntim, Opong, & Downs, 2018). Cultural factors, such as kinship and tribal affiliations, also informally influence the ownership structures of Saudi firms (Al-Bassam et al., 2018). Further, the Saudi ownership type is concentrated shareholding by institutions, blockholders, governments and families. Until recently, the direct holding of foreign equity was prohibited. This type of ownership structure may play an important role in decreasing managers' opportunistic behaviour, such as earnings management. Moreover, there is a dearth of empirical studies exploring the role of ownership structure in Saudi within different accounting areas (Al-Faryan & Dockery, 2017). Therefore, this study fills this gap by examining the role of ownership structure in constraining earnings management in the Saudi Arabian context.

Based on these outlined issues, this study aims to answer the following questions:

- Does the implementation of the IFRS influence earnings management in listed Saudi companies?
- Does the implementation of the ISA influence earnings management in listed Saudi companies?
- Does ownership structure influence earnings management in listed Saudi companies?

1.4 Contribution and Significance of This Study

1.4.1 Contribution to Knowledge

First, earnings management has become a significant concern for policymakers and stakeholders. It has also received significant attention in the literature on accounting. Many studies have sought to identify factors that might decrease earnings management. For example, Constantatos (2018), Gulzar (2011), Katmon and Al Farooque (2017) and Lin and Hwang (2010) investigated the impact of the corporate governance code in limiting the level of earnings management practices. Alzoubi (2018), Chen et al. (2005) and Piot and Janin (2005) investigated the association between earnings management and audit quality. Hong and Andersen (2011) explored whether corporate social responsibility is negatively related to earnings management. However, one particularly significant aspect of the current study is its focus on a factor that has not been explored, which may affect the level of earnings management practices (i.e., the ISA). Boolaky and Soobaroyen (2017) and Vanstraelen and Schelleman (2017) claimed that high-quality audits enhance the reliability of financial reports, and ISA adoption helps improve audit quality. Moreover, Sylph (2005) found that the most effective way to increase the quality of auditing performance is to apply the ISA. Several empirical studies have reported that high-quality auditing could be related to reductions in earnings management, including Alzoubi (2018), Chen et al. (2005) and Piot and Janin (2005). Thus, the current study proposes that earnings management could decrease with the introduction of the ISA because the quality of auditing performance improves on adopting the ISA. In terms of previous empirical studies, there are a number of studies that have investigated the role of external audit in limiting the level of earnings management (e.g., Alzoubi, 2018; Alves, 2013; Alhadab and Clacher, 2018; Chen et al., 2005; Chi et al., 2011; Chen et al., 2011; Habbash, 2010; Piot and Janin, 2007; Van Tendeloo and Vanstraelen, 2008; Yasser and

Soliman, 2018). However, to the best of the researcher's knowledge, none of these studies has provided evidence of ISA's effect on earnings management. This could be due to the ISA indirectly affects the level of earnings management practices. Therefore, the present study makes a significant contribution to the existing knowledge by exploring the effectiveness of the ISA in constraining earnings management in Saudi Arabia (an example of a developing country).

Second, previous studies have shown no agreement on whether the enforcement of the IFRS could reduce earnings management. In other words, this means there is an obvious and essential need for a more detailed study. Therefore, the current study contributes to the field by identifying the actual association between earnings management and IFRS implementation. Further, given the dearth of research investigating the effectiveness of the IFRS in constraining earnings management in the Saudi Arabian context since 2017 when listed Saudi companies started to apply the IFRS in their financial reporting, the present study also contributes to bridging the gap in the literature on earnings management and the IFRS in this specific context.

Third, an exciting characteristic of investigating this issue in the context of Saudi Arabia is the unique nature of its business environment. The Saudi Government has decreed several alterations to the regulations towards improving the quality of financial statements, such as the adoption of international standards and the implementation of the latest version of the country's corporate governance codes, which was updated in 2016. The Tadawul, which was established in 2007 and is the only stock exchange in Saudi Arabia, is considered the most liquid stock market in the MENA region and has the largest market capitalisation in the region. The majority of investors in the Saudi stock exchange (Tadawul) are domestic investors, and there are a few foreign investors. Since the

different firms listed on the Tadawul may represent different types of ownership structures, it would be advisable to study the relationship between ownership structure and earnings management. Further, Al-Faryan and Dockery (2017) mentioned that 'empirical studies of governance issues in Saudi Arabia, including ownership structure, are limited to a few areas' (p. 414). Therefore, the present study contributes to expanding the limited studies on ownership structure in Saudi Arabia by providing a full investigation and a deep understanding of how ownership structure affects earnings management in the country. The related prior studies conducted in other countries have yielded differing results, and this study thus provides the excellent opportunity of examining and comparing its findings with those of the earlier studies.

Fourth, based on agency theory assumptions, the IFRS, audit quality, and ownership structure could curb earnings management. The results of most previous studies have not supported this assumption. These studies have been conducted in Western countries, and the findings from these studies do not necessarily apply in all other countries' settings. This opens the window for future studies to consider other countries with a different business environments and regulations. However, the current study will be conducted in the Islamic Arab world. Islamic laws have strict moral and ethical codes forbidding earnings management. The practice of any financial mismanagement is considered anti-Islam, and the religion specifies punishments for offenders as a deterrent. Even in routine banking services, operators are forbidden to exploit customers for profit. Therefore, organisations which follow Sharia principles, such as Islamic banks (Quttainah, Song, & Wu, 2013) and corporations (Elghuweel, Ntim, Opong, & Avison, 2017), are less likely to practise earnings management. The synergistic effect of corporate governance and Islamic law in reducing earnings management in Islamic banks has also been demonstrated by Mersni and Ben Othman (2016). This universal truth is applicable to any

Islamic country, including those in Gulf Region and MENA, and especially to the strongly Islamic Saudi Arabia. Furthermore, this effect of religiosity is not found with other religions. The studies cited above show that even in Western countries, earnings management is lower in organisations that follow Sharia principles. Thus, the current study could provide interesting, new evidence from a country regarded as representative of Middle Eastern and Arabic countries and oil-dependent industrial countries and from a country in which most financial statutory principles are based on Islamic rules.

Fifth, the current study is also distinct in that it focuses mainly on one national zone and uses unique data from an emerging market. Prior studies on the relationship between the IFRS and ownership structure with earnings management uses international datasets, such as Barth et al. (2008), Aussenegg, Inwinkl and Schneider (2008), Gopalan and Jayaraman (2012), and Eng, Fang, Tian, Yu and Zhang (2019). Grougiou, Leventis, Dedoulis, and Owusu-Ansah (2014) indicated that earnings management proxies are impacted by 'noise' in different environments across countries. Thus, the current study focuses on a particular country context in the Middle East region, which is Saudi Arabia.

Sixth, previous research has separately examined the impact of the IFRS, the ISA and ownership structure on earnings management in the emerging market. However, to the best of the researcher's knowledge, this study is the first study that examines those components jointly.

1.4.2 Statement of Significance

The significance of this research arises from two factors. First, in Arabic countries, the IFRS and the ISA are recent phenomena. Therefore, an empirical examination of the effect of the IFRS and the ISA on earnings management is needed. In 2017, the SOCPA began to require companies that are listed on the Tadawul to apply the IFRS in their

financial reporting. It has also requested all audit companies working in Saudi Arabia to audit the financial statements of Tadawul-listed companies in accordance with the ISA guidelines (SOCPA, 2018a). Further, the ownership of Saudi listed firms is highly concentrated, unlike in many other countries, such as the United States and the United Kingdom, which have a dispersed ownership structure. Hence, earnings management can be affected by this trait because concentrated ownership may play an important role in decreasing managers' opportunistic behaviours, such as earnings management. Therefore, this study has an excellent opportunity to evaluate the effects of enforcing the IFRS and the ISA and of ownership structure on accrual earnings management in the Saudi Arabian context. In other words, the current study will shed light on the effectiveness of the IFRS, the ISA and ownership structure on improving accounting information quality in Saudi Arabia. This study will also help establish a foundation for the importance (to companies) of following the guidelines of financial standards. Moreover, it will improve the knowledge and awareness about the important role of the IFRS, the ISA and ownership structure in monitoring the reliability and transparency of accounting information. Further, this study will provide insights for small- to medium-sized companies that have not implemented the IFRS thus far. The results of this study may also be useful to stock exchange participants, stakeholders and government bodies since it will present insights into the level of accrual earnings management in Saudi listed companies and evaluate the role of the IFRS, the ISA and ownership structure in decreasing earnings management.

Second, Saudi Arabia is the most important country in the MENA region. It is the largest, most quickly developing country in the region, and it is also the largest oil producer. Although Saudi Arabia is a highly traditional Islamic country, many social and structural reforms have taken place, creating a new culture that combines the best of Islamic and

Western cultures. However, the country's economy has suffered from low oil prices in recent years. Therefore, Saudi Arabia wants to diversify its production beyond oil. The country also wants to accelerate its economic growth to become a dominant global force. Although the diversification process started much earlier, Vision 2030, implemented by the Saudi Government in 2016, is on track to accelerate Saudi Arabia's economic growth. The Saudi Government has also implemented many social reforms to improve the country's image abroad and attract foreign investments. Saudi Arabia needs huge foreign investments for this purpose as well. Foreign companies considering such investments expect international standards, such as the ISA and the IFRS to be implemented, especially since these foreign companies have already been following these standards for a long time. However, in Saudi Arabia, these standards have only recently been implemented. Currently, an initial evaluation of the impact of these standards on firms' financial management is needed. Therefore, the present study conducts such an evaluation with a focus on earnings management.

1.5 Structure of the Thesis

This chapter has provided an overview of the topic and the aims of the study, including the study questions. It has also discussed the contributions and significance of the current study.

This section provides an outline of this thesis, which is organised as follows. The background of the IFRS, the ISA, ownership structure, the development of accounting and the economy of Saudi Arabia are explained in Chapter 2.

A detailed review of earnings management is provided in Chapter 3. This review includes the definition of earnings management, the motivations behind earnings management, the

methods that managers have used to manage earnings and the models used to detect accrual-based earnings management.

The factors that mitigate earnings management are also discussed in Chapter 4, which further provides a comprehensive review of the literature on the effect of the IFRS, the ISA and ownership structure on mitigating earnings management. This chapter also describes the theoretical frameworks that are used to explain the relationship between earnings management and the factors that mitigate it, which include the IFRS, the ISA and ownership structure.

Chapter 5 outlines the research methodology used in the current study. The measurement of the dependent, independent and control variables is defined and illustrated in detail. The empirical research model used in this study is also explained. In addition, this chapter describes the sample used in the study, the method of data collection and the analytical methods used to examine the hypotheses of the current study.

The descriptive statistics for all the variables, along with the results and discussion of the impact of the IFRS, the ISA and ownership structure on earnings management are presented in Chapter 6. Last, Chapter 7 presents a summary of the overall results of the study, along with the study conclusions. The limitations, implications of the current study and some suggestions for future research in the area of earnings management are also included in this chapter.

Chapter 2: Background of International Financial Reporting Standards and International Standards on Auditing in Saudi Arabia

2.1 Introduction

The background and structure of the thesis, along with its aim, was provided in Chapter one. The aim of this study is to examine the impact of the IFRS, the ISA and ownership structure on earnings management. This chapter provides a review of the background of the IFRS and ISA standards in Saudi Arabia. This chapter is organised as follows: Section 2.2 discusses the development of accounting in the country and Section 2.3 discusses the Saudi Arabian economy. Sections 2.4 and 2.5 of this chapter review the history of the International Financial Reporting Standards (IFRS) and the International Standards on Auditing (ISA), respectively, and discuss both in the context of Saudi Arabia. Finally, Section 2.6 presents the ownership structure in Saudi Arabia.

2.2 The Development of Accounting in Saudi Arabia

According to Napier (2006), it is significant to recognise the developmental phases of accounting since this development plays a significant role in changes to business as well as society. The accounting and auditing professions in Saudi Arabia have a shorter history than in developed states, which have a long, rich history of high-level practice and application in the field (Falgi, 2009). According to Alangari (2012), the auditing and accounting profession in the context of Saudi Arabia has been through a number of transitional phases. The income tax law passed in 1950 is the foundation of the simple practices that made accounting and auditing quite common practice. At that time, there were no audit firms in Saudi Arabia, and hence, this law represents the first effort towards regulating accounting and auditing in Saudi Arabia (Habbash & Alghamdi, 2017).

Before 1930, Saudi Arabia had no laws regulating accounting and auditing. The *Companies Law*, which was passed in 1965, provided a set of legal instructions and regulations for the profession, mostly on the organisation of professional accounting and auditing. This law required companies to have their financial statements audited. However, minimum professional criteria, such as consistent accounting standards and definitions of due professional care, were not necessarily met by this law (Habbash & Alghamdi, 2017). At this stage, most companies operating in the auditing field employed guidelines of ethics and behaviour sourced from other countries (Alangari, 2012; Alsudairi & Alangari, 2004). The deficiency of local auditors and professionals and the lack of accounting education were felt to a high degree in 1950–1965 (Falgi, 2009). During that period, the auditing profession thrived in Saudi Arabia, and several auditing licences were issued (Alghamdi & Alangari, 2005).

The Saudi law establishing certified public accountants, which was issued in 1974, is known as the first law of auditors. It is also considered the foundation stone of this profession (SOCPA, 2019). The work of Al-Rashed Consultants and Accountants, a professional national accounting firm, provides an example. This firm conducted research comparing the status of the auditing and accounting profession in multiple countries. Moreover, King Saud University organised a number of symposiums to support the advancement of the accounting profession and to enable Saudi accountants to share their views with others (Alangari, 2012; SOCPA, 2019). King Saud University also made significant contributions to the profession by establishing the Saudi Accounting Association, which played a central role in the establishment of the four consultative boards that deal with accountancy regulatory systems, training and professional guidelines, education, accounting standards and ethical codes (Alangari, 2012; SOCPA, 2019).

The initiative taken by Saudi Ministry of Commerce and Investment in 1985 led to the issuance of the first set of accounting and auditing standards in Saudi Arabia. While this was a significant milestone, these standards have a number of flaws: They are not comprehensive and fail to address some significant issues. They have also failed to establish monitoring and quality review programs, making it impossible to ensure compliance. Hence, it was up to the practitioners to voluntarily comply with these standards; they were not obligated or put under pressure to comply with them (Bakr, 2020).

The issuance of the second law of certified public accountants in 1992 (known as the second law of auditors) led to major changes in the field. Article (19) of the law states that an organisation should be founded under the name of the SOCPA—a professional, quasi-independent organisation working under the supervision of the Saudi Ministry of Commerce and Investment. The SOCPA is accountable for regulating the accounting and auditing profession as well as all issues that may contribute to the development of the profession and further enhance its status. In the year 1992, which also marks the establishment of the SOCPA, a crucial transitional period began for the Saudi accounting and auditing profession. This organisation hosted worldwide conferences that brought experts and academic researchers to Saudi Arabia; these experts conducted important research that significantly affected the development of accounting and auditing standards and improved the profession (SOCPA, 2019).

The SOCPA has more than 80,000 members, and it was given the task of issuing, reviewing and developing local accounting and auditing standards in Saudi Arabia before the IFRS and the ISA were activated. The SOCPA (2019) also organises fellowship exams; hosts sustainable education programmes; issues fellowship certificates, conducts

research on auditing, accounting and other relevant fields; and participates in local and global commissions and seminars related to the auditing and accounting profession.

Prior to 2015, the SOCPA managed to issue 15 auditing standards, 22 accounting standards and a substantial number of interpretations and professional opinions on accounting and auditing. In these statements, the SOCPA follows the best available practices from the United States, the United Kingdom and international standards so as to fulfil its objective of developing, monitoring and approving established accounting standards (Nurunnabi, 2017a). However, following these major developments the SOCPA realised that the local Saudi accounting standards were neither efficient nor comprehensive enough to meet the needs of the modern business environment. Therefore, the SOCPA decided to transition Saudi accounting and auditing to comply with the IFRS and the ISA (SOCPA, 2018a). This is a very important incident in the history of accounting in Saudi Arabia.

The first step of this transition was an investigation of its feasibility. The SOCPA board established an administrative committee that included representatives from the accounting and auditing standards committees as well as from the Saudi Ministry of Finance, the SAMA and the Tadawul. This steering committee held several meetings to discuss the issues around a transition from local Saudi standards to international standards. It was also briefed on studies conducted by the IASB. These studies showed that many other countries had adopted or had devised plans for adopting international standards. The steering committee used these studies to identify the advantages of adopting international standards and to avoid potential problems or disadvantages. However, the studies identified more pros than cons; the cons are primarily linked to the

degree to which the local business environment is ready to adopt international standards (SOCPA, 2019).

Within the scope of the yearly plan, the SOCPA has established several specific training programs mainly focused on implementing the IFRS and the ISA. The basic and the associate SOCPA members are the targeted attendees for these courses, as well as accountants who must obtain a fixed number of educational points annually. Targeted attendees also include those working in the profession who need to increase their theoretical awareness and functional skills relevant to the field of auditing and accounting (SOCPA, 2018a).

The development of the field in Saudi Arabia is clear; however, reduced audit fees, the monopoly of services and illegal competence continue to negatively affect the auditing profession and accounting in the Saudi Arabian context. The auditing profession and accounting is threatened by these issues, all of which impair audit quality (Habbash & Alghamdi, 2017).

2.3 Economy of Saudi Arabia

Before examining the economic features of Saudi Arabia, this section will provide a brief introduction to Saudi Arabia. The country has a quite unique location, taking a central position in the ancient part of the world (Europe, Asia and Africa). With an area of about two million square kilometres, Saudi Arabia is the 14th largest state in the entire world. It covers four-fifths of the Arabian Peninsula, making it the largest country in the Middle East. The country is bordered by the Red Sea to the west; by the United Arab Emirates, the Arab Gulf and Qatar to the east; by the Sultanate of Oman and Yemen to the south; and by Kuwait, Jordan and Iraq to the north. The national currency is the Riyal, and the capital city is Riyadh. In 2019, according to the General Authority for Statistics (2019),

the total population of Saudi Arabia was 34.2 million people; 61% of these (20.9 million people) were Saudi nationals, and nearly half of these were under the age of 25 years. The regions of Makkah and Riyadh have the densest populations.

The identity of Saudi Arabia is shaped by the Islamic religion. The Qur'an—the Holy Book of Islam—and the Sunnah—a summary of the practices and teachings of the Prophet Muhammad, peace be upon him—are considered the constitution of the state and also the foundation of 'Sharia'. Sharia means the way or method for life, according to the rules of God and His Messenger (Alghamdi, 2012). The official national language is Arabic. The country is ruled by a monarch, currently King Abdulaziz, and the Al-Saud family. It is the King's responsibility to appoint a crown prince from among his descendants. The position of Prime Minister is usually held by the King as well, which enables him to appoint the members of the Council of Ministers. The members of the advisory council, or the Shura Council, are also appointed by the King. This Council comprises 150 members who make suggestions about amending and updating old laws and enforcing new laws. Last, Saudi Arabia, where the holy mosques of Makkah and Madinah are situated, is known as the cradle of Islam. The King is called the 'Custodian of the Two Holy Mosques'.

The Saudi economy is significant as well. Oil, which was discovered in 1936 (Alghamdi, 2012), is the primary source of national revenue (Samargandi, Fidrmuc, & Ghosh, 2014). In less than two decades after the oil was first discovered, the country transformed itself into one of the world's leading oil producers. Current estimates suggest that Saudi Arabia is home to 25% of the world's untapped crude oil reserves, which gives the country an undisputed status as the leader of the global petroleum trade (Samargandi et al., 2014). However, the nation's economy also underwent a fundamental transformation over a

short period, from a local, agrarian system to a regional force and, with the addition of modern infrastructure, a global force. Considering its position as the leading state in oil production and export, it is only natural that petroleum plays a central role in the Saudi economy (Samargandi et al., 2014). However, over the past five decades, the Saudi Government has made multiple efforts to diversify its economy, and the country is now producing and exporting a wide range of industrial products. The Saudi economy was heavily dependent upon oil; however, the government has demonstrated a strong desire to diversify the economy away from the oil industry. Saudi leaders realised that this goal would require a meticulous economic plan with clear objectives and detailed plans for accomplishing specific targets. In consequence, in 1970, the first Development Plan was passed. This plan was divided into several five-year planning periods that are still ongoing. By 1995, the non-oil sector was already responsible for 75% of the country's GDP, an increase from the previous indicator of 46% that raised the GDP to US$125.1 billion. The GDP has steadily increased since then; it stood at US$782 billion in 2018 (Aloui, Hkiri, Hammoudeh, & Shahbaz, 2018). The economic and industrial advancement of the country is directly bound up with the government. The Ministry of Economy and Planning plays a huge role in the country's efforts by setting long-term objectives and formulating plans to ensure the country's social and economic development. Several other ministries focus on their own fields, including agriculture, transportation, communications, energy and finance.

Habbash, Hussainey and Awad (2016) stated that the Saudi economy alone accounts for 25% of the GDP of the entire Arab world and also for 44% of Arab nations' global market capitalisation. In 1975, only 14 companies were listed on the Tadawul (Al-Razeen & Karbhari, 2004). This figure has increased dramatically, reaching 179 in 2017 (Tadawul, 2020). Moreover, according to Habtoor, Ahmad, Mohamad and Che Haat (2017), on

average, Saudi firms are twice as large as other companies worldwide. The Saudi private sector is also becoming increasingly important to the economy; nearly half (48%) of the GDP is produced by the private sector (Samargandi et al., 2014). Further, since the country welcomes foreign investors with open arms, the private sector is expected to continue to thrive. In December 2005, Saudi Arabia joined the World Trade Organization, and this membership has given the country greater access to global markets and has attracted more foreign investors.

The Saudi economy plays a significant role in the Muslim and Arab commercial worlds and is the biggest economy in the Middle East (Habtoor et al., 2017). Saudi Arabia is also a founding member of some of the most important global organisations, including the United Nations, the Organisation of the Islamic Conference and the Gulf Cooperation Council. It is also a member of the World Bank, the International Monetary Fund, the World Trade Organisation and G20, an organisation that defines itself as 'a leading forum of the largest economies of the world seeking to develop global policies so as to address the most severe challenges we have today' (Nurunnabi, 2017b, p. 339). Saudi Arabia is also an important OPEC member (OPEC, 2018). These affiliations highlight the nation's importance on the international stage, which is one reason for this thesis's focus on the country.

2.3.1 Vision 2030

According to Trading Economics (2018a), the per capita GDP of Saudi Arabia was US$20,775.20 in 2018. The petroleum sector generates nearly 80% of total revenues in Saudi Arabia, and hence, fluctuations in oil prices affect GDP growth. Aiming to stabilise its economy, the Saudi Government determined to diminish its oil dependence and diversify its main income sources. To do this, the government adopted innovative

strategies to diversify the economy and satisfy the employment demands of Saudi Arabia's young population. Developing the private sector is also central to these strategies (Vision 2030, 2018).

In 2016, Saudi Arabia issued plans for major changes in the light of Saudi Vision 2030. This plan aims to convert the nation's economy, which is almost exclusively dependent on oil, to a more diversified economy (Jurgenson, Bayyari, & Parker, 2016). Crown Prince Mohammed bin Salman introduced Saudi Vision 2030 in response to the critical need to plan for the future of the Kingdom of Saudi Arabia (Dahim, 2018). Saudi Vision 2030 is an ambitious initiative to liberalise the economy to a significant degree. It also incorporates social reform, which marks a major socio-economic change in the country's history. Saudi Vision 2030 is considered a historical turning point and may have a large influence on the nation's economy and culture (Fattouh & Sen, 2016). Regarding Saudi Vision 2030, the Crown Prince Mohammed bin Salman has stated, 'All success stories start with a vision, and successful visions are based on strong pillars'. These pillars are listed below (Vision 2030, 2018):

> The first pillar of our vision is our status as the heart of the Arab and Islamic worlds. We recognise that Allah the Almighty has bestowed on our lands a gift more precious than oil. Our Kingdom is the Land of the Two Holy Mosques, the most sacred sites on earth, and the direction of the Kaaba (Qibla) to which more than a billion Muslims turn during prayer.
>
> The second pillar of our vision is our determination to become a global investment powerhouse. Our nation holds strong investment capabilities, which we will harness to stimulate our economy and diversify our revenues.
>
> The third pillar is transforming our unique strategic location into a global hub connecting three continents, Asia, Europe, and Africa (p. 6).

Geographically, Saudi Arabia is strategically located between global waterways. This makes the country a hotspot for commerce as well as a gateway to global markets. Saudi Vision 2030 is designed to support and diversify the country's economic potential, switching basic strength tools for a completely diversified future. For example, Saudi Vision 2030 calls for the Saudi Arabian Oil Company (i.e. Saudi Aramco) to convert from an oil producer into an international industrial conglomerate. It also calls for national investment funds to be transformed into the world's largest sovereign wealth fund. Further, Saudi Vision 2030 encourages large firms to expand across borders and take their rightful position in the world markets. Moreover, Saudi Vision 2030 attempts to create more employment opportunities for the national workforce. The plan is to retain most resources within the country. Vision 2030 also calls for the use of more digital tools and services, which will help decrease delays and bureaucracy in the public sector. Saudi Vision 2030 has also created a body to measure the performance of government organisations and identify shortcomings, and it implements measures to increase government transparency and accountability through this body (Vision 2030, 2018).

According to Vision 2030, welcoming non-Saudi investors into the country will enhance and raise the productivity of the Saudi business environment. This increase will support the restructuring of economically important Saudi cities and the deregulation of the energy market to increase its competitiveness (Vision 2030, 2018). The Saudi Arabian General Investment Authority, which was established in 2000, is a remarkable development in Saudi laws aimed at enhancing and facilitating direct investments from abroad. With this regulation, foreign investors can obtain the entire ownership of companies and pay reduced income taxes; they can also own residential or commercial real estate in a city of their choice, with the exception of the Kingdom's two holy cities (Makkah and Madinah; Hussein, 2009). Further, according to the new Saudi Arabian

General Investment Authority rules, foreign investors can purchase stock on the Tadawul or build their investment projects without a citizen partner. These rules demonstrate Saudi Arabia's desire to bring in foreign investors to strengthen its economy. Saudi Arabia has an objective of raising FDI from 3.8% of its GDP to 5.7% by 2030 (Vision 2030, 2018). This goal is a priority for the Saudi Government. The state agreed to pay huge fees (exceeding US$1 billion) to administration advisors for counsel on the state's economic transformation plan. State officials and global companies, including Boston Consulting Group and McKinsey and Co, are devising specific plans to shape the future of Saudi Arabia (Bianchi, Martin, & Nereim, 2016). However, there is no doubt that the business sector plays a crucial role in fulfilling the goals set forth in Vision 2030. Therefore, one of the ambitious economic targets of Vision 2030 requires increasing investor trust in the Saudi market. This is only possible if Saudi firms refrain from earnings management, thereby increasing the quality of financial reporting and thus attracting foreign investors. Therefore, the Saudi Government has introduced some regulations, including the requirement to implement international standards, such as the ISA and the IFRS and updates to corporate governance codes, in order to improve firms' financial reports and develop the Saudi business environment.

2.4 Background of International Financial Reporting Standards in Saudi Arabia

This section covers the adoption of the IFRS in Saudi Arabia. It begins by providing a general overview of IFRS. Then, it thoroughly covers the adoption of the IFRS in Saudi Arabia. Ball (2006) defines the IFRS as 'accounting rules (standards) issued by the International Accounting Standards Board (IASB), an independent organisation based in London, UK. They purport to be a set of rules that ideally would apply equally to financial reporting by public companies worldwide' (p. 6). After the end of World War II,

international trade reached a new level; it started to grow rapidly as many firms expanded globally. There is no question that as the globalisation of business increased, so did the demand for 'international' accounting standards. In order to satisfy this increasing demand, the International Accounting Standards Committee (IASC) was founded in 1973. The IASC included the following nine member states: the United States, the United Kingdom, Canada, France, Japan, Australia, New Zealand, the Netherlands and South Africa (Zeff, 2012). At that time, the IASC had a number of aims, including formulating and publishing accounting standards for use in financial statements, promoting global acceptance of these standards and improving and harmonising accounting standards as well as applying them to corporate financial reporting (Nobes, Parker, & Parker, 2008).

The IASC issued 25 different accounting standards prior to 1987. A number of accounting methods were used in these standards because they were developed based on accounting practices in various nations. The IASC also approved acceptable alternative accounting approaches to certain accounting problems (Bonham, 2008). However, the IASC was concerned about these varied approaches, and therefore, to minimise the number of allowed alternative methods, the board conducted a project to improve accounting and the comparability of different methods. The IASC founded the Standing Interpretations Committee in 1997, which examined accounting issues that needed authoritative supervision to decrease unacceptable practices. These efforts had positive results, reducing the number of alternative accounting methods in use (Bonham, 2008).

In 2000, the IASC was restructured and renamed as 'International Accounting Standards Board' (IASB). This restructuring was aimed at enhancing the quality of the board's accounting standards. The term 'IFRS' is still used to reference the standards set by the IASB. The primary objective of the IASB and the IFRS Foundation is to develop

accounting standards that offer efficiency, credibility and transparency to the world's financial markets. The IFRS ensures transparency by improving the quality and the global comparability of financial information and by giving investors and other members of the market the opportunity to take economic decisions based on reliable information. The enhanced accountability ensured by the IFRS has reduced the information gap between capital providers and those to whom they entrust their capital (Henderson, Peirson, & Herbohn, 2008). The IFRS address a number of accounting principles, including presentation, measurement, recognition and disclosure. These are considered the most crucial elements; they form the foundation of accounting standards, and several factors were considered in the decision to focus on these principles (Nicoleta, Victoria, & Mariana, 2009).

The predetermined objectives of the development of the IFRS are explained in the IASB's Foundation Constitution:

> to develop, in the public interest, a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles. These standards should require high quality, transparent and comparable information in financial statements and other financial reporting to help investors, other participants in the world's capital markets and other users of financial information make economic decisions. (IFRS, 2012, p. 9)

A set of international high-quality standards could remove obstructions to global investments and increase the usefulness of firms' financial reports by enhancing reliability, comparability and transparency. There is room for further improvement in the timeliness, verifiability and comprehensibility of financial reports. The mentioned objectives are assumed to start a causal chain leading to positive economic returns in capital markets owing to higher-quality information that enables companies to minimise

capital costs through efficient allocation of funds. Consequently, employment rates and economic growth will peak and companies will become more competitive. All of these benefits are projected when the IFRS are adopted (Henderson et al., 2008).

The IASB has three primary objectives. First, it seeks to promote the global harmonisation and convergence of accounting practices. Second, it promotes the strict application of accounting standards worldwide. Third, it develops understandable, enforceable international accounting standards, which support all users of financial statements in decision-making processes since these standards result in transparent, comparable, high-quality information (Ball, 2006).

In 2002, the European Union imposed a requirement for European listed firms to adopt the IFRS in combined financial statements, resulting in the broad implementation of the IFRS. This legislation was endorsed in 2005; after that, over 7,000 firms based in 30 different European countries began to apply the IFRS to their financial statements (Jermakowicz & Gornik-Tomaszewski, 2006). The list of countries adopting the IFRS was extended with the inclusion of Australia, Hong Kong and South Africa in 2005. Canada, New Zealand, Korea and Nigeria decided to apply the IFRS in the following years. Other major world economies, China and the United States, also collaborated with the IASB with the aim of converging the IFRS with their own national GAAP. According to the latest statistics, about 120 of the world's countries and reporting jurisdictions permit and require firms listed in those states to conform to the IFRS in financial statements (American Institute of Certified Public Accountants, 2018).

In the Saudi context, Saudi Arabia became a member of the Group of Twenty Finance Ministers and Central Bank Governors (G20) in 2009. The Saudi economy has strong relationships with different states and their economies. Some Saudi-based companies

have established subsidiaries in other states, and a number of international firms have also established subsidiaries in Saudi Arabia. Moreover, most of the firms listed on the Tadawul conduct significant amounts of business internationally. The Saudi Government is also seeking to attract more foreign direct investment (FDI) into Saudi Arabia. The IFRS adoption in Saudi Arabia will play a fundamental role in enhancing the quality of financial statements and increasing investor confidence. All of these factors have significantly influenced the considerations of whether Saudi Arabia should apply international accounting standards such as the IFRS (Alsuhaibani, 2012).

In 2012, the board of the SOCPA, which is a professional organisation founded in 1992 and operating under the Saudi Ministry of Commerce and Investment, decided in favour of moving towards convergence with the IFRS in Saudi Arabia (SOCPA, 2018a). Several members take management positions of this institution, which is held accountable for developing, monitoring and accepting accounting and auditing standards and some additional matters that can potentially solidify the improvement of the profession and take its status to the next level (SOCPA, 2019). Prior to 2015, the SOCPA had issued 15 auditing standards, 22 accounting standards and a huge number of interpretations as well as professional opinions related to accounting and auditing by considering the best practices established by the United States, the United Kingdom and international standards in order to develop, monitor and approve Saudi Arabia's accounting standards (Nurunnabi, 2017a).

In 2012, the SOCPA began to develop a new plan for transitioning to international accounting and auditing standards with the goal of converging with the IFRS and ISA. The specified target of this plan was to lead a transition to the IFRS after confirming that they were appropriate for the Saudi environment. This confirmation was achieved through

the SOCPA's independent standard-setting process (SOCPA, 2018a). The SOCPA's review of all IFRS, including interpretations, was an important part of this transition plan. After this review, the SOCPA was prepared to change IFRS requirements that contradicted Sharia or local law; such changes would take the Kingdom's level of technical and professional readiness into account. However, upon conclusion of the review, the SOCPA concluded that no IFRS needed to be amended. A few disclosure requirements were added to some standards, mostly to reflect Sharia or local law (IFRS, 2019; Nurunnabi, 2017a). In 2013, the SOCPA announced the transition to international standards, namely the IFRS and the ISA (Nurunnabi, 2017a; SOCPA, 2018a). The SOCPA issued a compliance decision notice requiring all publicly listed Saudi Arabia firms in to implement all IFRS guidelines for the fiscal period starting on 1 January 2017 (Nurunnabi, 2017a; SOCPA, 2018a).

IFRS reporting entails more work than the Saudi GAAP because additional disclosures are required, which means that users are better informed. Nurunnabi (2017a) examined the variances between the IFRS and Saudi GAAP, and they found

> that there are major differences between Saudi GAAP and the 15 IFRS studied: IAS 1 Presentation of Financial Statements; IAS 7 Statement of Cash Flows; Zakat and IAS 12 Income Tax; IAS 16 Property Plant and Equipment; IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors; IAS 17 Leases; IAS 19 Employee Benefits; IAS 21 The Effects of Changes in Foreign Exchange Rates; IAS 24 Related Party Disclosures; IAS 34 Interim Financial Reporting; IAS 36 Impairment of Assets; IAS 38 Intangible Assets; IAS 40 Investment Property; IAS 41 Agriculture; and IFRS 9 Financial Instruments. (p. 192)

These differences mean that the obligatory adoption of the IFRS by listed Saudi companies has instituted a new era of financial statement practices and might decrease

the degree of reporting discretion. The benefits of adopting the IFRS include higher-quality reporting, more transparency, improved comparability and a considerable increase in FDI. Saudi Arabia is seeking to eliminate its dependency on oil resources and applying IFRS reporting will play a fundamental role in drawing the attention of foreign investors.

Implementing the IFRS is a difficult process, but it is worthwhile since it will optimise the quality, harmonisation and comparability of financial statements. Implementing the IFRS offers benefits to stakeholders and maximises market efficiency by reducing capital costs (Aamir & Farooq, 2010). Cheong, Kim and Zurbruegg (2010) highlighted that the application of the IFRS offers more credible, on-point accounting information for stakeholders. For all these reasons, the IFRS have become a common set of accounting standards used by all members of the international market, and they have significantly improved the quality of financial reporting.

2.5 Background of International Standards on Auditing in Saudi Arabia

Before considering the period during which the Saudi Government adopted the ISA, this section will discuss the history of the ISA. Business processes have become increasingly complex due to globalisation. As a result, the technical side of financial reporting has become more complex and demanding than ever. In all countries, a number of cultural, political, legal and economic factors affect local accounting standards. A uniform international practice has become a necessity, especially for transnational corporates. This need is especially felt during international mergers. Some economic contexts have changed because of recent developments in the field. International standards, such as the ISA, may be viewed as the inevitable outcomes of this integration and of shifting economic attitudes worldwide (Smith, Sagafi-Nejad, & Wang, 2008). In accounting and

auditing, international standards, such as the ISA, increase the comparability and credibility of financial reporting on a global scale and enhance the quality of audit work, thereby encouraging international investment and stimulating the expansion of the scope developments focusing on the market (Botzem & Quack, 2006). Problems with the quality of financial statements and auditing standards during the Asian economic crisis in the late 1990s and the regulatory implications of the more recent global financial crisis in 2018 have increased the interest worldwide in the state and development of the ISA (Simunic, Ye, & Zhang, 2017). The high quality of the ISA enables auditors of different nationalities to communicate in one financial language, establishing international bonds among countries (Smith et al., 2008).

The ISA are issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC). The profession of accounting is represented by the IFAC, which was established in 1977. Its headquarters are located in New York, and it initially had 63 members from 51 countries. The IFAC (2019a) has reported that more than 130 countries at different levels of development have joined the organisation, and currently, the IFAC has 175 members. The primary objective of the IFAC is to safeguard public interest through the promotion, development and enforcement of globally accepted accounting standards. These standards are valuable for all accountants who work globally (Humphrey et al., 2009).

The title of the IAASB was International Auditing Practices Committee; it was founded in March 1978 and was reconstituted in 2002 before it was renamed. The staff of the IAASB consist of one full-time chairperson and 17 volunteer members from countries worldwide (IFAC, 2013). The aim of the IAASB is to serve

> the public interest by setting, under its own authority, high-quality international auditing, review, other assurance, quality control, and related services standards. The IAASB also seeks to facilitate adoption and implementation of international standards. These objectives contribute to enhanced quality and consistency of practice throughout the world, and strengthened public confidence in the global auditing and assurance profession (IFAC, 2013, p. 3).

The current version of the ISA includes 36 standards (IFAC, 2019a). The ISA are designed to provide guidance to auditors of financial statements. Along with the standards, the ISA include goals, applications, requirements and some supplementary materials that can help auditors be reasonably sure that financial statements are correct (Obaidat, 2007).

The public's perspective was also taken into account in the development of the ISA; the IAASB consulted with the Consultative Advisory Group. A variety of parties helped write the ISA, including accounting firms, investors and academics from 13 countries. However, the board is dynamic, meaning that board members are likely to change after a certain period. This rotation ensures that auditors from different countries are represented (Ye & Simunic, 2013). External audits and the legitimacy of auditors have been strengthened since the ISA were established (IFAC, 2013).

The European Union made some strides towards adopting the ISA in the 1990s (Humphrey et al., 2009). The Big 4 audit companies operating in the European Union have confirmed that the credibility and quality of audited financial statements have been enhanced since the region's adoption of the ISA (Köhler, 2009). The use of common auditing standards in the European Union has harmonised audits and increased audit quality (Soltani, 2007). The countries in this region are not the only ones that began adopting the ISA—countries located in regions other than the European Union also

noticed the upside of adopting the ISA and thus decided to adopt it as well. The enhanced credibility and quality of the audited financial statements, which encourage the public to have higher confidence and trust in financial reports, stand out as the principal features (Köhler, 2009).

In the Saudi context, as stated earlier, a number of reasons have led Saudi Arabia to adopt international standards, including the ISA. The country has joined the G20, its economy is directly bound up with other global economies and it has had to launch a number of programs to attract FDI and to increase investor confidence in financial reporting. As part of its plan for Saudi Arabia's transition to international standards, the SOCPA decided that audit companies operating in Saudi Arabia must apply the ISA principles from the fiscal period starting 1 January 2017 onwards. The SOCPA conducted a complete review of the ISA and concluded that no amendments should be made to the existing standards. Some extra disclosure requirements were added to certain standards in order to keep them in line with local laws (SOCPA, 2018b). The main advantages of adopting the ISA include enhanced cross-border investment, higher-quality reporting and increased transparency and comparability. In the long term, Saudi is seeking to become less oil dependent, and financial statements audited under the ISA can significantly increase investor confidence and draw more foreign investors to the state.

Undoubtedly, the application of the ISA is fundamental to enhancing the quality of audits (Sylph, 2005). A key advantage of using the ISA is that these standards provide a common language for investors, auditors and securities regulators in global capital markets. The ISA are just as significant as corporate governance and the IFRS to establishing a strong national financial system. This is because financial reports audited under the ISA are more

credible and of better quality, making it easier for investors to make economic decisions (Humphrey et al., 2009; Needles, Ramamoorti, & Shelton, 2002).

The costs of implementing the international standards could vary from company to company. The Institute of Chartered Accountants in England and Wales (ICAEW, 2007) indicated that the costs related to the IFRS application process include: forming an IFRS project team, training other workers such as management and the staff of internal audit and changing software and systems. Ernst & Young (2006) stated that the costs of the additional supplies demanded by firms to implement the international standards are high. Haverals (2007) also argued that the full implementation of the international standards leads to firms incurring high costs. It also suggested that a small firm could incur fewer expenses than a big firm. However, in Saudi Arabia, the international standards of small companies are in their early stages, and these companies require to apply these standards in 2018 (SOCPA, 2018a). Furthermore, the financial statements of these companies are currently unpublished. Therefore, the scope of the current study focuses on listed companies in the Saudi Arabia stock market (big businesses).

2.6 Ownership Structure in Saudi Arabia

Denis and McConnell (2003) define ownership structure as 'the identities of a firm's equity holders and the sizes of their positions' (p. 3). Generally, the ownership structure in a company is either concentrated or dispersed. Concentrated ownership means that one person or group holds the most influential position within the union of equity owners. When ownership is dispersed, influence and ownership are spread across a group that includes equity owners and managers. Companies in the United States and the United Kingdom have dispersed ownership structures (Haniffa & Cooke, 2002).

Share ownership does not have a constant structure since it can change because of changes in the national and capital markets. Economic and legal changes are prime examples of such changes. The ownership structure of Saudi companies is based on the country's unique circumstances, which makes it a unique element in the Saudi economy, and it has also changed over time for economic and legal reasons. This has a positive influence on companies' growth and has led to an increase in the number of banks operating in the Saudi capital market (SCM; Alhumoudi, 2016).

Saudisation is a program designed to transfer the ownership of foreign organisations and banks to Saudis. The transfer can be conducted in full or in part, and ownership can be transferred to individual groups or to the government. Some government-owned companies, including the Saudi Basic Industries Corporation, the Saudi Telecommunication Company and the Saudi Electricity Company, have been privatised. The Saudi Government also supports entrepreneurs seeking to establish new companies in various industries. For example, the Saudi Industrial Development Fund was established by the Saudi Government to provide loans and professional consulting in finance, technology, administration and marketing to borrowers. In addition, a number of individuals, groups and companies offer their services to help foreign companies establish entities in Saudi Arabia (Alakkas, 2016).

According to Al-Harkan (2005), only two studies published before 2005 examined Saudi ownership structure. In fact, tracing the ownership of listed companies in Saudi Arabia is a difficult task because the Laws of Companies of 1965 does not require that the identity of major shareholders or the company's ownership structure be disclosed to the public or to investors (Alajlan, 2004). However, the SCM has recently mandated that the ownership proportion of any company that owns 5% or more of a firm must be disclosed. Several

studies have attempted to examine the ownership structure of listed Saudi companies. In 2004, about 30% of the total listed firms were controlled by families and the government (Alajlan, 2004). According to the Saudi Arabian Monetary Authority (SAMA), in 2005, the dominant owners of the SCM were the government and a family (Al-Harkan, 2005). Currently, most listed Saudi companies are controlled by one person, organisation or group that owns the highest percentage of shares. This means that most listed companies have a concentrated ownership structure (Alsahlawi & Ammer, 2017; Amin & Hamdan, 2018).

The Tadawul, the biggest stock market in the MENA region, is the primary trading location for these companies. The Tadawul only allows major financial institutions, such as brokers, banks and fund managers, to trade on the platform (Trading Economics, 2018b). The SCM is responsible for supervising the Tadawul. According to the latest reports from Tadawul (2019), 191 publicly traded companies were listed on the exchange as of 1 January 2019. Until recently, non-Saudi (foreign) investors were not allowed to trade in most of the equity markets based in Saudi Arabia. However, in June 2015, these markets were made available to foreign investors for the first time. Decreasing oil prices and Saudi Arabia's overly aggressive and expensive foreign policy played a major role in this decision (Amin & Hamdan, 2018).

Given the fact that the ownership in Saudi listed firms is highly concentrated unlike in the other countries that have dispersed ownership, such as the United States and the United Kingdom, it means that the owners of Saudi listed firms may play an important role in decreasing managers' opportunistic behaviours, such as earnings management. In this regard, Ramsay and Blair (1993) clearly demonstrated that if unforeseen events occur due to a manager's opportunism, it is the owners who have the highest stakes and the

most to lose. Therefore, concentrated owners do everything in their power to monitor managers.

2.7 Chapter Summary

This chapter provided a review of the background of the Saudi Arabia environment, regarding the adoption of the IFRS and ISA, and presented information about the nature of corporate structure and the development of accounting in Saudi Arabia. along with the economic features of Saudi Arabia.

Chapter 3: Literature Review

3.1 Introduction

The background of the IFRS, the ISA, ownership structure, the development of accounting and the economy of Saudi Arabia were described in the previous chapter. This chapter provides a review of prior literature on earnings management. This chapter is organised as follows: Section 3.2 discusses the definition of earnings management. Section 3.3 describes managers' motivations to engage in earnings management. Earnings management methods are discussed in Section 3.4, and Section 3.5 explains various models used to measure accruals-based earnings management. Chapter 3 is summarised in Section 3.6.

3.2 Definition of Earnings Management

Financial reporting is a major part of an organisation's communication with stakeholders about its financial performance and status. Financial information must be credible and timely (Xiong, 2006). Users of financial statements vary; they include investors, lenders, suppliers, customers, the government and the public. These stakeholders use accounting information if it meets the criteria for their decision-making (Kieso et al., 2013). The easiest criterion for measuring a firm's economic performance is earnings; therefore, financial reporting is the most appropriate tool for communicating accurate, credible financial information to users in a timely manner. Agency theory can be applied here: The functional separation between ownership and management means that managers act as the owners' agents. However, managers may collude against owners and manipulate an organisation's financial reports to increase their own personal wealth (Astami, Rusmin, Hartadi, & Evans, 2017).

The related literature offers several definitions for the term earnings management. Healy and Wahlen (1999) defined it thus:

> Earnings management practices occur when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (p. 365)

In other words, earnings management is when managers use their judgement to alter the structure of financial transactions in financial reports in order to mislead stakeholders.

Earnings management is when managers manipulate accounts using their own discretion, with or without restrictions. According to Fields, Lys and Vincent (2001), managers may use such discretion either to maximise firm value or to opportunistically pursue their own interests. These two kinds of earnings management are called informative and opportunistic earnings management. According to Healy (1985), opportunistic earnings management is a type of earnings management that managers use to mislead investors in order to benefit themselves. In contrast, informative earnings management artificially enhances the firm's value. Managers can usually decide for themselves how much to reveal to investors regarding their private expectations of future cash flow (Healy & Palepu, 1993).

Another definition of earnings management is 'active manipulation of earnings toward a predetermined target, which may be set by management, a forecast made by analysts, or an amount that is consistent with a smoother, more sustainable earnings stream' (Mulford & Comiskey, 2011, p. 3) In other words, accounts may be manipulated to meet predetermined targets or analyst forecasts. This is done to attract more investment. Roychowdhury (2006) defined earnings management as 'departures from normal

operational practice, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations' (p. 337). In other words, managers use their inside knowledge to deviate from normal operational practices. Accounting methods are violated when financial figures are altered in reports, regardless of the motivation for these alterations.

Dechow and Skinner (2000) criticised earlier definitions of earnings management for their failure to differentiate 'fraud' from 'earnings management'. Fraud is defined by the Association of Certified Fraud Examiners (1993, p. 13) as 'the intentional, deliberate misstatement or omission of material facts or accounting data which is misleading and, when considered with all other information made available, would cause the reader to change or alter his or her judgment or decision'. This definition has many elements in common with the definitions of earnings management, highlighting the fine line between them.

Schipper's (1989) definition of earnings management may be more comprehensive than others. It emphasises the deliberate nature of earnings management. His definition encompasses all types of manipulation of financial reporting of numbers or of any other items used in accounting. Any manipulation that is considered legitimate under the GAAP presents no problem. However, manipulation considered illegitimate under the GAAP is accounting fraud. Illegitimate alterations made to meet management objectives are opportunistic earnings management; alterations made to meet shareholders' objectives are informative earnings management.

These definitions differ in their details but agree on one prerequisite: Earnings management reflects the manager's intent. Opportunistic accounting malpractice is done for private gain. Further, earnings management need not always be fraudulent in legal

terms. The GAAP are flexible enough to allow managers to practise some earnings management legally. Many factors may motivate management to involve in earnings management; these factors are addressed in the following section.

3.3 Earnings Management Motivations

Based on agency theory, differences in interests between the shareholders as owners and managers as their agents, by itself, becomes a major motivation for earnings management by managers. This issue has been a matter of specific research interest since the 1920s but more so during the 1980s and the 1990s. In this regard, Baralexis (2004), Barth, Elliott and Finn (1999), Beatty, Ke and Petroni (2002), Cheng and Warfield (2005), Healy and Wahlen (1999), Jones (1991), Kamel and Elbanna (2010), McVay (2006), Noronha, Zeng and Vinten (2008), Revsine, Collins, Johnson, Mittelstaedt and Soffer (2002) and Roychowdhury (2006) revealed many types of motivations for managers to practice earnings management. The main motivations behind earnings management are discussed below.

3.3.1 Stock Markets Motivations

Investors' expectations about the risks and returns of the capital market vary according to the company's performance. Financial statements are a major source of information used to assess the risks and returns of investing in a company. If more investors show interest in the firm, its stock prices increase. This creates a strong motivation for opportunistic earnings manipulation because such alterations can attract investors to the company (Kamel & Elbanna, 2010; Kim & Yi, 2006). Several studies have examined this theme.

For example, in Egypt, Kamel and Elbanna (2010) collected 464 questionnaire surveys and conducted 16 interviews. This study found that managers benefit from earnings management because it increases their chances of securing a loan. They may need to

maintain the profits reported in the previous year (to avoid reporting losses), or they may want to report a good income to inflate stock values.

In a comparative study, Glaum, Lichtblau and Lindemann (2004) identified managers' motivations for earnings management at 38,714 US firms and 3,524 German firms. In these companies, earnings management was used to avoid reporting losses or decreased earnings; this motivation was more common among US managers than German ones. Additional incentives for malpractice arose from the pressure of capital markets and the likelihood of increased compensation for managers reporting higher profits. Moreover, Kim and Yi (2006) found that public firms had higher discretionary accruals than private firms. This finding confirms the view that the stock market encourages managers of listed companies to practise earnings management.

Earnings management is particularly evident in initial public offerings (IPOs) and seasoned equity offerings (SEOs), as noted by Alhadab, Clacher and Keasey (2015), DuCharme, Malatesta and Sefcik (2004), Fan (2007), Xiaolu, Jing and Kaohua (2010) and Ball and Shivakumar (2008). These studies observed that since IPOs have no previous stock prices, initial prices are determined by their financial performance before going public. Therefore, managers of firms that are about to go public have an incentive to manipulate earnings in order to justify higher stock prices.

Several studies have found evidence of earnings management by SEOs, including Cohen and Zarowin (2010), Kothari, Mizik and Roychowdhury (2016), Kim and Park (2005) and Lee and Masulis (2009). It can take the form of real or accrual-based income-increasing manipulations during the year in which stocks are issued through the SEO. Moreover, SEO firms that manipulate earnings indeed have poor operating performance and stock return performance in the post-offering period. Real earnings management

accounts for this decrease in stock return performance more than accrual earnings management (Cohen & Zarowin, 2010).

A share repurchase offer (the opposite of an equity offering) may also encourage managers to engage in earnings management practices. Company managers resort to stock repurchases to achieve the desired earnings per share if those earnings are below the required level (Bens et al., 2003). Hribar, Jenkins and Johnson (2006) examined a sample of 26,480 US firm quarters with more than US$10,000 stock repurchases during the period 1988–2001 and found that earnings management was used to ensure that financial reports aligned with the results forecast by the consensus analysis. However, the market discounted this type of earnings management. The premium for beating market expectations was about 60% lower than the premium for not repurchasing stocks to reach the required number. In contrast, the repurchase of stocks to fulfil the analyst forecast mitigated some of the negative responses in stock prices.

Earnings management may also be used to meet the expectations of market participants. According to Bartov and Mohanram (2004), earnings management is one of the tools that companies use to reach analysts' forecasts. Zalata and Roberts (2016) showed that firms practise earnings management to equal or exceed analyst forecasts. Athanasakou, Strong and Walker (2009) analysed DataStream data for 1994–2002 from all active and inactive companies listed in the United Kingdom. They revealed that UK firms were more likely to involve in earnings management practices to avert unexpected negative profits and to meet analyst anticipations. Moreover, Graham, Harvey and Rajgopal (2005) interviewed financial managers of US public firms and found that managers often worry that they will fail to meet earnings benchmarks, which may influence their reputations and share prices.

The study concluded that executives' concerns provide a strong incentive to engage in earnings management.

3.3.2 Contract Motivations

Two types of contracts may affect a company's discretion and lead to earnings management. These are executive compensation contracts and firm lending contracts. These contracts are created to reduce the likelihood of agency problems. Some previous studies on contractual motivations for earnings management are reviewed next.

3.3.2.1 *Management Compensation Contract Motivations*

Firms avoid conflicts of interest by offering executive compensation packages based on the firm's performance, as has been noted by Kothari et al. (2016). Such compensation contracts are usually in the form of stock options, bonuses or other types of payments. In these cases, managers may be motived to show higher company earnings because this will increase their compensation. This creates an information asymmetry problem; unreliable, irrelevant items may be added to financial statements to distract owners and prevent them from detecting earnings management. This is an example of opportunistic earnings management (Kothari et al., 2016). Healy (1985) developed the first model for measuring earnings management practices and noted that management might have an incentive to engage in such practices when the company plans to increase bonuses. Healy (1985) revealed a significant association between bonus plans and accrual earnings management.

According to Kothari et al. (2016), stock market underperformance almost always predicts earnings management after an SEO; in such a case, real activities manipulation is more likely than accruals manipulation. Stocks offered in SEOs may be overvalued due to managers' use of opaque channels to report higher earnings.

Bergstresser and Philippon (2006) found a significant and positive correlation between accruals-based earnings management and equity incentives for chief executive officers (CEOs) derived from stock-based compensation in US firms. Others have also noted that managers may engage in earnings management to increase the value of their own stock options (Louis & Sun, 2011; Veenman, Hodgson, Van Praag, & Zhang, 2011).

Efendi, Srivastava, and Swanson (2007) investigated the spurt in restated financial reporting during the market bubble at the end of the 1990s and found that the probability of financial misstatements increased when the CEO had a sizable share of in-the-money stock options. Similarly, Li and Kuo (2017) and Victoria (2018) also found that equity incentives motivate managers to manipulate earnings.

Cheng and Warfield (2005) used data for 1993–2000 and observed that managers of US firms with significant equity incentives from stock-based compensations were more likely to practise earnings management by reporting earnings that met or just exceeded analysts' forecasts.

3.3.2.2 *Debt Contracts Motivations*

Lenders and creditors set financial objectives for firms to ensure the security of their loans. If firms are unable to meet these performance targets, they may struggle to obtain additional credit (at least under liberal terms), and creditors may restrict their access to loans. Erring firms may also incur violation expenses in the form of fees. Therefore, managers may use earnings management to report increased earnings and show that performance objectives have been met (Scott, 2009; Watts & Zimmerman, 1986). Managers may be motivated to avoid the high costs of debt covenant violations by reporting higher earnings; this type of earnings management can lead to more liberal debt agreements.

Many other studies have also shown that avoiding debt covenant violations may motivate firms to engage in earnings management. Based on a panel estimation of discretionary accruals by Spanish firms, Rodríguez-Pérez and van Hemmen (2010) noted that a marginal increase in debt could motivate managers to practise earnings management.

In a study of 2,195 loans obtained by US firms in 1992–2007, Franz, HassabElnaby and Lobo (2014) found that both real and accrual earnings management were more likely in firms that were about to violate debt repayment terms or technically default on loans. Firms that were unlikely to violate such terms in the near future had little incentive to practise any type of earnings management.

According to Nagar and Sen (2016), firms in the initial stages of debt default stress may engage in real earnings management by cutting spending on general and administrative expenses. Under severe debt default stress, firms manage real earnings by reducing production and engaging in some income-increasing accruals management. That is, the firms manage earnings to avoid violating debt covenants. Similarly, Kim, Lei and Pevzner (2011) noted that firms engaged in real earnings manipulation type more frequently when debt covenant terms became stricter.

Othman and Zeghal (2006) found that in French firms, there was a relationship between motivations to engage in earnings management and contractual debt costs. Jaggi and Lee (2002) observed that in financially troubled firms, managers reported discretionary accruals by showing increased income if they were certain debt covenant violations would be waived.

3.3.3 Political Cost and Regulatory Motivations

Many researchers have identified political costs and government regulations as incentives for earnings management; companies that appear less profitable may avoid government interference or minimise their political risk.

Large firms' activities are politically more visible than are those of smaller firms since the former's actions affect many people. In particular, firms with monopolies or near monopolies or those that operate in strategic sectors are more visible. These firms may report lower earnings to reduce political costs. One incentive for earnings management may be political pressure to reduce costs or face punishments. Such a situation could arise when a firm is under investigation for suspected breach of anti-trust rules or for taking advantage of the general public in some way (Watts & Zimmerman, 1986).

Han and Wang (1998) found that 76 oil and gas firms were motivated to report lower earnings in the last two quarters of the fiscal year during the Persian Gulf Crisis of the 1990s. These firms tried to avoid political costs by resorting to income-decreasing accrual accounting. Monem (2003) argued that Australian gold-mining firms practised accrual-based downwards earnings management from June 1985 to May 1988. These firms desired to avoid the political costs imposed on high-profit firms. In the United States, firms that had previously contributed to a congressional candidate's election campaign managed their earnings downwards in 2004 to avoid political costs (Ramanna & Roychowdhury, 2010).

In addition, Key (1997) found that cable television firms managed their reported earnings downwards as a consequence of the Congressional hearings of the late 1980s and early 1990s. These hearings were held to determine regulatory controls owing to customer complaints about rate increases and poor service quality. Furthermore, Al-Moghaiwli

(2010) examined the practice of intentional earnings management in 46 Saudi Arabia companies listed. Using data for 2005–2007, the study concluded that managers of Saudi-listed firms which have a high rate of foreign employees tend to engage in earnings management to avert possible political costs. Alotaibi (2014) investigated the relationship between corporate governance mechanisms and voluntary disclosure in Kuwaiti firms listed. The study found that all corporate governance characteristics have significant relationships with voluntary disclosure, except role duality and board size, which have a negative relationship. The study also revealed that there is no relationship between ownership structure and voluntary disclosure.

Conversely, some government regulations may benefit high-earning companies. Then, companies may report higher earnings in order to qualify and gain these benefits. Listed firms are monitored for regulatory compliance and are required to provide figures and ratios about their performance. This process stresses managers, who may resort to earnings management to show that the company is complying with the regulations. Haw, Qi, Wu and Wu (2005) found that firms in China used income-increasing earnings management when they were required to report a return on equity of at least 10% in order to be eligible to issue public offers of shares or bonds. In another Chinese study, Chen, Wang, and Zhao (2009) showed that firms listed in China were incentivised to engage in earnings management to address reversals of asset impairments if they were at risk of being delisted or suspended from trading. Further, commercial banks may engage in earnings management by adjusting for loan losses or by writing off loans to ensure their capital adequacy ratio remains above the industry benchmark (Donelson, Mcinnis, & Mergenthaler, 2013).

The influence of tax laws on earnings management in 197 public and private firms in Russia was studied by Goncharov and Zimmermann (2006). They found that the Russian firms resorted to earnings management to reduce their tax liability by reporting lower profits. Zang (2011) aimed to investigate whether managers use the types of earnings management methods, which are accrual-based earnings management and real activities earnings management, interchangeably in managing earnings. The finding of study showed that managers used both types of earnings management. Moreover, companies used both methods of earnings management to reduce tax liability by adjusting the timing of inventory purchases.

When a new regulation is announced, firms may use earnings management to try to take advantage of it immediately. Jones (1991) found that firms may benefit from accruals-based earnings management to show reduced earnings when new regulations on import relief are passed. Showing reduced earnings may make firms eligible for such relief or for increased import relief if they already receive it. Import relief is meant to protect domestic manufacturers from competition through regulatory restrictions on the import of certain products. Import relief also includes subsidies, low-interest loans and tax relief. Jones (1991) used data on the nature and patterns of earnings management from a report on the investigations of import relief conducted by the US International Trade Commission. Managers in this study understated their firms' earnings to benefit from regulations on import relief.

To sum up, there is broad evidence for the motivation behind managers' use of earnings management. Maximising their own compensation may be managers' strongest motivation to engage in earnings management. Managers who have stock options may also be motivated by equity incentives. In the interest of the firm (and through that their

own), avoiding debt covenant violations and associated penalties may motivate managers to resort to earnings management as well. When IPOs or SEOs are offered, managers use earnings management to inflate the stock prices of issued shares. Some government regulations may play a role in motivating managers to engage in earnings management; for example, new relief regulations may induce managers to show lower earnings in order to maximise the firm's benefits from those regulations.

3.4 Earnings Management Methods in Prior Literature

The previous section reviewed the literature on different motivations for earnings management practices. This section focuses on reviewing the literature on the manipulation of financial reporting. Three distinct methods of earnings management have been identified in the literature: accruals-based earnings management, classification shifting earnings management and real activities earnings management. Next, these three methods of earnings management are described.

3.4.1 Accruals-Based Earnings Management

The difference between earnings and cash flow is called accruals. They are essential to companies' transactions. For example, sales are considered earnings regardless of whether payment has been made. Until payment is received, sales are categorised as receivables; the receivables entry is cancelled when payment is received (McVay, 2006). Accounting practices allow managers some discretion regarding the information provided. Managers can utilise this freedom to document incurred costs later or to include earnings before the revenue has been received; these earnings are termed accruals (Dechow, Hutton, Kim, & Sloan, 2012; Trejo-Pech, Weldon, & Gunderson, 2016).

Accruals can be categorised as discretionary and non-discretionary accruals (Callao & Jarne, 2010). According to Christensen, Frimor and Şabac (2013) and Jones (1991),

discretionary accruals relate to operations or activities that are under the control of managers. For example, senior management may under- or over-predict the number of bad debts in the category of doubtful accounts in an effort to adjust recent accounted expenditures; this is a type of discretionary accrual. Non-discretionary accruals are incurred from activities outside the control of managers. For example, an increase in sales will increase the number of bad debts as well as the accounts receivable, even if the credit terms remain unchanged.

According to Ahmed, Neel and Wang (2013) and Dechow and Skinner (2000), accrual earnings management may be used in accounting choices made towards the end of the fiscal year and before the release of the financial statement. Accrual accounting can be used to manipulate reported earnings in two ways. First, when expected earnings fall below the desired threshold, income-increasing accrual accounting may be used to increase the reported income to the desired level (Gunny, 2010; Kothari et al., 2016; Nelson, Elliott, & Tarpley, 2002; Roychowdhury, 2006). Second, accrual accounting can be used to report a lower income when the gap between expected earnings and the desired threshold is too high (Adams, Carow, & Perry, 2009; Barton & Simko, 2002; Gunny, 2010; Roychowdhury, 2006). This adjustment is utilised to show that the company has a cash reserve for the future.

The GAAP allow managers to engage in earnings management by allowing them to treat different accounting events differently. In other words, alternate methods can be used to report different accounting events without affecting cash flow (Alhadab, 2016; Roychowdhury, 2006). According to Teoh, Welch and Wong (1998), managers can use three types of accrual-based earnings management:

- *Accounting method timing*: Management can time actual transactions based on their effects on reported earnings. They can also adjust transactions in the desired direction under the accounting rules governing the accounting of such events. In other words, managers have discretion regarding when to recognise certain accounting events. For instance, managers can control how much to depreciate diminished assets and bad debts; they can also adjust market value estimates by using the lower-of-cost-or-market method to evaluate inventory. Bartov (1993) stated that managers are responsible for controlling reported earnings by timing the recognition of losses or gains accruing from the sale of investments and long-lived assets. Since disposal gains and losses are usually only reported as earnings when those investments or assets are sold, managers can manipulate earnings through timely asset sales.

  Poitras, Wilkins and Kwan (2002) investigated a sample of traded companies in Singapore and suggested that when net earnings per share decrease, managers may sell assets to increase earnings. In addition, managers may write off impaired long-lived assets to manipulate reported earnings through the timing and recognition of events. Many managers use write-offs to reflect real economic situations, including the overall economic climate and declines in asset value because of a firm's poor performance, competitors' actions or changes in managerial strategies (Teoh et al., 1998). There is evidence on managers' opportunistic use of write-offs, particularly in instances involving higher degrees of managerial discretion, such as restructuring charges and goodwill write-offs, in contrast to cases with less managerial discretion, such as write-offs of equipment, plant property and inventory (Francis, Hanna, & Vincent, 1996).

- *Accounting method choice*: Accounting choices do not involve earnings management; earnings management goes beyond the implications of accounting choices to fulfil a specific aim. Earnings management involves the use of certain accounting principles or switching between these principles. Since accounting standards and their application are inherently flexible, managers can select or switch accounting methods to achieve set objectives or show desired earnings. Beatty and Weber (2003) found that bank debt borrowers tend to make income-increasing accounting decisions to reduce restrictions on debts. According to Fields et al. (2001), accounting choices can be categorised into three subgroups. The first is accounting choices made in the absence of complete markets and the presence of agency costs. These types of accounting choices are made to influence the firm's contractual arrangements, such as debt covenants and bonus plans. The second subgroup consists of accounting choices that are premised on information asymmetry and represent an attempt to influence stock prices. The last subgroup comprises choices made to influence (external) third parties, such as government regulators. According to Mulford and Comiskey (2011), several types of accounting, including inventory accounting and depreciation accounting, offer these types of flexibility. The most common methods of manipulating inventory are the first-in, first-out (FIFO) and the last-in, first-out (LIFO) methods. When managers need to present higher earnings, they use FIFO to evaluate inventory costs, whereas when they need to deliver lower earnings, they use LIFO to evaluate inventory costs (Aljifri, 2007).
- *Accounting method application/discretionary estimates*: Managers have the discretion to use accounting principles to adjust reported income even after they have chosen an accounting method. They can also take advantage of flexible

accounting standards to adjust estimates. For instance, managers have discretion when assessing the salvage values of depreciable assets, the cost of warranty plans, the lives of intangibles, the time to revenue recognition for a long-term project, the uncollectable rate of accounts receivable, the cost of pensions and the interest rates of capitalised leases.

3.4.2 Real Activities-Based Earnings Management

Another type of earnings management is real activities earnings management, or real earnings management. Real earnings management affects actual cash flow. Here, managers make deliberate operating decisions with the specific aim of altering reported earnings. For instance, a firm may try to increase sale revenues by temporarily offering discounts to customers (Cohen & Zarowin, 2010; Roychowdhury, 2006). Gunny (2010) suggested that managers have more flexibility with real earnings management than with accrual-based earnings management since business activities can be manipulated throughout the fiscal year.

There are three methods of real earnings management (Roychowdhury, 2006). The first is the manipulation of core expenses, which involves reducing managerial costs and research and development costs. The second is excess production, which reduces the cost of goods sold. The last is sales, which means offering products at discounted prices. According to Roychowdhury (2006), this approach allows managers to manipulate sales numbers. Sales manipulation may involve flexible, adjustable credit terms or considerable discounts on products. Firms use such strategies to motivate consumers to buy instantly instead of delaying purchases. Firms may also hold year-end sales in which they can offer huge discounts only until the close of the year in an attempt to generate higher traffic and escalate sales volume at the end of the year.

Excess production may also be used to decrease the cost of goods sold. This type of earnings management is used by manufacturing firms (Roychowdhury, 2006). Production is inversely proportional to overhead expenses, and thus, when production is increased, overhead expenses decrease, thereby decreasing the overall cost of goods sold (Roychowdhury, 2006). Discretionary expenses are generally accounted when they increase. That is why manipulation can easily be used to manage short-term earnings. All of these activities can create increased earnings (Roychowdhury, 2006).

3.4.3 Classification Shifting Earnings Management

Recent studies have identified another type of earnings management, classification shifting earnings management. According to McVay (2006), this is a type of earnings management in which core costs, including managerial and administrative costs, are diverted to a specific account in the income statement. Although this diversion does not alter the bottom line, it increases core earnings (earnings from the company's core activities) if the company assigns all expenses to non-core operations. This approach may not be viewed as viable because it has no impact on net income. Further, according to Fan, Barua, Cready and Thomas (2010), this approach can mislead potential investors, financial advisors and analysts, who are usually most interested in frequent earnings and especially core earnings. Therefore, classification earnings management should not be regarded as real or accrual earnings management.

In summary, prior studies have described three different types of earnings management. In the first, accrual-based earnings management, adjustments are made to projections and in the choice of accounting standards applied. The second type, real activities earnings management, influences a firm's cash flow. The third, classification shifting earnings management, involves diverting key expenditures to an exclusive category in the profit-

and-loss statement; this alteration has no impact on total income. The most common method of earnings management is accruals-based earnings management, since it is the least visible method of earnings management (Alghamdi, 2012; Alzoubi, 2018; Bowman & Navissi, 2003; Burilovich & Kattelus, 1997; Chen et al., 2011; Dechow et al., 2012; Dechow, Sloan, & Sweeney, 1995; DeFond & Jiambalvo, 1994; Gul, Chen, & Tsui, 2003; Jones, 1991). Therefore, the current study uses only accruals-based earnings management to measure earnings management, not only because this is the most common method of earnings management, but also because it will help ascertain earnings management. Adopting this approach will enable the current study to fully and properly evaluate the effects of the IFRS, the ISA and ownership structure on earnings management.

3.5 Approaches for Measuring Accruals-Based Earnings Management in the Literature

Since the current study used accruals-based earnings management as the proxy of earnings management, it covers the approaches that can be used to measure this type of earnings management. However, income management is usually a clever kind of account manipulation; some types of earnings management are allowed under the discretionary powers of managers, even by the GAAP. Such practices are intangible and invisible; they are successful if they are not noticed at all. This makes detecting and measuring earnings management a challenging task for researchers. Most studies employ statistical methods to detect and measure earnings management; a number of techniques for doing so are described in the accounting literature. Other studies have used methods such as questionnaire surveys or interviews. Three methods for measuring accruals-based earnings management are recognised and commonly applied currently: total accruals, specific accruals and the distribution of earnings (McNichols, 2000; Stubben, 2010). These three approaches are described in the following subsections.

3.5.1 Total Accruals Approach

This method of measuring earnings management originated in Healy's (1985) and DeAngelo's (1986) models. This approach is very commonly used by prior studies to calculate earnings management. This approach uses the total accrual technique to detect earnings management. As mentioned above, accounting accruals consist of non-discretionary accruals, which are outside the manager's control, and discretionary accruals, which arise from operations or activities that are under the manager's control. Firms often use discretionary accruals to manipulate earnings because this allows managers to exercise discretion in accounting preferences (Alzoubi, 2018; Bowman & Navissi, 2003; Dechow et al., 1995; DeFond & Jiambalvo, 1994; Jones, 1991). Thus, discretionary accruals are used as a dimension of earnings management. In this method, accruals are separated into discretionary and non-discretionary accruals to derive discretionary accruals as shown in the following:

Total Accruals (TAC) = Discretionary Accruals (DA) + Non-Discretionary Accruals (NDA)

To estimate discretionary accruals, first, total accruals must be estimated. Two methods may be used to estimate total accruals. The first is the balance sheet method; it has been used in a number of studies (Dechow et al., 1995; Healy, 1985; Jones, 1991; Kothari, Leone, & Wasley, 2005). The second is the cash flow method, which has also been used extensively (Alzoubi, 2018; Becker, DeFond, Jiambalvo, & Subramanyam, 1998; Hanwen Chen et al., 2011; Cohen & Zarowin, 2010; Jaggi, Leung, & Gul, 2009; Klein, 2002a; Lo, Ramos, & Rogo, 2017). According to Hribar and Collins (2002), the cash flow approach measures total accruals as follows:

Equation 3.1

$$TAC_t = Income_t - Cash\ Flow_t$$

where:

Income*t* = net income value before extraordinary items for firm *i* in year *t;* and

Cash Flow*t* = the operating cash flow for firm *i* in year *t*.

In the balance sheet approach, total accruals are calculated as follows (Hribar & Collins, 2002):

Equation 3.2

$$TAC_t = \Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta DCL_t - DEP_t$$

where:

ΔCAt = change in current assets in year t;

$\Delta Casht$ = change in cash and cash equivalents in year t;

ΔCLt = change in current liabilities in year t;

$\Delta DCLt$ = change in debt included in current liabilities in year t; and

$DEPt$ = depreciation and amortisation expenses in year t.

Hribar and Collins (2002) compared these two approaches and found that the balance sheet approach is less efficient than the cash flow approach when companies face mergers or acquisitions. According to that study, changes in working capital accounts in the balance sheet and in accrued revenues and expenses on the income statement break down when non-articulation events, such as mergers and acquisitions, occur. This may lead to significant computation errors in total estimated accruals when total accruals are calculated using the balance sheet method. This mean that the cash flow approach is more effective in estimating the total accruals than the balance sheet approach (Hribar & Collins, 2002).

Total accruals are used to measure earnings management (discretionary accruals) in different ways. In a simple model, changes in total accruals are used to represent discretionary accruals; a relative regression analysis is used to separate accruals into discretionary and non-discretionary accruals. This approach is used in the Kothari et al. model (2005), the Dechow and Dichev model (2002), the modified Jones model (1995), the Jones model (1991), the industry model, the DeAngelo model (1986) and the Healy model (1985). Of these, the Jones model (1991) and the modified Jones model are the ones most commonly used in various studies. They are considered powerful tests of earnings management with a high degree of robustness (Alghamdi, 2012; Alzoubi, 2018; Bartov, Gul, & Tsui, 2000; Bowman & Navissi, 2003; Burilovich & Kattelus, 1997; Hanwen Chen et al., 2011; Dechow et al., 1995; DeFond & Jiambalvo, 1994; Lo et al., 2017). These models employ different ways to calculate non-discretionary accruals. In other words, these models are regarded as the most common models that use total accruals to measure earnings management (discretionary accruals). Table 3.1 lists the models for measuring non-discretionary accruals.

Table 3.1: Models for Measuring Non-discretionary Accruals

Model	Source
The Healy Model (1985)	Dechow et al. (1995)
The DeAngelo (1986) Model	DeAngelo (1986)
The Industry Model	Dechow and Sloan (1991)
The Jones (1991) Model	Jones (1991)
The Modified Jones (1995) Model	Dechow et al. (1995)
The Kothari et al. (2005) Model	Kothari et al. (2005)
The Dechow and Dichev (2002) Model	Dechow and Dichev (2002)

These models are presented and discussed in the following subsections.

3.5.1.1 *The Healy Model (1985)*

Healy (1985) proposed the first model for measuring earnings management. He studied how bonus schemes affect accounting decisions. He noted that managers seek to maximise their earning-based bonuses in many ways, and he demonstrated a correlation between accrual procedures and managers' bonus agreements. Clearly, managers have an incentive to increase earnings to boost their bonuses. Consequently, they use discretionary accruals to show increased earnings and maximise their bonuses (Healy, 1985).

Healy (1985) estimated discretionary accruals based on total accruals scaled by lagging total assets. This is calculated as the disparity between revenue and cash from operations. This procedure implicitly assumes that when there is no earnings management, there will be no total accruals. However, this study did not separate discretionary and non-discretionary accruals, although it did mention this issue. The Healy (1985) model is presented in equation 3.3 (Dechow et al., 1995, p. 197).

Equation 3.3

$$\boldsymbol{EDA_{it} = TA_{it}/A_{it} - 1}$$

where:

$\boldsymbol{EDA_{it}}$ = calculated discretionary accruals for company in year *t*;

$\boldsymbol{TA_{it}}$ = gross accruals for company in year *t*; and

$\boldsymbol{A_{it-1}}$ = lagged total assets at beginning of year.

Healy's (1985) model has been criticised for its assumption that non-discretionary accruals are zero during a given period. The level of non-discretionary accruals cannot be zero in any given period; it fluctuates depending on a firm's economic stability (Kaplan,

1985). In addition, expenses on depreciation may reduce a firm's accruals to below zero (Perry & Williams, 1994).

3.5.1.2 *The DeAngelo (1986) Model*

DeAngelo (1986) tried to address the shortcomings of Healy's (1985) model. He ignored the existence of any benchmark for expected accruals (Aljifri, 2007). DeAngelo (1986) examined the extent of managers' earnings management before a management buyout. In this case, managers have an incentive to decrease reported earnings to reduce stock prices. To estimate the level of earnings management, DeAngelo used a model similar to Healy's. However, DeAngelo used total accruals for the year before the one investigated, whereas Healy used the average total accruals from prior years (Aljifri, 2007).

Assuming non-discretionary accruals are constant over time, the difference between the current and previous year's accruals is the discretionary accruals (DeAngelo, 1986). DeAngelo (1986) further defined total accruals as the sum of discretionary and non-discretionary accruals and calculated total accruals as the difference between net income and cash flow from operations. In this model, non-discretionary accruals are estimated by scaling the total accruals of the last period from lagged total assets. The DeAngelo (1986) model is presented in equation 3.4 (DeAngelo, 1986, pp. 408–409).

Equation 3.4

$$\boldsymbol{EDA_{it} = TA_{it} - TA_{it} - 1/A_{it} - 1}$$

where:

$\boldsymbol{EDA_{it}}$ = estimated discretionary accruals for the period;

$\boldsymbol{TA_{it}}$ = total accruals for the current period; and

$\boldsymbol{A_{it}\text{-}1}$ = total assets for the prior period.

In proposing the model, DeAngelo (1986) assumed that non-discretionary accruals follow a random walk and that their change is constant over time. Therefore, non-discretionary accruals are zero. Thus, DeAngelo's equation is used to measure only discretionary accruals. The biggest problem is that non-discretionary accruals may be misclassified as discretionary. Earnings manipulation may have occurred in the prior year that is used as a benchmark to estimate anticipated accruals in this model (Aljifri, 2007).

These simple models of Healy (1985) and DeAngelo (1986) are also very limited. Both fail to account for the reality that non-discretionary accruals change with a company's economic situation (Aljifri, 2007).

3.5.1.3 *The Industry Model*

This model was developed by Dechow and Sloan (1991). They researched how CEOs, during their final years in the position, attempt to improve short-term earnings performance by managing discretionary investment expenditures. Their model resolved one limitation of Healy's model (1985), which assumes that non-discretionary accruals are steady over time. In addition, differences in non-discretionary accruals are similar in different companies in the similar industry (Dechow & Sloan, 1991). Based on this, they measured non-discretionary accruals as the median value of total accruals in the year scaled by lagged total assets for all non-sample firms in the same industry. Thus, their model for calculating non-discretionary accruals can be expressed as follows (Dechow et al., 1995, p. 199):

Equation 3.5

$$\boldsymbol{NDA_t = \gamma_1 + \gamma_2 \ \mathrm{median}\,(TA_t)}$$

where:

NDA_t = non-discretionary accruals for firm in year *t* measured as the difference between total accruals in the event year and total accruals in the estimated year;

Median (TA_t) = the median value of total accruals scaled by lagged assets for all non-sample firms in the same industry; and

$\gamma_1 + \gamma_2$ = firm-specific parameters using the ordinary least squares (OLS) method on the observation in the estimation period.

The industry model of Dechow and Sloan (1991) attempted to beat the restrictions of the DeAngelo (1986) and Healy (1985) models. Still, it has two other restrictions. First, the removal of the difference in non-discretionary accruals may lead to the misclassification of non-discretionary accruals as discretionary accruals. This is because changes in non-discretionary accruals may indicate responses to changes in the firm's economic circumstances. Second, since the industry model removes the abnormality in discretionary accruals associated with all companies in the same industry, discretionary accruals may be identified as non-discretionary accruals (Dechow et al., 1995).

3.5.1.4 *The Jones (1991) Model*

Jones (1991) tried to develop a model that could determine whether firms managed their income to derive benefits from import relief investigations conducted by the US International Trade Commission. Kaplan (1985) suggested that total accruals may result partly from managerial discretion and partly from alterations in a firm's economic status. Based on Kaplan's findings (1985), Jones (1991) proposed a model (termed the Jones model) that controlled for changes in an organisation's economic conditions, so that it estimates only earnings due to managerial discretion. In the Jones model, unlike in Healy's (1985) and DeAngelo's (1986) models, discretionary accruals are the linear purpose of alterations in income. This model is presented in equation 3.6 (Jones, 1991, p. 211).

Equation 3.6

$$TA_{it}/A_{it-1} = \alpha(1/A_{it-1}) + \beta_1(\Delta REV_{it}/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \varepsilon_{it}$$

where:

TA_{it} = total accruals in year *t* for firm *i*;

ΔREV_{it} = change in revenues as measured by revenues in year *t* less revenues in year *t* − 1 for firm *i*;

PPE_{it} = gross property, plants and equipment in year *t* for firm *i*;

A_{it-1} = total assets in year *t* − 1 for firm *i*;

$\alpha\ \beta_1\ \beta_2$ = estimated parameters; and

ε_{it} = residual.

Changes in revenue may be used to regulate a firm's economic condition before managers alter that condition. The equation has two control variables used to determine the changes in non-discretionary income and in a firm's assets. These items are included in the total accruals related to non-discretionary expenses. Jones (1991) explained that 'gross property, plant, and equipment are included in the expectation model rather than changes in this account because total depreciation expense is included in the total accruals measure' (p. 212). This model is based on Kaplan's (1985) recommendations regarding Healy's model. However, Dechow et al. (1995) criticised the Jones model for its assumption that changes in revenue are non-discretionary. This assumption means the model cannot measure discretionary accruals as a major threat in sales transactions by managers.

3.5.1.5 *The Modified Jones Model (Proposed by Dechow, Sloan, & Sweeney, 1995)*

Dechow et al. (1995) modified Jones's model (termed the modified Jones model) to address the assumptions that changes in income are non-discretionary and that the results of sales exploitations are not part of ranging discretionary accruals. In the modified Jones model, 'the change in revenues is adjusted for the change in receivables in the event

period' (Dechow et al., 1995, p. 199). Because of this modification, all sales on credit arise from earnings management; it is easier to measure revenue from credit sales than that from revenue cash sales. Hence, this type of income administration is easier and more common. When managers apply earnings management to revenue, the estimation of earnings management should not be zero (Dechow et al., 1995). Therefore, this model considers a firm's assets and adjusts for differences in income by adjusting to changes in receivables. In other words, the modified Jones model reverts total accruals on a firm's assets and adjustments in income to present coefficients that can be used to measure unmanaged accruals as follows (Dechow et al., 1995):

Equation 3.7

$$\boldsymbol{TAC_{it}/A_{it-1} = \alpha(1/A_{it-1}) + \beta_1(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \varepsilon_{it}}$$

where:

$\boldsymbol{TAC_{it}}$ = total accruals in year *t* for firm *i*;

$\boldsymbol{A_{it-1}}$ = total assets in year *t* − 1 for firm *i*;

$\boldsymbol{\Delta REV_{it}}$ = change in revenues as measured by revenues in year *t* less revenues in year *t* − 1 for firm *i*;

$\boldsymbol{\Delta REC_{it}}$ = change in accounts receivables as measured by net receivables in year *t* less receivables in year *t* − 1 for firm *i*;

$\boldsymbol{PPE_{it}}$ = gross property, plants and equipment of firm *i* at the end of year *t*;

$\boldsymbol{\alpha\ \beta_1\ \beta_2}$ = estimated parameters; and

$\boldsymbol{\varepsilon_{it}}$ = residual.

The modified Jones model is more robust than the other models since it detects earnings management in discretionary accruals. This reflects opportunistic accruals, enabling measurement of the performance hypotheses (Alzeban, 2018; Baxter & Cotter, 2009; Hanwen Chen et al., 2011; Chen, Rees, & Sivaramakrishnan, 2010; Cohen & Zarowin,

2010; Dechow et al., 1995; Gim, Choi, & Jang, 2019; Guay, Kothari, & Watts, 1996; Iqbal, Espenlaub, & Strong, 2009; Subramanyam, 1996).

The modified Jones model also measures earnings management more effectively than other models in a cross-sectional approach. Subramanyam (1996) and Bartov et al. (2000) used cross-sectional models and time-series models to evaluate discretionary accruals using the Jones and the modified Jones models. They found that these models measure earnings management more powerfully in a cross-sectional approach. The cross-sectional Jones model controls for year- and industry-specific influences and is estimated by industry and year. In addition, with the cross-sectional model, more observations of larger samples are possible. Further, this model does not assume the stationarity of discretionary accruals (Peasnell, Pope, & Young, 2000; Subramanyam, 1996).

Subramanyam (1996) provided three reasons to prefer the cross-sectional version of the model to the time-series version. In the time-series method, a firm must be assessed for a period of at least 8–10 years; for the cross-sectional approach, larger samples are already available. A long study period exposes firms to serial correlation statistical problems, increasing the possibility of misspecification due to non-stationarity. Overlapping the estimation and event periods will weaken the power of the time series. Due to these considerations, numerous studies have used the cross-sectional method rather than the time-series method, some of which are Alzoubi (2018), Baxter and Cotter (2009), Becker et al. (1998), Bergstresser and Philippon (2006), Chang and Sun (2009), Cohen and Zarowin (2010), Gim et al. (2019), Iqbal et al. (2009), Jaggi et al. (2009), Klein (2002a), Sun and Rath (2010) and Xie, Davidson and DaDalt (2003).

3.5.1.6 *The Performance Matched Accruals Model (Proposed by Kothari, Leone, & Wasley, 2005)*

The role of performance cannot be ignored when calculating earnings management. The Jones model indicates that discretionary accruals are related to return on assets (Dechow et al., 1995; Kasznik, 1999). Several studies have aimed to resolve the achievement matter related to uncertainty (Bartov et al., 2000; Kasznik, 1999; Kothari et al., 2005). These studies used the matching and platform techniques to stabilise the discretionary accruals and exclude factors likely to affect the relationship between discretionary accruals and earnings performance.

The only accounting study that addresses this issue is Kothari et al. (2005). They argued that the Jones and the modified Jones models commit major moderation errors in their estimation of discretionary accruals because these models ignore firm performance. In Kothari et al.'s model, discretionary accruals are evaluated using the following equation (Habbash, 2010):

Equation 3.8

$$TAC_{it} = \alpha(1/A_{it-1}) + \beta_1(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \beta_3 ROA_{it-1} + \varepsilon_{it}$$

where:

TAC_{it} = total accruals in year t for firm i;

A_{it-1} = total assets in year $t - 1$ for firm i;

ΔREV_{it} = change in revenues as measured by revenues in year t less revenues in year $t - 1$ for firm i;

ΔREC_{it} = The change in accounts receivables as measured by net receivables in year t less receivables in year $t - 1$ for firm i;

PPE_{it} = gross property, plants and equipment of firm i at the end of year t;

ROA_{it-1} = lagged return on assets for firm i in year t;

$\alpha\ \beta_1\ \beta_2\ \beta_3$ = estimated parameters; and

ε_{it} = residual.

3.5.1.7 *The Dechow and Dichev (2002) Model*

Dechow and Skinner (2000) presented a model for measuring earnings management based on accruals and working capital accruals. In this model, the timing of economic achievements and a firm's sacrifices may differ from the timing of the related cash flow. These problems with cash flow timing may be beneficially adjusted using accruals. However, this benefit is obtained at the cost of including components of accruals, which may lead to certain estimation errors (Yuth & Ergun, 2015).

The Dechow and Dichev (2002) model evaluates the manipulation of books to show better performance. This model considers the accumulation of cash flow and economic events. Thus, in addition to the quality of accruals, the model also checks whether the accruals are turned into cash in the following year (McNichols, 2002).

The model focuses on the adjustment of cash flow recognition over time and on shifts in accruals based on the accumulation of business assets, usually within the same year. The relationship between accruals and cash flow is the basis of the model. The model estimates the quality of working capital using time-series regression is presented in equation 3.9 (Dechow & Dichev, 2002):

Equation 3.9

$$WC\_ACCR_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \varepsilon_{it}$$

where:

WC_ACCR_{it} **(working capital accruals)** = Δ Accounts receivable + Δ Inventory −Δ Accounts payable − Δ Taxes payable + Δ Other assets (net)

CFO_{it-1} = cash flow from operations in year $t - 1$ for firm i;

$\boldsymbol{CFO_{it}}$ = Cash flow from operations in year *t* for firm *i*;

$\boldsymbol{CFO_{it+1}}$ = Cash flow from operations in year *t* + 1; and

$\boldsymbol{\varepsilon_{it}}$ = error term used to measure the quality of earnings.

McNichols (2002) identified three issues in the Dechow and Dichev (2002) model: the use of the standard deviation of the permanence as a substitute for earnings quality, the mismatch in the relationship of stated operation cash and cash flow with time (*t*) and the effects of normal corporation transactions on the remaining term. McNichols (2002) further demonstrated that it is possible to strengthen this model by combining it with the Jones model. Therefore, McNichols added the specification of the Jones model to the Dechow and Dichev model. The new model estimates discretionary accruals, which are significantly associated with cash flow. Jones, Krishnan and Melendrez (2008) also used McNichols' (2002) version of the Dechow and Dichev model. Their version of this cross-sectional model is presented in equation 3.10 (Jones et al., 2008, p. 504):

Equation 3.10

$$\boldsymbol{\Delta WC_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \beta_4 \Delta REV_{it} + \beta_5 PPE_{it} + \varepsilon_{it}}$$

where:

$\boldsymbol{PPE}$ = gross property, plant and equipment in year *t* scaled by total assets at *t* − 1; and

$\boldsymbol{\Delta REV}$ = change in revenue

3.5.2 The Specific Accrual Approach

Most studies have used the total accruals approach more than they have the specific accruals approach to measure earnings management (Beneish, 2001). According to Healy and Wahlen (1999):

> Overall, there is remarkably little evidence on earnings management using specific accruals, suggesting that this is likely to be a fruitful area for future research. By examining specific accruals, researchers can provide direct evidence for standard setters of areas where standards work well and where there may be room for improvement. (p. 372).

McNichols and Wilson (1988) stated that although the particular accruals approach can only be used to estimate discretionary accruals in specific conditions, it fails to identify earnings management in many cases. In addition, the specific accruals method is usually inflexible when additional variables, such as corporate governance, are included in the study. Hence, the specific accruals approach is not appropriate for examining the relationship between earnings management and other factors; this investigation would require a distinct system for each accumulation that could be affected by the assumed factors (McNichols, 2002).

Beneish (2001) identified another limitation of this approach: It classifies earnings manipulators incorrectly. Notably, this approach could be applied only in studies of income-increasing earnings manipulation. According to McNichols (2002), utilising a specific accrual model could restrict the generalisability and acceptability of the findings, given that only a few companies manage only specific accruals. Moreover, if the type of accrual management is not clear, the model's assessment of earnings management is weaker.

3.5.3 The Distribution Approach

The distribution approach calls for incentives for managers who meet certain profit thresholds, such as reporting positive earnings and averting losses. It is possible to identify the reported profits distribution about these thresholds if the percentage values

are smoothly distributed around the thresholds or if their discontinuities result from earnings management (Xiong, 2006).

The first attempt to employ earnings changes and the distribution of earnings to estimate earnings management to avoid loss and reduce earnings reductions, respectively, is by Burgstahler and Dichev (1997). The use of earnings management to avoid loss is reflected in a remarkably low frequency of small losses and a remarkably high frequency of small profits. Similarly, earnings reduction management is reflected in a remarkably low frequency of small decreases in earnings and a remarkably high frequency of small upsurges in earnings. This study found that firms with small pre-managed earnings decreases use earnings management to report increases in earnings, while firms with pre-managed earnings slightly below zero use earnings management to report positive earnings. This study also found that changes in working capital and cash flow from operations are crucial implements for manipulating earnings.

Ayers, Jiang and Yeung (2006) tested whether the relationship between beating earnings standards and discretionary accruals holds for sets differentiated by earnings surprises, changes in earnings and earnings. Their findings indicated that there is a positive link between beating earnings standards and discretionary accruals and that this link extends to other points in changes in earnings distribution and earnings distribution.

Durtschi and Easton (2005) critiqued the frequency distribution shape for identifying earnings management and the use of the discontinuity method around zero. They contended that deflation, sample chosen standards and/or variations among the observed features to the left and right of zero affect these shapes. They confirmed that the manner of distribution does not provide enough confirmation of earnings management. Thus, researchers have to exclude these confusing elements before utilising earnings

distribution shapes to prove that earnings management has occurred. The authors further stated that there is no confirmation that pervasive discontinuity of discretionary accruals at zero results from earnings management.

Similarly, McNichols (2000) contended that the frequency distribution method does not distinguish discretionary accruals from non-discretionary accruals, and thus, it fails to measure incentives for earnings management. Healy and Wahlen (1999) also argued that the distribution approach fails to detect the magnitude of earnings management.

To conclude, many studies on earnings management have used the total accruals method as a suitable and accepted proxy for earnings management. This method has key benefits over the other methods discussed thus far for discovering earnings management. Moreover, the literature has provided evidence that the cash flow approach is more effective than the balance sheet approach for calculating total accruals. Of several existing models for measuring non-discretionary accruals, the modified cross-sectional Jones model version is the most powerful and most widely accepted one. Therefore, the current study uses total accruals calculated using the cash flow approach and the cross-sectional version of the modified Jones model to measure discretionary accruals as proxy of earnings management. In other words, the modified cross-sectional Jones model is used to measure earnings management (discretionary accruals) in the present study.

3.6 Chapter Summary

This chapter has provided an overview of the literature on earnings management. It has addressed the various definitions of earnings management, the motivations for earnings management, the methods of earnings management and the models that can be used to detect accruals-based earnings management.

Healy and Wahlen (1999) define earnings management as follows:

> Earnings management practices occur when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (p. 365)

Earnings management is lawful if aligned with GAAP but is fraud if it breaches any of these standards. The manager's intent is a crucial factor in determining earnings management. Extensive research has been performed on earnings management, addressing topics such as the motivations, the methods and the influencing factors related to earnings management.

A wide range of incentives can motivate managers to engage in earnings management. For instance, managers may manage earnings to align the data with the stock market's expectations. Compensation benefits are also a powerful incentive to manage earnings. Earnings management can be used to sidestep penalties related to debt covenants or to circumvent government and regulatory policies. In addition, it may be used to inflate stock prices before IPOs and SEOs, allowing companies to issue shares at higher prices.

The literature has identified three methods that managers can use to manage earnings. The first is accruals-based earnings management, which is when managers rationally modify estimates and accounting policies without affecting cash flow. The second method is real activities earnings management, which is when managers make decisions that are inconsistent with standard business practices; this method affects cash flow. The last method is classification-based earnings management, which involves modifying income statements by moving items from the core expenses category to special expenses. However, the method most commonly used is accruals-based earnings management.

Previous studies have used several different methods to measure accruals-based earnings management, including the distribution approach, the specific accruals approach and the total accruals approach. The most commonly used one is the total accruals method, which computes the total effect of accruals on earnings. In the total accruals approach, total accruals are separated into discretionary and non-discretionary accruals. The adjustments for non-discretionary accruals are mandated by accounting standards, whereas managers can determine the adjustments for discretionary accruals.

Several models have been developed for measuring earnings management using the total accruals approach. These include the DeAngelo model, the modified Jones model, the Healy model and the Kothari et al. model. The modified Jones model is the most popular for measuring earnings management. It is the most effective model because it computes discretionary accruals that agree with opportunistic accruals. It can also be used to measure performance hypotheses. The modified Jones model has been found to be more effective in cross-sectional studies of earnings management than in time-series ones.

Chapter 4: Theoretical Framework and Hypotheses Development

4.1 Introduction

The previous chapter reviewed the literature on earnings management, including the related definitions, motivations and methods. It also described models used to measure accruals-based earnings management. This chapter provides theories of earnings management. It also focuses on the literature examining how monitoring mechanisms, the IFRS, the ISA and ownership structure limits earnings management. This chapter is organised as follows: Section 4.2 presents theories of earnings management, and Section 4.3 discusses various studies published on the role of certain factors, that is, the IFRS, the ISA and ownership structure, in constraining earnings management. Chapter 4 is summarised in Section 4.4.

4.2 Theories of Earnings Management

According to May (2011), theory helps explain research findings. Assumptions and concepts are embedded in theories, and research helps articulate their relationship; in other words, according to Lawrence (2007), theories help indicate whether there is a relationship among concepts and, if so, how this relationship is built.

Therefore, this section describes theories on earnings management. No single theory adequately explains earnings management activities, but several theories have been used to explain these behaviours. Common theories that have been used to explain managers' roles and behaviours are agency theory and stakeholder theory (Yang, 2018). These theories are discussed in the following subsection.

4.2.1 Agency Theory

Agency theory, first described by Ross (1973), was further developed in 1976 by Jensen and Meckling. Scholars in many academic fields, including finance, sociology, economics, political science and accounting, have used agency theory (Shapiro, 2005). Agency theory is considered one of the most important theories in studies of earnings management, and there is growing interest in applying the theory to this area. Examples of these studies include Abbott, Park and Parker (2000), Davidson, Jiraporn, Kim and Nemec (2004), Jiraporn, Miller, Yoon and Kim (2008) and Warfield, Wild and Wild (1995). Agency theory is focused on the relationship between the managers (the agents) and the owners (the principals) of the organisation (Jensen & Meckling, 1976). According to Nyberg, Fulmer, Gerhart and Carpenter (2010), agency theory argues that the gap between the owner's interests and those of managers can lead to problems, including managerial mischief. Jensen and Meckling (1976) define an agency relationship 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' (p. 308).

In modern organisations, the separation of an organisation's ownership from its management creates a context for applying agency theory. In modern organisations, ownership is widely dispersed, mainly in the form of shareholders who, in most cases, are not involved in the management of the company. Rather, the owners appoint an agent to manage the company on their behalf. This distinction between an organisation's ownership and control can lead to conflict between principals and agents since agents may have complete information about the company whereas principals typically have limited information. Further, agents may seek to maximise utility without considering the interests of the principals (Eisenhardt, 1989). The dispute of interests between principals

and agents can occur because agents divert their efforts and misuse resources for personal gain (Lambert, 2001). These conflicts can incur costs known as agency costs (Jensen & Meckling, 1976). There are three main types of agency costs, according to Jensen and Meckling (1976): bonding, monitoring and residual costs. Bonding costs arise owing to the need to align the interests of the agent with those of the principal; they may include an enhanced reward structure or compensation designed to moderate opportunistic behaviour (Hoque, 2006). Monitoring costs relate to activities aimed at monitoring an agent's behaviour; they may include external auditing or other actions aimed at restraining opportunistic behaviour (Deegan, 2000). Residual costs refer to other costs apart from monitoring and bonding costs that are incurred because of this conflict between the agent and the principal. This means that residual costs arise due to the imbalance between bonding costs and monitoring costs (McColgan, 2001).

Agency theory draws on agents' motivation to fulfil personal goals; it applies when an agent works to fulfil their own interests rather than to meet or maximise the interests of the shareholders (Fama & Jensen, 1983). Usually, it is supposed that managers are accountable for making decisions on behalf of the principals, that is, in the interest of the owners, and for fulfilling the owners' expectations. A conflict of interest occurs when managers and owners have different objectives; managers then tend to make economic decisions in their own interests rather than those of shareholders (Watts & Zimmerman, 1986). For example, if a company performs poorly, management may decide to manipulate financial information by removing negative data to ensure they retain their positions or gain better remuneration. This type of manipulation prevents shareholders from making better investment decisions, forcing them to absorb all the risks of doing business. Agency theory illustrates the conflict between managers' duty to safeguard shareholders' interests and their desire to promote their own interests (Fama & Jensen,

1983). Agency issues occur when 'the goals of the principal and agent conflict and it is difficult and costly for the principal to verify what the agent is actually doing' (Eisenhardt, 1989, p. 58).

Because managers are concerned about ensuring their job security, positions and rewards and maximising their own wealth, these conflicts can lead them to engage in earnings management, which can harm their organisation's reputation and mislead shareholders to make investment decisions that are not in the company's best interests; that is, the agency problem occurs (Prior, Surroca, & Tribó, 2008). Managers can exploit the flexibility of accounting principles when estimating their rewards. Therefore, earnings management can be viewed as a type of agency cost (Balgacem & Omri, 2015). The actions of management may mislead the principals about a company's financial position, leading the principals to make poor investment decisions. Thus, monitoring the agent is costly for principals (Lambright, 2008). Hence, based on the work of Callao and Jarne (2010), earnings management can be described using agency theory when the agents' actions aim at enriching themselves rather than supporting the principals' interests. According to Zahra, Priem and Rasheed (2005), earnings management is deemed an agency cost when an agent produces financial information that does not accurately reflect the company's financial position. Davidson et al. (2004) asserted that when managers manipulate financial information, earnings management may be considered a type of agency cost. Piot and Janin (2007) noted that when there are agency conflicts, managers may be motivated to manage earnings. This creates informational asymmetry between the agent and the principal, reducing the quality of earnings and the relevance and reliability of financial statements. Marshall and Weetman (2007) noted that information asymmetry exists when the management of the company has access to better or more information than the shareholders. This situation makes it difficult for owners to fully trust managers.

Therefore, it is important that principals strictly monitor managers, either directly or through representatives, to safeguard their own interests, particularly when the appointed agents decide to prioritise their own interests over the company's profitability.

Agency costs arise when an organisation's ownership and control are separated. Watts and Zimmerman (1990) indicated that systems that promote accountability and transparency can alleviate these costs. According to agency theory, companies can use different strategies to minimise conflicts of interest between agents and principals, including implementing monitoring and bonding mechanisms (Jensen & Meckling, 1976). The literature on corporate finance has suggested many internal and external tools to decrease agency conflict with the aim of reducing agency costs. Internal mechanisms include monitoring activities, compensation contracts and bonding costs; external mechanisms include external auditing. These tools aim to align the aims of the management and owner (Shapiro, 2005).

Another internal mechanism is the IFRS, which are used to monitor management and reduce agency problems. According to Stiglitz (2000) and Wong (2018), one bonding mechanism strategy that can help to minimise managers' opportunistic behaviour, including financial information manipulation is IFRS. Pae, Thornton and Welker (2006) found that the adoption of the IFRS reduces agency problems by increasing the quality of financial reporting.

Auditing is regarded as a device for reducing conflict between shareholders and managers, and therefore, it reduces agency costs (Watts & Zimmerman, 1983). According to Minnis and Shroff (2017), high-quality audits may increase the credibility of financial reporting and decrease agency costs. In addition, when the quality of auditing is high, agency costs are lower (Gul, Lynn, & Tsui, 2002). The ISA is regarded as an essential

part to increase the quality of auditing performance (Favere-Marchesi, 2000; Sylph, 2005). Therefore, it could be argued that the ISA could reduce agency costs by improving the quality of auditing performance.

Ownership structure is also related to agency costs, which increase as company ownership becomes more complicated. This view suggests that firms that are managed by the owners have lower agency costs (Gogineni, Linn, & Yadav, 2013). This observation was supported by Holderness (2007), who found that as the types and number of shareholders rise, the motivation for them to afford monitoring costs reduces. In other words, when shareholders increase, the motivation for any shareholder to monitoring management activities decreases and thus, they are less motivated to consider monitoring costs. This is because there is a direct relationship between monitoring costs and the ownership stake of shareholders. McKnight and Weir (2009) found that agency costs can be reduced through board ownership. Ang, Cole and Lin (2000) claimed that agency problems may be alleviated by ownership concentration and that it is possible to significantly reduce agency problems by aligning the controlling owners' interests with those of the company. Fama and Jensen (1983) also contended that agency conflicts decrease as external ownership assistance increases because this type of assistance includes greater incentives and can preclude expropriation. Further, Anderson, Mansi and Reeb (2003) revealed that founding family ownership structures correlate with fewer agency conflicts between equity and debt claimants. According to Henry (2010), agency costs can also be reduced by good internal governance structures and by external shareholding, and internal governance can substitute for agency-mitigating mechanisms. Ownership structure is a type of internal corporate governance mechanism (Alzoubi, 2016). This means that ownership structure can decrease agency problems.

4.2.2 Stakeholder Theory

Stakeholder theory describes different types of relationships between a business and the people (both groups and individuals) who have a stake in the operations and outcomes of that business (Benn & Bolton, 2011). Stakeholder theory originated in the works of Mary Parker Follett more than 60 years ago, but the concept became more popular in the 1980s (Schilling, 2000). Stakeholder theory was widely adopted during 1970–1980, a time when the fear of the increasing power of large national corporations (which were largely not accountable to stakeholders or governments) increased. Over time, stakeholder theory attracted more attention, increasing the popularity of triple bottom line reporting (Schilling, 2000). The late 20th century saw a shift from the shareholder framework to the stakeholder model; the General Electric Company used this model to present stakeholder benefits as a survival strategy from the financial crisis (Letza, Sun, & Kirkbride, 2004). Similarly to agency theory, stakeholder theory suggests that a board of directors look after shareholders' interests. However, this is a narrow approach; the theory has since been expanded to include the interests of various groups as well as environmental, social and ethical considerations (Freeman, Wicks, & Parmar, 2004). According to stakeholder theory, corporations should engage in behaviour that benefits society socially or economically. This means that organisations with weaker stakeholder performance may struggle to gather essential support and resources (Hoque, 2006). Further, Solomon and Solomon (2004) explained that organisations influence society and should therefore consider the needs of groups that are affected by the organisation's actions; in turn, groups in society influence organisations. According to Kiel and Nicholson (2003), stakeholder theory states that 'companies and society are interdependent and therefore the corporation serves a broader social purpose than its responsibilities to shareholders' (p. 31).

Freeman and Reed (1983) defined a stakeholder as 'any identifiable group or individual who can affect the achievement of an organisation's objectives or who is affected by the achievement of an organisation's objectives' (p. 91). Similarly, Donaldson and Preston (1995) defined stakeholders as 'persons or groups with legitimate interests in procedural and/or substantive aspects of corporate activity' (p. 85). Many researchers have worked to identify the various groups of stakeholders. For example, Clarkson (1995) divided stakeholders into primary and secondary stakeholders. Primary stakeholders are employees, customers, providers, creditors and the government; they should take priority. Secondary stakeholders are the media, environmentalists and consumers; they are less important to a company's operations. Mitchell, Agle and Wood (1997) suggested that stakeholders can be divided according to several attributes: (a) their power to affect the organisation, (b) the legality of their association with the company and (c) the insistence of their demand on the company. This structure helps managers to identify the various types of stakeholders and to decide how to react to them. Benson and Davidson (2010) suggested two possible approaches to stakeholder theory: the strategic approach and the moral approach. This division implies that stakeholder theory is based on how stakeholders are identified and on how resources are allocated. Moreover, shareholders may suffer if more resources are allocated to stakeholders. Donaldson and Preston (1995) compared three types of stakeholder theory and determined that the theories support each other; the normative base of the theory is the modern theory of property rights.

Proponents of stakeholder theory provide two rationales for considering the needs of stakeholders rather than only those of shareholders. First, the demands of these groups are considered important, and therefore, the organisation has an obligation to meet the claims of stakeholders. Second, recognising the interests of stakeholders can help improve a firm's profitability (Ayuso & Argandoña, 2009). Gray, Dey, Owen, Evans and Zadek

(1997) also maintained that this approach helps increase accountability. They further argued that regardless of a company's size, it can ignore social or economic activities that involve the public. Lee (1998) defined weak managers who avert the public parts of a firm's operations; the scandals arising from such management affect all stakeholders. Thus, stakeholders may favour different types of corporate monitoring mechanisms.

Stakeholder theory has been criticised in various ways—the most common criticisms relate to how it aligns the conflicting interests of various stakeholders. Since stakeholder demands differ, the theory may struggle to balance these needs, and the question may arise of whether the theory treats all stakeholders equally (Hoque, 2006). Sternberg (1997) stated that stakeholder theory does not align with the main aim of firms, which is to maximise shareholder value in the long term. Sternberg also indicated that this theory lacks the fundamental ability to improve corporate governance and corporate financial performance and that it is difficult for shareholders to allow others to benefit from their investment. Moreover, it is not easy to balance various stakeholder interests, and accountability is unjustified. Property rights and accountability are also vitiated by stakeholder theory. However, this does not imply that stakeholder theory has lost its legitimacy (Sternberg, 1997). Etzioni (1998) added that all stakeholders cannot be represented effectively in practical corporate governance because this would threaten the company's benefit.

Hoque (2006) illustrated the relationship between earnings management and stakeholder theory by noting that managers may manipulate a company's financial reporting to benefit themselves at the cost of stakeholders. Hoque (2006) also indicated that according to stakeholder and agency theories, stakeholders can monitor managers by providing resources to meet the managers' needs. Prior et al. (2008) also documented managers'

manipulation of earnings to further their own interests at the expense of shareholders and also noted that this manipulation may affect other stakeholders. Earnings management affects all stakeholders, not only shareholders (Prior et al., 2008). When stakeholders doubt a company that resorts to earnings management, its stock value is likely to fall. Healy and Wahlen (1999) pointed out that earnings management misleads stakeholders about a company's economic performance. Managers may further their private interests over those of stakeholders; according to stakeholder theory, managers are the agents of all the stakeholders in the firm. Different groups of stakeholders have different expectations of firms; for examples, employees desire high salaries while shareholders desire high returns. In contrast, creditors want the company to be financially stable so it can pay its debts, whereas regulators pressure the company to comply with regulations (Albassam, 2014). Thus, it could be argued that managers may use earnings management to meet the expectations of particular stakeholders at the expense of the others.

To sum up, as noted above, no single theory has yet been used to fully explain earnings management activities. However, agency theory and stakeholder theory are the frameworks most commonly used to describe the different actions and roles of managers. Agency theory focuses on the relationship between the management (agents) of the company and the owners (principal); the agent has the power to handle the owner's interests and to make decisions that favour the owner. Conversely, stakeholder theory focuses on how society expects firms to behave in ways that socially or economically benefit society as a whole. However, stakeholder theory does not revolve around monitoring mechanisms, such as value maximisation, or the monitoring role of directors; it centres on ethical issues and corporate social responsibility (Habbash, 2010). Agency theory also assumes that the opportunistic behaviour of managers can be reduced through monitoring or bonding activities (Jensen & Meckling, 1976), which suggests that

financial manipulation can be prevented by monitoring or bonding devices such as the IFRS, the ISA and ownership structure. Agency theory is very useful for examining unethical financial and accounting behaviours, including earnings management (Culpan & Trussel, 2005). Conversely, stakeholder theory can offer explanations for unethical practices that can damage investors, society, employees, creditors and the government (Culpan & Trussel, 2005).

Stakeholder theory has also been severely criticised. For example, the theory is regarded as incompatible with the business objectives of owners since it ignores maximising long-term value and factors in competing interests, such as those of suppliers, employees and customers (Sternberg, 1997). Therefore, in the present study, agency theory has been employed to analyse and describe the relationship among earnings management and monitoring or bonding mechanisms, such as the IFRS, the ISA and ownership structure. Agency theory has been used here to examine whether the predicted relationships exist between earnings management and the IFRS, the ISA and the features of ownership structure.

4.3 Mitigating Factors on Earnings Management

Earnings management is the manipulation of financial statements to obscure true data. It is one of the creative techniques that managers use to manipulate financial reports; it can take several forms and may include deceitful actions. Managers deliberately use earnings management practices to inflate or deflate their financial performance to meet certain goals. As a result, earnings management has become a significant concern for policymakers and stakeholders. It has also received significant attention in the literature on accounting (Kumar & Vij, 2017).

Many studies have sought to identify factors that may decrease earnings management practices and thus improve the financial information quality. For example, Constantatos (2018), Gulzar (2011), Katmon and Al Farooque (2017) and Lin and Hwang (2010) examined the impact of corporate governance in constraining the level of earnings management. Alzoubi (2018), Chen, Lin and Zhou (2005) and Piot and Janin (2005) investigated the association between earnings management and audit quality. Hong and Andersen (2011) explored whether corporate social responsibility is negatively related to earnings management.

Several factors that may play a role in decreasing earnings management and improving the quality of financial statements have been identified, such as audit quality, corporate social responsibility, corporate governance, debt financing, internal audit function and audit firm size (Big 4 or 5 auditors). However, the current study seeks to fully explore the role of the IFRS, the ISA and ownership structure in constraining earnings management. This is because there is a dearth of studies investigating the impact of the ISA on the level of earnings management practices. More importantly, in the Saudi context, studies have scarcely examined the impact of the IFRS, the ISA and ownership structure on earnings management (Al-Faryan & Dockery, 2017).

According to Zéghal et al. (2011), the IFRS may mitigate earnings management by narrowing accounting choices. Ownership structure also could play a fundamental role in reducing earnings management practices (Alzoubi, 2016). With regard to the ISA, Favere-Marchesi (2000) and Sylph (2005) argued that ISA implementation enhances the quality of auditing performance, whereby high-quality auditing helps reduce earnings management and the inclusion of misleading information in earnings reports. Thus, it is possible that earnings management will decrease with the introduction of the ISA because

the quality of auditing performance improves on adopting the ISA. The following subsections explain how these factors could mitigate earnings management by reviewing and discussing the findings of prior research.

4.3.1 International Financial Reporting Standards Adoption and Earnings Management

Making financial reporting more accurate, transparent and accessible to targeted stakeholders is the principal goal of the IFRS (Cotter, 2012). It implies that IFRS adoption plays a significant role in improving the quality of financial reporting (De George, Li, & Shivakumar, 2016). This view agrees with that of Edogbanya and Kamardin (2014), who stated that the implementation of the IFRS leads to increased quality of financial reporting. Daske et al. (2008) and Ding, Hope, Jeanjean and Stolowy (2007) claimed that the disclosure requirements under the IFRS are more comprehensive compared with those under national accounting standards, which may lead to a more high-quality, transparent financial reporting procedure. According to Ramanna and Sletten (2009), numerous countries worldwide have replaced their national accounting standards with the IFRS either voluntarily or obligatorily in order to improve the quality of financial statements.

Several factors minimise a company's ability to engage in earnings management and thus increase the quality of financial reporting. One of these is the IFRS. The IFRS are quite helpful for preventing accounting manipulation and increasing the quality of financial information (Zéghal et al., 2011). The IFRS address earnings management by defining a set of high-quality accounting standards that bring transparency, efficiency and accountability to financial markets worldwide (Barth et al., 2008; Nobes & Parker, 2016). The IFRS can reduce the amount of reporting discretion to a significantly greater extent than many local GAAPs; they also restrict opportunistic behaviours by management and

reduce earnings management (Ball, Robin, & Wu, 2003; Daske et al., 2008; Jeanjean & Stolowy, 2008).

The IFRS may help minimise earnings management practices and increase the quality of accounting information by narrowing accounting choices (Ashbaugh & Pincus, 2001; Zéghal et al., 2011). The elimination of the LIFO method of inventory valuation under the International Accounting Standards 2 (IAS) is a good example. The use of LIFO to evaluate closing inventory when prices go up can result in significantly lower and unrealistic reported inventory closing values (Nobes & Parker, 2016).

The IFRS are principles-based standards. They can decrease earnings management because principles-based accounting standards usually reduce the opportunistic interpretation of complex rules by requiring firms to adhere to the standards' targets (Ho, Liao, & Taylor, 2015). For example, IAS 38, on intangible assets, requires the recognition of external and internal intangibles based on the projected economic benefits that an asset will bring to an entity. Associated expenses must also be measured in a reliable manner (Nobes & Parker, 2016).

Furthermore, IFRS 15, on revenue recognition, requires revenue recognition from contracts with customers by some steps that aim to enhance the comparability of financial reporting among companies worldwide. IFRS 15 raised the complexity correlated to revenue recognition with severe conditions. It seeks to decrease many doubts with prior standards for revenue recognition, defining the accounting practice for any revenue resulting from contracts with customers (Ferreira, 2020). According to Napier and Stadler (2020, p. 474), 'IFRS 15 has significantly changed the philosophy of revenue recognition, not only to provide a fairer representation of corporate revenues, but also to inhibit the use of revenues for 'earnings management' purposes'. In this regard, Tutino, Regoliosi,

Mattei, Paoloni, and Pompili (2019) found that earnings management is highly affected by the introduction of IFRS 15 in Italian telecommunications companies.

The ability to prefer fair values over historical costs is another distinctive advantage of the IFRS; this approach ensures transparent reporting and increases the quality of earnings. The IFRS require a fair-value presentation of financial and non-financial assets (Nobes & Parker, 2016). Barth et al. (2008) highlighted that historical cost accounting differs significantly from fair value accounting and that for the most part, historical cost accounting tends to result in unrealistic reported values. Shortridge, Schroeder and Wagoner (2006) provided an example in this regard: In this study, the book values of assets for companies on the New York Stock Exchange were approximately five times less than their real market values. Therefore, it is likely that fair value accounting reflects a firm's economic reality more accurately than historical cost accounting. Fair value accounting also provides information that is more relevant to investors. Thus, fair value accounting can decrease managers' discretion to manipulate earnings (Landsman, Maydew, & Thornock, 2012; Power, 2010).

Several empirical studies have examined whether earnings management is affected by IFRS adoption. For example, Barth et al. (2008) investigated the association between the application of the IFRS and accounting quality. They observed 326 firms based in 21 countries that adopted the IFRS during 1994–2003 and found that IFRS adoption led to a decrease in earnings management. This finding was also confirmed by Aussenegg, Inwinkl and Schneider (2008), who examined data from 17 nations in the European region and found that earnings quality was positively affected by IFRS adoption. That is, they concluded that companies reporting under the local GAAP engaged in more earnings management than companies reporting under the IFRS.

In addition, Zéghal et al. (2011) examined listed French firms to determine how IFRS adoption influences earnings management. They examined changes in discretionary accruals for a sample of 353 listed French firms in six different industries during the pre-mandatory and post-mandatory periods (2003–2004 and 2005–2006, respectively). They found a considerable reduction in discretionary accruals and absolute discretionary accruals after IFRS adoption. In another study of earnings quality before and after IFRS adoption, Chen, Tang, Jiang and Lin (2010) collected data from 15 European countries and found that earnings management fell significantly after IFRS adoption.

Pelucio-Grecco, Geron, Grecco and Lima (2014) examined the influence of full IFRS convergence on the quality of the reported earnings of 317 non-financial listed firms in Brazil. They also compared data from the before and after IFRS convergence periods (2006–2008 and 2009–2011) and found that full IFRS convergence resulted in a considerable decrease in earnings management. Similarly, Chua, Cheong and Gould (2012) examined 2001–2008 data for 172 companies listed on the Australian Stock Exchange. They analysed earnings management before and after mandatory IFRS adoption in Australia and found that earnings management decreased after IFRS adoption.

Wan Ismail, Anuar Kamarudin, van Zijl and Dunstan (2013) used the modified Jones model to find the absolute value of abnormal accruals for selected listed firms from the Thompson One Banker database, using a dataset containing 4,010 firm-year observations for 2002–2009. This period includes the three years before and after IFRS adoption (2002–2005 and 2006–2009, respectively). This study also found a significant negative association among absolute discretionary accruals and IFRS-based accounting standards. This finding is in line with that of Liu, Yao, Hu and Liu (2011), who investigated earnings management practices in Chinese firms before and after mandatory IFRS adoption, which

occurred in 2007. This study also revealed a reduction in earnings management practices after mandatory IFRS implementation.

Yuk and Leem (2017) examined the earnings quality of a sample of Korean listed firms after IFRS adoption. They employed a long-term approach to analyse the impact of IFRS adoption. They also took the Korean institutional environment into account; in Korea, listed companies' financial statements shifted from individual to consolidated financial statements after IFRS adoption. This study also found that the earnings quality of the listed Korean companies improved substantially during the five-year period after IFRS adoption. Similarly, Setiawan, Taib, Phua and Chee (2019) investigated the impact of IFRS adoption on earnings management in listed Indonesian firms using data for 2007–2010. They also found that IFRS adoption led to a decrease in accrual earnings management.

Iatridis (2010) examined earnings management in 241 UK firms listed on the London Stock Exchange using data from before (2004) and after (2005) IFRS adoption. This study found that earnings management decreased after IFRS adoption. This finding is in line with those of Iatridis and Rouvolis (2010), who examined the association between IFRS adoption and earnings management in Greece and found that Greek firms reporting under the IFRS exhibited lower levels of earnings management.

Thus, all these studies found results consistent with the objective of the IFRS, which is to improve the quality of financial reporting, including by reducing earnings management. However, other studies have found different results. Van Tendeloo and Vanstraelen (2005) examined 636 firm-year observations of German companies for the period 1999–2001. Their goal was to determine whether there is a relationship between voluntary IFRS adoption and decreased earnings management. They used absolute discretionary accruals

based on the Jones model to investigate earnings management and found no major difference in earnings management between companies reporting under the IFRS and those complying with the German GAAP. This finding is in line with those of Paananen and Lin (2009), who examined the impact of IFRS adoption on accounting quality in Germany and reached similar conclusions.

Further, Kabir, Laswad and Islam (2010) examined 100 firms listed on the New Zealand Stock Exchange using data for 2002–2009 to determine how IFRS adoption influences accounting and the quality of earnings. They used discretionary accruals based on the Jones model to investigate earnings management practices and found that during the years of IFRS adoption, discretionary accruals were considerably higher. Likewise, Ahmed et al. (2013) used a large sample and a larger series of firms from 20 countries that adopted the IFRS in 2005. They found that mandatory IFRS adoption resulted in a decrease in accounting quality. Doukakis (2014) also found a noticeable increase in accrual-based and real earnings management practices after mandatory implementation of the IFRS in 22 countries in Europe.

In a study of Egyptian firms using data for the 2002–2009 period, Ebaid (2016) examined the effect of IFRS implementation on the quality of financial reporting. This study found that IFRS adoption positively affected earnings management practices in Egypt. Similarly, Hessayri and Saihi (2015) used data from the United Arab Emirates, Morocco, South Africa and the Philippines to investigate whether IFRS adoption complements the role of corporate governance factors in monitoring managers' discretionary behaviour. This study covered eight years: four before IFRS adoption and four after it. The modified Jones model was employed to calculate earnings management practices. This study found

no evidence that earnings management practices decreased after IFRS adoption and concluded that managers' discretionary behaviour is not associated with IFRS adoption.

In the Saudi Arabia context, several studies have addressed the adoption of IFRS in Saudi. For example, Nurunnabi, Jermakowicz and Donker (2020) investigated the problems of IFRS implementation in Saudi firms listed on Tadawul using a survey. Nurunnabi (2018) studied the perceived costs and benefits of IFRS adoption in Saudi Arabia. Nurunnabi (2017a) also examined the variances between the IFRS and Saudi. Further, the impact of the IFRS on the net income of Saudi companies was examined by Razak and Alqurashi (2019). Albader (2015) also examined the transition to IFRS and its implications for accounting education in Saudi Arabia. Moreover, the expected benefits and challenges of adopting IFRS in Saudi Arabia were explored by El Zoubi (2017). In addition, whether accounting information after IFRS adoption is value relevance or not in Saudi Arabia was investigated by Oraby (2017). However, the present study seeks to provide empirical evidence regarding the effectiveness of the IFRS in constraining earnings management practices, which was not investigated in Nurunnabi et al.'s, Nurunnabi's, Razak and Alqurashi's, Albader's, El Zoubi's and Oraby's studies.

Based on this discussion, it can be observed clearly that the reviewed studies yielded different and unexpected outcomes. Therefore, it is not yet clear whether IFRS implementation can decrease earnings management. One could argue that the manner in which the IFRS were implemented in the studied countries could play a role in these varied results. Undoubtedly, IFRS implementation plays a fundamental role: If the IFRS were implemented improperly or inaccurately, this could have a massive negative impact on the earnings management and the quality of accounting information. As Zéghal et al. (2011) explained, a stronger implementation mechanism for the enforcement of the IFRS

must be organised to ensure it increases the quality of accounting information and thus reduces earnings management. However, although the influence of the IFRS on reducing earnings management is questionable according to the results of the empirical studies described above, there is support for the idea that the IFRS could play a fundamental role in decreasing earnings management practices and thus increasing the quality of financial reporting. Further, in agency theory terms, the IFRS can act as a bonding mechanism to help minimise managers' opportunistic behaviour, including the manipulation of financial information (Stiglitz, 2000; Wong, 2018). Pae et al. (2006) also found that the adoption of the IFRS reduces agency problems by increasing the quality of financial reporting. Therefore, this study addresses this relationship by testing the following hypothesis:

> **HA1**: *There is a significant relationship between IFRS and earnings management in Saudi listed firms.*

The following table summarises studies in the prior literature that examines the relationships of the IFRS with earnings management.

Table 4.1: Summary of Studies Examining the Relationship of the IFRS with Earnings Management

Studies	Sample location	No. of firms	Year	Independent variable	Dependent variable	Main results	Data collection	Research technique	Theory used
Van Tendeloo and Vanstraelen (2005)	Germany	636 firm-year observations	1999 – 2001	IFRS	Discretionary accruals measured by Jones (1991) model.	They found that no major difference in earnings management between companies reporting under the IFRS and those complying with the German GAAP	Secondary data (Quantitative method)	OLS regression.	None
Barth et al. (2008)	21 countries	326 listed firms	1994 – 2003	IFRS	Earnings smoothing and managing earnings towards a target.	IFRS adoption led to a decrease in earnings management.	Secondary data (Quantitative method)	A multiple regression.	None
Chen et al. (2010)	15 European countries	21,707 firm-year observations	2000 – 2007	IFRS	Discretionary accruals measured by modified Jones (1995) and Kothari et al. (2005) models.	Earnings management fell significantly after IFRS adoption.	Secondary data (Quantitative method)	Univariate analysis and OLS regression.	None
Iatridis (2010)	UK	1,127 firm-years observations	2007 – 2010	IFRS	Discretionary accruals measured by Jones (1991) model.	Earnings management decreased after IFRS adoption.	Secondary data (Quantitative method)	Logistic and OLS regression.	Agency
Iatridis and Rouvolis (2010)	Greece	254 listed firms	2004 – 2006	IFRS	Earnings smoothing.	They found that Greek firms reporting under the IFRS lower levels of earnings management.	Secondary data (Quantitative method)	Logistic and OLS regression.	None

Kabir et al. (2010)	New Zealand	118 listed firms	2002 – 2009	IFRS	Discretionary accruals measured by Jones (1991) model.	Absolute discretionary accruals were higher under IFRS.	Secondary data (Quantitative method)	Correlation matrix and OLS regression.	None
Zéghal et al. (2011)	French	353 listed firms	2003 – 2006	IFRS	Discretionary accruals measured by Kothari et al. (2005) model.	The IFRS are negatively related to discretionary accruals.	Secondary data (Quantitative method)	logistic regression.	Agency
Liu et al. (2011)	China	21,707 firm-year observations	2000 – 2007	IFRS	Earnings smoothing.	A reduction in earnings management practices after mandatory IFRS implementation.	Secondary data (Quantitative method)	A multiple regression.	None
Chua et al. (2012)	Australian Stock Exchange	172 listed firms	2001 – 2008	IFRS	Earnings smoothing and managing earnings towards a target.	Earnings management decreased after IFRS adoption.	Secondary data (Quantitative method)	Correlation matrix.	None
Wan et al. (2013)	Malaysia	4,010 firm-year observations	2002 – 2009	IFRS	Discretionary accruals measured by modified Jones (1995) model.	The adoption of IFRS is associated with lower earnings management and higher value relevant	Secondary data (Quantitative method)	OLS regression.	None
Ahmed et al. (2013)	20 countries	4,893 firm-years observations	2002 – 2007	IFRS	Income smoothing, benchmark targeting and discretionary accruals measured by modified Jones (1995) model.	IFRS adoption led to a decrease in accounting quality.	Secondary data (Quantitative method)	OLS regression.	None

Pelucio-Grecco et al. (2014)	Brazil	317 non-financial listed firms	2006 – 2011	IFRS	Discretionary accruals measured by Jones (1991), modified Jones (1995), Kang and Sivaramakrishnan (1995) and Kothari et al. (2005) models.	Earnings management decreased after IFRS adoption.	Secondary data (Quantitative method)	Pooled data and random effects model.	None
Doukakis (2014)	22 countries in Europe	15,206 firm-year observations	2000 – 2010	IFRS	Discretionary accruals measured by modified Jones (1995) model Real earnings management tested by the normal levels of production costs, cash flows from operations, and discretionary expenses.	IFRS adoption had no influence on either real or accrual earnings management.	Secondary data (Quantitative method)	OLS regression.	None
Hessayri and Saihi (2015)	United Arab Emirates, Morocco, South Africa and the Philippines	584 firm-year observations	Eight years	IFRS	Discretionary accruals measured by modified Jones (1995) model.	They found that find no evidence of lower earnings management after IFRS adoption.	Secondary data (Quantitative method)	Multivariate analysis regression.	None

Ebaid (2016)	Egypt	74 listed firms	2002 – 2009	IFRS	Earnings smoothing and managing earnings toward earnings target.	IFRS adoption led to a decrease in accounting quality.	Secondary data (Quantitative method)	OLS regression.	None
Setiawan et al. (2019)	Indonesia	1,127 firm-years observations	2007 – 2010	IFRS	Discretionary accruals measured by Jones (1991) and modified Jones (1995) models.	The adoption of IFRS have a negative effect on earnings management.	Secondary data (Quantitative method)	OLS regression.	None

4.3.2 International Standards on Auditing Adoption and Earnings Management

Needles et al. (2002) indicated:

> Global investors are understandably concerned about the content (primarily an accounting issue) and the quality (primarily an auditing issue) of externally reported financial information and the process of harmonization is expected to mitigate these concerns. Harmonization, achieved by promulgating a set of high-quality international standards in accounting, is intended to allow for greater transparency and comparability, reduce costs to users, preparers, auditors and others, and thus improve capital market efficiency. (p. 182)

The ISA are regarded as one of these international standards. The purpose of the ISA is to guide auditors through financial statements and help them ensure that those statements are correct (Obaidat, 2007). The ISA are issued by the IAASB, which

> is a global independent standard-setting body that serves the public interest by setting high-quality international standards, which are generally accepted worldwide. The IAASB sets its standards in the public interest with advice from the IAASB Consultative Advisory Group and under the oversight of the Public Interest Oversight Board. Changing expectations and public confidence in audits is one of the most significant environmental drivers that have shaped the IAASB's strategy for 2020–2023. (IFAC, 2019b, p. 7)

Globalisation has led to requests for generally understood and reliable financial information (Fraser, 2010). Hope, Thomas and Vyas (2017) argued that other stakeholders (such as creditors) might be misguided about a company's performance owing to earnings manipulation and hence may demand high-quality audits. Vanstraelen and Schelleman (2017) mentioned that high-quality audits improve the reliability of financial statements. Piot and Janin (2005) also argued that high-quality auditing could reduce earnings management practices and the inclusion of misleading information in

earnings reports. Burns and Fogarty (2010) asserted that 'many elements lead to quality audits; however, the development and existence of appropriate, high-quality standards is the first step on the road' (p. 311). The harmonisation of accounting and auditing standards are regarded as 'beneficial to the development of an effective and efficient global economy through the provision of relevant and credible accounting information to users and markets' (Boolaky & Soobaroyen, 2017, p. 59). In addition, Leuz and Wysocki (2016) maintained that 'disclosure regulation or reporting standards need to be enforced and hence are unlikely to be effective without reliable auditing' (p. 538). Thus, it could be argued that the implementation of the ISA and the harmonisation of auditing practices could be fulfilled for reliable auditing (Boolaky & Soobaroyen, 2017).

A number of factors lead to improving the quality of auditing performance and thus improve the reliability of financial reporting, one of these being the ISA. According to Humphrey et al. (2009), after the 2008 global financial crisis, many countries have improved the quality of their auditing standards by using the ISA. Boolaky and Soobaroyen (2017) claimed that the ISA are as essential as the IFRS in ensuring that a country's financial system is safe and steady. Further, Hayes et al. (2015) indicated that the ISA allow auditors to provide trustworthy, credible financial reporting, which in turn promotes high-quality accounting information. Combarros (2000) and Needles et al. (2002) argued that the adoption of the ISA could lead to the increased reliability of accounting information and encourage confidence among the users of this information. Moreover, Humphrey et al. (2009) indicated that the implementation of the ISA for auditing financial reports is expected to enhance transparency for investors who work on a global scale. Favere-Marchesi (2000) and Sylph (2005) also maintained that the ISA could play a fundamental role in improving audit quality, which will be reflected positively in improving the quality of audited financial reporting.

Empirically, Köhler (2009) pointed out that after the ISA were adopted throughout Europe, data from the Big 4 audit companies operating in the European Union indicated a considerable increase in the reliability and quality of audited financial statements. Similarly, Soltani (2007) found that the implementation of universal auditing standards in Europe harmonised auditing practices and encouraged high-quality auditing. Shbeilat (2019) reported that the requirements imposed by ISA No. 260 positively influenced audit quality.

Moreover, Lin and Chan (2000) compared the auditing standards in China with international auditing standards. They found that firms that adopted the ISA experienced significant advances in the accounting profession in China. Carson, Ferguson and Simnett (2006) used annual report data to investigate the consequences of Australia's review of audit reporting standard AUS 702 to align it with the ISA (ISA 700). They indicated that the disclosures in financial reports have improved as a result of the changes to the audit reporting standards.

Regarding previous empirical studies, several empirical studies have examined the role of external audit quality in limiting the level of earnings management practices. For example, Alzoubi (2018), Habbash (2010) and Yasser and Soliman (2018) investigated the influence of auditor tenure, size, specialisation, and independence in curbing the level of earnings management. In addition, Alves (2013), Alhadab and Clacher (2018), Chen et al., (2005), Chen et al., (2011), Piot and Janin (2007) and Van Tendeloo and Vanstraelen (2008) examined the association between auditor size and discretionary accruals (as a proxy of earnings management). However, none of these studies has provided evidence of ISA's effect on earnings management. Therefore, the current study

fills this gap by examining the effectiveness of the ISA in constraining the level of earnings management practices.

Based on this discussion, it could be deduced that the ISA could play a fundamental role in constraining earnings management since it improves the quality of auditing performance, whereby high-quality auditing could reduce earnings management and the inclusion of misleading information in earnings reports (Piot & Janin, 2005). According to Boolaky and Soobaroyen (2017) and Vanstraelen and Schelleman (2017), high-quality audits enhance the reliability of financial reporting, and the ISA contributes to improving the quality of audits. Hayes et al. (2015) also indicated that since the ISA enable auditors to establish reliable, trustworthy financial reports, these standards promote high-quality accounting information. In this regard, Köhler (2009) found that the reliability and quality of audited financial statements have increased by using the ISA.

Further, according to agency theory, a monitoring scheme that ensures managers act in the interests of shareholders is crucial to minimising agency conflict between managers and shareholders. Auditing is regarded as a device for reducing conflict between shareholders and managers and therefore reduces agency costs (Watts & Zimmerman, 1983). According to Minnis and Shroff (2017), high-quality audits may increase the credibility of financial reporting and could decrease agency costs. In addition, when the quality of auditing is high, agency costs are lower (Gul et al., 2002). The ISA are regarded as essential to increasing the quality of auditing performance (Favere-Marchesi, 2000; Sylph, 2005). Therefore, it could be argued that the ISA could reduce agency costs by improving the quality of auditing performance. Based on the above, the present study addresses this relationship by testing the following hypothesis:

HA2: *There is a significant relationship between ISA and earnings management in Saudi listed firms.*

The following table summarises studies in the prior literature that examines the relationships of audit quality with earnings management.

Table 4.2: Summary of Studies Examining the Relationship of Audit Quality with Earnings Management

Studies	Sample location	No. of firms	Year	Independent variable	Dependent variable	Main results	Data collection	Research technique	Theory used
Chen et al. (2005)	Taiwan	367 listed firms	1999 – 2002	External audit	Discretionary accruals measured by modified Jones (1995) model.	Auditor size led to a decrease in discretionary accruals, while industry specialist is not associated with lower discretionary accruals .	Secondary data (Quantitative method)	OLS regression.	None
Piot and Janin (2007)	France	120 listed firms	1998 – 2002	External audit	Discretionary accruals measured by Jones (1991) model and the Jones cash-flow model.	An audit committee limits upward earnings management, while a Big five auditor has no impact on earnings management.	Secondary data (Quantitative method)	Multivariate Analysis.	Agency
Van Tendeloo and Vanstraelen (2008)	European countries	113 listed firms	1998 – 2002	External audit	Discretionary accruals measured by modified Jones (1995) model.	Big 4 auditors have a negative influence on earnings management.	Secondary data (Quantitative method)	Correlation matrix and OLS regression.	Agency
Habbash (2010)	UK	350 listed firms	2003 – 2006	External audit	Discretionary accruals measured by Kothari et al. (2005) model.	An independent and specialised external auditor are negatively related to discretionary accruals.	Secondary data (Quantitative method)	The random-effects GLS regression.	Agency
Chen et al. (2011)	China	3,310 firm-year observations	2001 – 2006	External audit	Discretionary accruals measured by modified Jones (1995) model.	Audit firm size has a negative influence on earnings management.	Secondary data (Quantitative method)	Correlation matrix and OLS regression.	Agency

Alves (2013)	Portugal	33 listed firms	2003 – 2009	External audit	Discretionary accruals measured by modified Jones (1995) model.	Big 4 auditors have a positive influence on earnings management.	Secondary data (Quantitative method)	OLS regression.	Agency
Alzoubi (2018)	Jordan	72 listed firms	2006 – 2012	External audit	Discretionary accruals measured by modified Jones (1995) model.	Auditor tenure, size, specialisation, and independence have a negative influence on earnings management.	Secondary data (Quantitative method)	The random-effects GLS regression.	Agency
Alhadab and Clacher (2018)	UK	498 listed firms	1998 – 2008	External audit	Discretionary accruals measured by Jones (1991) model Real earnings management tested by Dechow, Kothari, and L. Watts (1998) model.	Auditor size led to a decrease in real and accrual earnings management.	Secondary data (Quantitative method)	OLS regression.	None
Yasser and Soliman (2018)	Egypt	70 listed firms	2012 – 2016	External audit	Discretionary accruals measured by modified Jones (1995) model.	Auditor tenure size has a positive influence on discretionary accruals, while auditor size and specialisation have an insignificant relationship with discretionary accruals.	Secondary data (Quantitative method)	OLS regression.	Agency

4.3.3 Ownership Structure and Earnings Management

Another factor that minimises managers' ability to manage earnings and thus improves the quality of financial reports is ownership structure (Alzoubi, 2016). As mentioned earlier, according to Denis and McConnell (2003), ownership structure is 'the identities of a firm's equity holders and the sizes of their positions' (p. 3). The degree of significance of the company's ownership structure is based on the fact that how stocks are distributed among shareholders affects corporate actions that depend on shareholder votes (Abdelsalam & El-Masry, 2008). There are two broad types of ownership structure: concentrated and dispersed. When ownership is concentrated, one group of owners have significant influence over the equity owners. Ownership dispersion occurs when influence and ownership are spread across a group that includes equity owners and managers (Haniffa & Cooke, 2002).

Many modern businesses separate ownership and control, especially companies that are publicly listed. However, this separation can cause serious conflicts between owner(s) and managers. Empowered managers might seek to enrich themselves through bonuses or other perks at the expense of the owners (Watts & Zimmerman, 1986). Therefore, shareholders may be willing to pay to monitor managers to prevent such unethical behaviour. Hence, the separation of ownership from control creates an environment in which agency conflicts arise. Effective monitoring mechanisms are necessary to minimise these conflicts. The severity of agency conflicts in firms can be alleviated by effective corporate governance mechanisms, especially specific components of a company's ownership structure and quality external audits (Klein, 2002a). Ang et al. (2000) argued that agency problems might be alleviated by ownership concentration and that it is possible to significantly reduce agency problems by aligning the controlling owners' interests with those of the company.

Company ownership structure is a crucial monitoring mechanism for managers (Alzoubi, 2016). Pergola (2005) stated that the quality and scope of observation and monitoring in a firm can be heavily influenced by ownership structure. Ownership structure can be a powerful mechanism for limiting earnings management practices (Habbash, 2010). There are two primary lines of thought about effective ownership structures. According to the first line of thought, if managers have a substantial portion of shares, they are more likely to act like shareholders. This can diminish agency conflicts by aligning managers' interests with those of shareholders. According to the second line of thought, outsiders who own a considerable portion of a company's shares are more likely to monitor managers—especially their financial reporting—which can reduce earnings management (Habbash, 2010).

Many studies have investigated the role of ownership structure in constraining earnings management practices but have offered mixed evidence and varied conclusions. Alzoubi (2016) examined the relationship between ownership and earnings management practices in 62 Jordanian firms listed on the Amman Stock Exchange. This study concluded that institutional ownership, foreign ownership, insider managerial ownership, family ownership and external blockholder ownership have a greater impact on financial reporting quality and could therefore curtail earnings management practices. The study also confirmed that earnings management is significantly affected by ownership structure. Likewise, Hosseini and Abdoli (2012) found that ownership structure has a significant impact on the level of earnings management practices.

Alves (2012) investigated the power of three types of ownership structures (ownership concentration, managerial ownership and institutional ownership) to curb earnings management practices in Portuguese firms. This study yielded mixed findings. It found

that discretionary accruals had a negative relationship with ownership concentration and managerial ownership; however, it found no significant relationship between discretionary accruals and institutional ownership. These findings were confirmed by Siregar and Utama (2008), who also concluded that institutional ownership does not affect earnings management practices.

Al-Fayoumi et al. (2010) also examined the effect of ownership structure (managerial ownership, institutional ownership and blockholder ownership) on earnings management practices. They used data for the 2001–2005 period for a sample of industrial companies listed on the Amman Stock Market. They found that managerial ownership is positively related to earnings management and but did not find an association between earnings management and the two other types of ownership structures. In a similar study, El Moslemany and Nathan (2019) examined the relationship between ownership structure and earnings management in Egyptian firms. They found a positive association between blockholder ownership and earnings management practices and no association between earnings management and managerial or public ownership.

Based on these studies, it could be argued that there is some controversy over whether ownership structure can eliminate or at least reduce earnings management practices. Therefore, further research is needed to determine the extent to which different ownership structures affect earnings management in Saudi Arabia, which has different regulations and ownership structures from those of other countries. In this regard, Alghamdi (2012) investigated the motivations and techniques of earnings management and the extent to which corporate governance and external audits can affect earnings management in Saudi Arabia using data for 2006–2009. This is the first study to examine the role of ownership structure in constraining earnings management practices in the Saudi Arabian context. It

used the ownership structure as one of the proxies of corporate governance and found that the ownership structure does not affect earnings management practices. However, the present study seeks to provide new evidence regarding the role of ownership structure in constraining earnings management after the recent reforms in Saudi Arabia's financial environment, such as the implementation of international standards, which was not investigated in Alghamdi's study. The current study predicts that the adoption of international standards may improve the effectiveness of ownership structure in curbing managers' motivations to involve in earnings management practices in Saudi Arabia. As reported by Abd Alhadi, Senik, & Johari (2018), after IFRS adoption, ownership mechanisms are more likely to improve a company's earnings quality by reducing earnings management practices. Therefore, the present study provides recent data and up-to-date results on the role of the types of ownership structure in diminishing earnings management and thus improving the quality of financial reporting in the listed firms in Saudi Arabia following the significant reforms that have been implemented.

Five types of ownership structures—internal managerial ownership and external institutional, blockholder, family and state ownership—are discussed in the following subsections. The present study also examines the hypotheses of the ownership structure in accordance with theory that agency problems may be alleviated by ownership concentration and that it is possible to significantly reduce agency problems by aligning the controlling principal's interests with those of the firm (Ang et al., 2000).

4.3.3.1 *Managerial Ownership and Earnings Management*

Most studies have proposed that managers who own some portion of shares are more likely to have interests aligned with those of shareholders (Peasnell, Pope, & Young, 2005). In other words, increased managerial ownership improves corporate performance

and decreases opportunistic managerial behaviour (Teshima & Shuto, 2008). Agency theory explains this view: When managers have little or no stock in the company they manage, self-interest influences their conduct more than the interests of the firm or of shareholders. Eventually, they move away from the goal of increasing the company's value to self-interest, which can then lead to earnings management (Jensen & Meckling, 1976). Further, when managers own a specific share of company stocks over which they have direct control, or when their personal wealth is directly connected to their managerial decisions, their interests tend to increasingly align with those of shareholders, and consequently, they are less likely to use earnings management (Hashim, 2009). Therefore, managerial ownership could be a mechanism that can restrict managers' opportunistic behaviour and encourage them to report earnings accurately to reflect the company's true economic value. Thus, a significant negative association between earnings management practices and managerial ownership is expected (Klein, 2002a).

Several studies have tested the relationship between managerial ownership and earnings management. For example, Yang, Lai and Leing Tan (2008) examined the relationship of director ownership with earnings management practices. Earnings management practices were measured using discretionary accruals, and managerial ownership was used as a proxy of director ownership. This study used the modified Jones model to evaluate discretionary accruals in a sample of Taiwanese listed firms. Using data for 1997–2004, the study found a positive relationship between earnings management practices and managerial ownership. Gopalan and Jayaraman (2012) studied the relationship between earnings management and managerial control in firms in 22 countries. They found that when a higher proportion of managers were also shareholders, it led to more earnings management practices.

Alves (2012) examined a sample of 34 non-financial listed companies based in Portugal to determine whether there is an association between earnings management and ownership structure. The study used data for the 2002–2007 period. Discretionary accruals, which were used as a proxy for earnings management, were found to have a negative association with both managerial ownership and ownership concentration. This study concluded that managerial ownership and ownership concentration decrease earnings management and thus improve the quality of annual earnings.

Farouk and Bashir (2017) examined the impact of ownership structure on earnings management in listed conglomerates in Nigeria, using 2008–2014 data. Managerial ownership, institutional ownership, blockholder ownership and foreign ownership were considered, and the modified Jones model was used to measure earnings management practices. This study found a significant negative relationship between managerial ownership and earnings management. Laux and Laux (2009) examined the impact of boards of directors' equilibrium strategies for setting incentive compensation for CEOs and for overseeing financial reporting as well as the effects that they have on earnings management. They found that increasing CEO equity motivations does not increase earnings management practices.

Aygun, Ic and Sayim (2014) examined a sample of 230 Turkish companies registered on the Istanbul Stock Exchange using data for 2009–2012. This study considered the influence of corporate ownership structure and board size on earnings management practices and revealed a significant positive relationship between earnings management practices and managerial ownership. Likewise, using a sample of 18,790 Japanese companies, Teshima and Shuto (2008) found a positive relationship among managerial ownership and discretionary accruals (as a proxy of earnings management).

Alzoubi (2016) used a sample of 62 companies based in Jordan and listed on the Amman Stock Exchange to investigate the relationship between firm ownership and earnings management. This study also found that managerial ownership has a substantial impact on earnings management. In contrast, Al-Fayoumi et al. (2010) analysed 195 firm-year observations in Jordan for 2001–2005 and revealed a strong positive association between earnings management and managerial ownership.

Ayadi and Younes (2014) used a sample of 117 French firms listed on the SBF 250 index and data for the 2003–2011 period to examine the association between ownership structure and earnings quality. They also found that earnings management practices is positively affected by managerial ownership. This study used Kothari et al. (2005) model to measure discretionary accruals.

Using a sample of 50 companies listed on the Egyptian stock market, El Moslemany and Nathan (2019) investigated the relationship between ownership structure and earnings management practices. The cross-sectional version of the modified Jones model was used to measure earnings management. This study revealed that there is no association between these two variables.

Clearly, many of these described studies found a positive relationship between managerial ownership and earnings management. This finding could indicate that higher percentages of managerial ownership increase the power of managers, which in turn causes them to focus more on their own interests than on the needs of stockholders. As a result, these managers may have engaged in earnings management to benefit themselves (Peasnell et al., 2005). Meanwhile, however, numerous other studies found a negative relationship between managerial ownership and earnings management. One explanation for this finding could be that managers who are also owners are more risk averse and therefore

reluctant to invest in riskier but potentially lucrative projects; this explanation aligns with agency theory (Wright, Shaw, & Guan, 2006). Although the findings are inconclusive so far, most studies have indicated that managerial ownership is in line with the interests of managers and owners and provides a tool for controlling managers' risk-taking behaviour (Jensen & Meckling, 1976). According to agency theory, because managerial ownership is more consistent with the goals of management and other shareholders, it will eventually increase the company's value (Jensen & Meckling, 1976). Consequently, there is some debate over whether managerial ownership restrains managerial opportunism. The current study addresses this association by testing the following hypothesis:

> **HA3**: *There is a significant relationship between managerial ownership and earnings management in Saudi listed firms.*

4.3.3.2 *Institutional Ownership and Earnings Management*

In recent years, institutional ownership has increased significantly. In 1992, institutionally owned stocks comprised more than 50% of the outstanding equity of stocks listed on the New York Stock Exchange. Institutional investors hold a powerful position, which enables them to control and monitor corporate managers. Institutional investors can take part in the decisions made by boards of directors; this power places them at the centre of a company's corporate governance system (Ping & Wing, 2011). As a result, studies have examined the relationship between institutional ownership and a number of factors, such as corporate operating performance, research and development, corporate investment performance and earnings management.

Common sense suggests that institutional investors are a fundamental monitoring tool and that they can manage managers better than small shareholders. (Black, 1991). Major institutional owners have large stakes in a company. Therefore, they have the ability,

power and resources to monitor managers, and they are also able to discipline employees and thus influence managers' behaviours (Coffee, 1991). Certainly, institutional ownership has several advantages as regards obtaining and processing information. Therefore, it can be stated that institutional ownership plays a significant role in monitoring managers and in improving information competence in capital markets (Ferreira & Matos, 2008). Mallin (2007) argued that managers are unlikely to ignore the power of institutional investors. Companies often meet with major institutional investors one-on-one to discuss management's performance and quality. Therefore, it is possible that institutional investors monitor managers' earnings manipulations (Bowen, Rajgopal, & Venkatachalam, 2008). In this regard, Ferreira and Matos (2008) used a comprehensive dataset of equity holdings from 27 countries to examine the influence of institutional investors around the globe. They revealed that companies with large percentages of ownership by independent or foreign institutions have considerably higher company values, lower capital expenses and better operating performance than their industry counterparts.

Koh (2003) used data for 1993–1997 on a sample of 107 Australian companies to investigate the association between aggressive earnings management and institutional ownership. Earnings management was measured using the modified Jones model. This study found a positive association between low levels of institutional ownership and earnings management; when the institutional ownership level was high, this association was negative. In Spain, Osma and Noguer (2007) employed a dataset of 155 firm-year observations for 1999–2001 to investigate whether corporate governance features can decrease earnings management practices. They estimated earnings management practices using the Jones model and found that institutional directors significantly constrain

earnings management. Likewise, in Bangladesh, Hossain (2020) found that institutional ownership has a significant negative association with earnings management practices.

Using a sample of Turkish listed firms and 2009–2012 data, Aygun et al (2014) examined how accrual earnings management is influenced by board size and ownership structure. They concluded that institutional investor ownership significantly curbed accrual earnings management. Likewise, Aybars and Ataünal (2018) examined the impact of institutional investors on earnings management and suggested that institutional ownership has a significant negative association with opportunistic management of accruals. In contrast, Rebai (2011) examined the association between earnings management and ownership by various institutional investors. This study did not find a significant association between the percentage of institutional investors and earnings management.

Ajay and Madhumathi (2015) used a sample of 393 firms listed on the CNX 500 in the National Stock Exchange to investigate the influence of institutional ownership on earnings management practices in India. Data for 2008–2013 were used, and discretionary accounting accruals were used to proxy for earnings management. They found that in larger, more mature firms, institutional ownership (foreign and domestic) negatively affected earnings management. In a similar study, Alzoubi (2016) investigated the association between ownership structure and earnings management practices in Jordanian firms and concluded that institutional ownership negatively affected earnings management practices.

Abdul Jalil and Abdul Rahman (2010) used data for 2002–2007 on a sample of Malaysian firms to study the role of institutional shareholdings in the earnings management activities of their portfolio firms. This study found that institutional shareholdings can decrease portfolio firms' self-serving earnings management behaviour. In contrast, Alves (2012)

found no significant association between institutional ownership and discretionary accruals in Portugal-based firms.

As described thus far, most empirical studies have suggested a negative relationship between earnings management practices and institutional ownership. This finding implies that institutional shareholders can monitor and mitigate managers' opportunistic behaviours, such as earnings management. Further, agency theory suggests that observation by institutional investors can be a powerful tool of corporate governance (Jensen & Meckling, 1976). Carleton, Nelson and Weisbach (1998) stated that owners' ability to monitor and control firms can be enhanced by a higher percentage of institutional ownership. This means that this type of ownership is commonly viewed as a significant tool for controlling and monitoring managers' behaviour. In a comprehensive survey of the literature, Ronen and Yaari (2008) argued that the empirical evidence suggests that institutional ownership is probably a corporate governance mechanism for preventing earnings management. Therefore, the inclusion of institutional investors should positively influence a firm's behaviour. An explanation for this view is that the pressure of investor ownership discourages managers from engaging in earnings management by encouraging a focus on the long term (Alzoubi, 2016). Therefore, the present study examines institutional ownership by testing the following hypothesis:

> **HA4**: *There is a significant relationship between institutional ownership and earnings management in Saudi listed firms*.

4.3.3.3 *Blockholder Ownership and Earnings Management*

Blockholder ownership is when one investor or group of investors hold a large number of shares in a company. Blockholder investors can take many forms, including individual investors, mutual funds, banks, trusts and pension funds (Cronqvist & Fahlenbrach,

2008). Blockholders are 'shareholders who beneficially own at least five percent of a firm's outstanding common stocks while they serve as neither the firm's executive officers nor on the board of directors' (Zhong, Gribbin, & Zheng, 2007, p. 43). Blockholders are often more interested than smaller external shareholders in controlling managers' activities. This suggests that a higher percentage of blockholder ownership will decrease the likelihood of earnings management (Shleifer & Vishny, 1997). Indeed, Yeo, Tan, Ho and Chen (2002) reported that earnings management practices decreases due to monitoring by external blockholders. The impact of large shareholders on the internal control of firms is undeniable—their degree of involvement motivates larger shareholders to monitor firms they invest in (Gabrielsen, Gramlich, & Plenborg, 2002). This means that the larger shareholders may play a significant role in monitoring management's activities.

However, Zhong et al. (2007) mentioned two contradictory views about the impact of blockholders on earnings management. Since selling a large block of shares leads to a considerable decline in the stock prices, blockholders are encouraged to control managers' behaviour, which reduces accruals earnings management. However, blockholders could also pressure managers to use income-increasing accruals earnings management to report better financial performance. In line with this, Boubakri, Cosset and Guedhami (2005) suggested that agency problems may occur when a large percentage of shares are held by blockholders because minority shareholders usually have expropriation interests. In fact, however, both of these effects could occur in specific cases. In developed countries, blockholders are more likely to reduce earnings management practices due to rigorous regulations and protections for investors. However, in developing countries, a high percentage of blockholders may correlate with more earnings management practices for a number of reasons, including the low levels of

governance, weak regulations, poor accounting disclosures and poor protection for investors (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000).

In an investigation of the influence of blockholders on corporate governance, Jensen and Meckling (1976) proposed that blockholder monitoring can decrease agency costs. This is the first study on the role of blockholders in reducing agency costs. In addition, Zhong et al. (2007) used a sample of 5,475 companies listed on the New York Stock Exchange, the modified Jones model and pooled cross-sectional data. They examined the impact of blockholders on earnings management and found a positive relationship between earnings management and blockholder ownership.

Al-Fayoumi et al. (2010) studied how ownership structure influences earnings management using a sample of industrial firms listed on the Amman Stock Market and data for 2001–2005 and found there was no association between both. Peasnell et al. (2005), who used UK data for 1993–1996, also found no association between earnings management practices and blockholder ownership, thus supporting this finding. In this study, an indicator variable was assigned a value of 1 if a single external stockholder owned 10% of a firm's shares and 0 otherwise.

Alves (2012) examined the impact of ownership structures on earnings management practices in firms based in Portugal. This study found a negative association between discretionary accruals and ownership concentration and concluded that since ownership concentration decreases earnings management, it enhances the quality of annual earnings. Likewise, using 1995–1999 data collected from Canadian companies, Bozec (2008) examined the impact of ownership concentration on earnings management. This study also found that ownership concentration negatively affects earnings management practices. Farouk and Bashir (2017) obtained similar results. They examined the effect of

ownership structure on earnings management during 2008–2014 in listed conglomerates based in Nigeria. Earnings management was measured using the modified Jones model. They found that ownership blockholder has a significant negative impact on earnings management practices.

Using a sample of 50 companies listed on the Egyptian stock market, El Moslemany and Nathan (2019) investigated the association between earnings management and ownership structure. The cross-sectional version of the modified Jones model was used to measure earnings management. They found a positive association between earnings management and blockholder ownership. In contrast, in a study of Jordanian companies, Alzoubi (2016) found that blockholder ownership has a negative effect on earnings management practices. This study also used the cross-sectional version of the modified Jones model to measure earnings management practices.

Thus, the results of these empirical studies have offered mixed evidence and varied conclusions. However, despite these somewhat questionable findings, there is support for the idea that blockholders play a role in monitoring managers' behaviour. Under agency theory, blockholder monitoring can be viewed as a tool to reduce agency costs and thus can be expected to reduce earnings management (Jensen & Meckling, 1976). According to Holderness (2003), two main factors encourage blockholders to monitor firm managers: the advantage of the private benefit of control and the possibility of enhancing their stock returns. In companies with a high proportion of blockholders, these owners can use their robust voting force to minimise managers' motivations to involve in earnings management practices (Persons, 2006). Therefore, in the current study, the impact of blockholder ownership on earnings management is examined by testing the following hypothesis:

HA5: *There is a significant relationship between blockholder ownership and earnings management in Saudi listed firms*.

4.3.3.4 *Family Ownership and Earnings Management*

According to James (1999), a family business can be defined in two ways: Either the entire firm or a major share of it is owned by only one person or by different members of one family. Studies on this topic have found that family ownership is more common in developing countries and in East Asia (Yang, 2010). Various studies have come to different conclusions about the impact of family ownership; two of these conclusions are particularly significant here.

The first possible conclusion is that a founding family with a long-term interest in the company will most likely limit managers' ability to engage in earnings management. Since the fortune of the founding family is tied to the firm's value, such families have a great deal of interest in controlling the employees (Anderson & Reeb, 2003). The desire to maintain the firm's reputation and a focus on the long term also prevent family firms from managing earnings. Earnings management usually results in short-term gains but can be disadvantageous in the long term (Anderson & Reeb, 2003). Further, agency theory suggests that concentrated ownership alleviates agency problems (Jensen & Meckling, 1976). In line with this viewpoint, Anderson and Reeb (2003) concluded that family firms often perform better than non-family firms, and Bona-Sánchez, Pérez-Alemán and Santana-Martín (2011) found that the quality of family firms' earnings is better than that of non-family companies. Alzoubi (2016) also reported that family firms seem to perform better and to have more sound corporate governance and thus these firms will minimise managers' ability to engage in earnings management.

The second possible conclusion is that family dominance results in the confiscation of the interests of minority shareholders (Jaggi et al., 2009). Due to the entrenchment effect, family members who control a majority of shares might extract specific benefits from the firm at the cost of minority shareholders. It is very common for family members to hold crucial positions on the board of directors and on the management team. It is reasonable to imagine that the boards of such firms do not effectively monitor managers, resulting in poor corporate governance (Alzoubi, 2016). Further, the entrenchment effect enhances the probability of information asymmetry between majority-owning families and other shareholders. These family members would also have the incentive and opportunity to manage earnings to benefit themselves (Alzoubi, 2016). In line with this view, Siregar and Utama (2008) found that family-owned firms had more efficient earnings management than other companies. According to Yang (2010), a rise in insider ownership leads to a rise in earnings management and thus to a higher degree of entrenchment effect of family members.

Several studies have examined the role of family ownership in constraining earnings management practices. For example, Eng, Fang, Tian, Yu and Zhang (2019) compared earnings management in a sample of family-run companies in China and the United States. They found that these family-run firms have a higher level of earnings management than do other companies. Similarity, using 258 company-year observations of 43 Jordanian companies for 2011–2016, Bataineh, Abuaddous and Alabood (2018) found a significant positive association between earnings management and family ownership. They used the Jones model to evaluate earnings management.

Using a sample of listed Thai firms and Compustat Global Vantage data for 2000–2007, Boonlert-U-Thai and Sen (2019) attempted to demonstrate that the earnings quality of

family-run firms is considerably higher than that of other firms. They also tried to show that this difference is more pronounced in companies operated by founding family members. They provided strong evidence of the earnings persistence and the accrual quality of firms run by founding family members, countering the argument that such companies have lower earnings quality, more opaque disclosures and a higher implied cost of equity capital.

Based on data collected from Iranian companies, Ghabdian, Attaran and Froutan (2012) compared the levels of discretionary accruals in family-owned and non-family companies. Discretionary accruals were calculated using the modified Jones model. They found a significant negative association between discretionary accruals and family ownership. Similarly, Cascino, Pugliese, Mussolino and Sansone (2010) investigated the quality of accounting information in listed Italian family-run firms and found that these firms had higher-quality financial information than non-family firms.

The impact of family control on earnings management in listed Brazilian firms was examined by Almeida-Santos, Dani, Machado and Krespi (2013). They used data for 2000–2010 from 123 companies. Further, they used the Kang and Sivaramakrishnan model to measure earnings management. The study concluded that family-run companies use more negative discretionary accruals than do non-family companies and that family ownership has a positive effect on earnings management. In addition, Ishak, Haron, Nik-Salleh and Abdul Rashid (2011) used a sample of companies listed on the Main Market of Bursa, Malaysia, to examine the relationship between earnings management practices and the proportion of family members on corporate boards. They measured earnings management by discretionary accruals and also revealed a positive association between owning-family board membership and discretionary accruals.

Chi, Hung, Cheng and Lieu (2015) used a sample of 379 Taiwanese firms and data for 2006–2012 to investigate the association between earnings management and family ownership through ascertaining the effect of board independence. They revealed a positive association between earnings management and family ownership. In contrast, in Malaysia, Hashim and Devi (2008a) examined the relationships between earnings quality, ownership structure and board characteristics. They found a significant positive relationship between earnings quality and family ownership. Likewise, in Jordan, family ownership was found to play a fundamental role in reducing the level of earnings management and ensuring the quality of earnings (Alzoubi, 2016).

Thus, some of the studies described here found a positive association between earnings management and family ownership. All of them explain this finding by suggesting that this association stems from the failure of family owners to understand the interests of other shareholders (Jaggi et al., 2009). Researchers who found a negative association between family ownership and earnings management attributed it to the fact that these companies use powerful corporate governance systems to protect the reputations of the founding families (Alzoubi, 2016; Anderson & Reeb, 2003). However, family-owned organisations ought to be more effective than publicly owned ones since the former have lower monitoring costs (Fama & Jensen, 1983). Anderson et al. (2003) also found that family-owned firms perform better than their non-family owned counterparts. Further, according to Prencipe and Bar-Yosef (2011), in the long term, the owning families of such firms probably have a strong effect over both board members and top executives, which can constrain earnings management. Consistent with agency theory, Schulze, Lubatkin, Dino and Buchholtz (2001) used Jensen and Meckling's model of 1976 and found that family ownership minimises agency costs for three reasons:

> First, owner management should reduce agency costs because it naturally aligns the owner-managers' interests about growth opportunities and risk. Second, private ownership should reduce agency costs because property rights are largely restricted to internal decision agents. Finally, family management should further reduce agency costs because shares tend to be held by agents. (pp. 99–100)

Based on the above, the current study suggests that there is an association between family ownership and earnings management and tests this relationship using the following hypothesis:

> **HA6**: *There is a significant relationship between family ownership and earnings management in Saudi listed firms.*

4.3.3.5 *State Ownership and Earnings Management*

Shleifer (1998) suggested that because of a variety of determinants, including bureaucratic interference, conflicting objectives and weak managerial incentives, state ownership is widely considered one of the primary causes of corporate inefficiency. Meanwhile, the majority of existing literature has empirically and theoretically supported the notion that ownership structure has a huge effect on corporate governance, a firm's overall performance and the extent of earnings management practices (Alves, 2012; Shleifer & Vishny, 1997). According to the Organisation for Economic Co-operation and Development (2005), government ownership presents a significant defiance to the economies of many countries. This issue becomes still more complex when considering the association between the responsibilities and functions of state ownership, such as nominating a board of directors, and at the same time place restrictions on those responsibilities. Creating an environment where state-owned companies and private firms can compete fairly poses yet another problem, and this challenge becomes more obvious

when government interference, such as through taxes, new regulations and policies that negatively influence the private firms, is factored into the mix.

Although earnings management is very common, it is unclear whether business managers in government-owned companies in emerging economies engage in the same type of financial reporting as their counterparts in private companies (Wang & Yung, 2011). However, agency theory proposes that agency problems might be alleviated by ownership concentration and that it is possible to significantly reduce agency costs by aligning the controlling principal's interests with those of the firm (Ang et al., 2000). In the same vein, Shleifer and Vishny (1986) emphasised that the larger the controlling shareholder of a given company is, the more that shareholder's interests align with those of the company. Such close alignment of interests can affect earnings management behaviour. Therefore, it could be argued that there is a negative relationship between government ownership and earnings management.

According to Aharony, Lee and Wong (2000), factors that are not directly bound up with economics (e.g. government policies and political connections) also influence the likelihood that a firm will choose to go public. It is not a secret that government-owned companies have stronger connections to the government than non-government-owned companies, and hence, it can be inferred that it is easier for government-owned companies to access the equity market. As a result, government-owned companies display little interest in earnings management practices that would better position them to go public (Cheng, Wang, & Wei, 2015). Further, managers in state-owned companies have fewer incentives to engage in earnings management because CEO compensation contracts usually place less weight on accounting performance in these companies than in non-state-owned companies (Chen et al., 2011). Financing contracts and executive

compensation are the two principal factors that significantly affect earnings management (Dechow, Ge, & Schrand, 2010). Thus, since state-owned companies' ability to access bank financing does not depend primarily on the quality of their financial statements, these managements have less motivation to involve in earnings management practices, and may engage less in earnings management practices than would non-government-owned companies (Gaio & Pinto, 2018).

In contrast, Fan, Wong and Zhang (2007) maintained that government-owned companies usually monitor managers less than non-government-owned companies because their CEOs have connections to political figures. As a result, governance characteristics in the former is often weak and unprofessional. Certainly, the latter companies have stronger motivations to engage in earnings management than government-owned companies. However, the lower level of monitoring results in a higher degree of earnings management practices in government-owned companies (Cheng et al., 2015). Ben-Nasr, Boubakri and Cosset (2015) argued that the government is more inclined to prioritise political objectives. Therefore, government-owned companies have significantly more motivation to tunnel corporate resources and to expropriate other shareholders in the pursuit of political benefits. Managers in these companies may be encouraged to manage earnings to hide these expropriations.

Several researchers have examined the impact of state ownership on earnings management practices. For example, Wang and Yung (2011) investigated the role of government ownership in reducing the level of earnings management in China. They used the modified Jones model to estimate discretionary accruals in 1998–2006 and found that private companies manage earnings more than government-owned companies do in China. They also concluded that the government's protection of state companies may

reduce the pressure on managers such that they do not need to manipulate accounting information that is specific to their company. However, Almasarwah (2015) found that state ownership has no effect on earnings management practices in Jordanian industrial firms.

Using data for 2003–2009 collected from the domestic Chinese equity markets, Cheng et al. (2015) investigated firms' earnings management around their IPOs. The sample in this study comprised 437 IPO firms. The study used discretionary accruals as a proxy of earnings management and used a cross-sectional modified Jones (1995) model to estimate discretionary accruals. Its findings indicated that state-owned companies show less interest in earnings management than do privately owned companies around their IPO. This finding is in line with that of Ding, Zhang and Zhang (2007), who investigated the influence of ownership concentration over earnings management in listed Chinese firms. They found an association between earnings management and ownership concentration and proposed that state-owned companies in China engage in less earnings management than do privately owned companies.

Fan and Song (2017) used a sample of 400 public firms from the Shanghai and Shenzhen Stock Exchanges of China and data for 2003–2015 to examine the earnings management of Chinese central state-owned enterprises from the perspective of an extended alignment effect. Earnings management was measured using accrual-based and real earnings management. Their study revealed that these enterprises do not hesitate to engage in earnings management to decrease GDP volatility. The findings also suggested that these enterprises tend to employ real earnings management, which alleviates the volatility of their earnings, to reduce GDP volatility. These finding are in line with that of Xu, Wang and Anandarajan (2012), who also used a sample of firms listed on China's stock

exchanges to examine the effect of ownership structure on the quality of reported earnings. According to this study, companies with private, foreign or society ownership have better-quality earnings than state-controlled firms.

Ben-Nasr, Boubakri and Cosset (2009) investigated the association between earnings quality and shareholder identity. They employed a unique dataset for 1980–2003 comprising 174 privatised companies listed in 29 different countries. The results indicated a very strong relationship between state ownership and lower earnings quality. More specifically, the findings of the study showed an association between higher abnormal accruals and state ownership. This result is in line with the viewpoint that state owners are more motivated to manipulate earnings to hide the expropriation of corporate resources for political purposes. This finding is consistent with that of Gaio and Pinto (2018), who examined data for the 2003–2010 period from private and public European companies. They concluded that state-owned firms have more abnormal accruals and lower accruals quality than non-government-owned companies, indicating that government-owned companies are not impervious to capital market pressures.

Clearly, these summarised empirical studies have offered mixed findings and varied conclusions. However, several authors, such as Ding, Zhang and Zhang (2007) and Shleifer and Vishny (1997), stated that if the government owns a large share of a given company, this gives the government an incentive to monitor managers more closely. This, in turn, reduces agency costs while enhancing firms' profitability. Aljifri and Moustafa (2007) noted that when the government is the dominant owner of a firm, managers seem to be encouraged to set aside personal incentives and make accounting choices that enhance firm performance. From an agency theory standpoint, Jensen and Meckling (1976) proposed that ownership concentration may alleviate agency problems. They also

argued that the presence of large shareholders is associated with lower earnings management. Therefore, the present study adapts the above arguments and proposes that there is a relationship between government ownership and earnings management. The current study addressed this relationship by testing the following hypothesis:

> **HA7**: *There is a significant relationship between state ownership and earnings management in Saudi listed firms.*

The following table summarises studies in the prior literature that examines the relationships of ownership structure with earnings management.

Table 4.3: Summary of Studies Examining the Relationship of Ownership Structure with Earnings Management

Studies	Sample location	No. of firms	Year	Independent variable	Dependent variable	Main results	Data collection	Research technique	Theory used
Koh (2003)	Australia	107 listed firms	1993 – 1997	Ownership structure	Discretionary accruals measured by Jones (1991) model.	Institutional ownership has a negative influence on earnings management.	Secondary data (Quantitative method)	A multiple regression.	Agency
Peasnell et al. (2005)	UK	1,271 firm-year observations	1993 – 1996	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	No association between earnings management practices and blockholder ownership.	Secondary data (Quantitative method)	Pooled OLS regression.	Agency
Osma and Noguer (2007)	Spain	155 firm-year observations	1999 – 2001	Ownership structure	Discretionary accruals measured by Jones (1991) model, the Jones cash-flow model	Earnings management is negatively affected by institutional ownership.	Secondary data (Quantitative method)	Multivariate analysis regression.	None
Zhong et al. (2007)	US	5,475 firm-year observations	1994 – 2003	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Discretionary accruals are positively affected by blockholder ownership.	Secondary data (Quantitative method)	OLS regression.	Agency
Yang (2008)	Taiwan	7,213 firm-year observations	1997 – 2004	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Managerial and blockholder ownership are positively related to earnings management.	Secondary data (Quantitative method)	The regression model.	Agency

Siregar and Utama (2008)	Indonesia	144 listed firms	1994 – 2002	Ownership structure	Discretionary accruals measured by Jones (1991) model, modified Jones (1995) model, Dechow et al., (2002) model and Kasznik(1999) model.	Family ownership has an impact on earnings management, while institutional ownership does not affect earnings management.	Secondary data (Quantitative method)	A multiple regression.	Agency
Teshima and Shuto (2008)	Japan	18,163 firm-year observations	1991 – 2000	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Managerial ownership is positively related to earnings management.	Secondary data (Quantitative method)	OLS regression.	Economics
Hashim and Devi (2008a)	Malaysia	280 listed firms	2005	Ownership structure	Earnings quality measured by Dechow and Dichev (2002) model.	Earnings quality is positively affected by family ownership.	Secondary data (Quantitative method)	Multivariate analysis.	Agency
Ben-Nasr et al. (2009)	29 different countries	147 listed firms	1980 – 2003	Ownership structure	Discretionary accruals measured by Ball et al. (2005) model and Kothari et al. (2005) model.	State ownership is positively related to earnings management.	Secondary data (Quantitative method)	OLS regression.	None
Abdul Jalil and Abdul Rahman (2010)	Malaysia	94 listed firms	2002 – 2007	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Earnings management is negatively affected by institutional ownership.	Secondary data (Quantitative method)	One-Sample T-test	Agency

Al-Fayoumi et al (2010)	Jordan	Industrial listed firms	2001 – 2005	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	They found that managerial ownership is positively related to earnings management and but did not find an association of institutional ownership and blockholder ownership with earnings management.	Secondary data (Quantitative method)	GMM model.	Agency
Wang and Yung (2011)	China	557 listed firms	1998 – 2006	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	State ownership is negatively related to earnings management.	Secondary data (Quantitative method)	Multivariate analysis.	Agency
Ishak et al. (2011)	Malaysia	236 listed firms	2009	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Family members are positively related to discretionary accruals.	Secondary data (Quantitative method)	Multivariate analysis.	None
Alves (2012)	Portugal	34 listed firms	2002 – 2007	Ownership structure	Discretionary accruals measured by Jones (1991) model and modified Jones (1995) model.	Managerial and concentration ownership are negatively related to earnings management.	Secondary data (Quantitative method)	OLS regression.	Agency
Gopalan and Jayaraman (2012)	22 countries	48,410 firm-year observations	1992 – 2006	Ownership structure	Earnings smoothing and the magnitude of accruals.	Discretionary accruals are positively affected by managerial ownership.	Secondary data (Quantitative method)	OLS regression (Pooled model).	None

Alghamdi (2012)	Saudi	334 listed firms	2009 – 2006	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Ownership structure does not affect earnings management.	Secondary data (Quantitative method)	Stepwise regression and the random-effects GLS regression.	Agency
Ghabdian et al. (2012)	Iran	31 listed firms	2002 – 2009	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Discretionary accruals are negatively affected by family ownership.	Secondary data (Quantitative method)	Multivariate analysis.	None
Cascino et al. (2012)	Italy	778 firm-year observations	1998 – 2004	Ownership structure	Earnings quality measured by Dechow and Dichev (2002) model.	Family ownership positively affected the quality of financial information.	Secondary data (Quantitative method)	Pooled OLS regression.	Agency
Almeida-Santos et al. (2013)	Brasilia	1,353 firm-year observations	2000 – 2010	Ownership structure	Discretionary accruals measured by Sivaramakrishnan model.	Family ownership positively affected earnings management.	Secondary data (Quantitative method)	Random effects and OLS regression.	Agency
Aygun et al (2014)	Turkey	230 listed firms	2009 – 2012	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Managerial ownership is positively related to earnings management, while institutional ownership has a negative influence on earnings management.	Secondary data (Quantitative method)	Multivariate analysis.	Agency

Ayadi and Younes (2014)	French	117 listed firms	2003 – 2011	Ownership structure	Discretionary accruals measured by Kothari et al. (2005) model.	Earnings management is positively affected by managerial ownership.	Secondary data (Quantitative method)	Panel data (the method of Panel Corrected Standard Errors)	Agency
Ajay and Madhumathi (2015)	India	393 listed firms	2008 – 2013	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Institutional and foreign ownership negatively affected earnings management .	Secondary data (Quantitative method)	T-test and Mann–Whitney test.	Agency
Chi et al. (2015)	Taiwan	379 listed firms	2006 – 2012	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Family firms have a significant positive impact on earnings management.	Secondary data (Quantitative method)	Correlation matrix and OLS regression.	Agency
Almasarwah (2015)	Jordan	12 listed firms	2005 – 2012	Ownership structure	Discretionary accruals measured by Peasnell et al model, Jones (1991) model and modified Jones (1995) model.	State ownership has no effect on earnings management.	Secondary data (Quantitative method)	Multivariate analysis and T-test.	Agency
Cheng et al. (2015)	China	437 listed firms	2003-2009	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	State-owned companies have less interest in earnings management.	Secondary data (Quantitative method)	Path analysis and OLS regression.	None

Ding et al. (2015)	China	273 listed firms	2002	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	State-owned companies engage in less earnings management than do privately owned companies.	Secondary data (Quantitative method)	Multivariate analysis.	Agency
Alzoubi (2016)	Jordan	62 listed firms	2013	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Institutional, foreign, insider managerial, family and external blockholder ownership could curtail earnings management.	Secondary data (Quantitative method)	The random-effects GLS regression.	Agency
Farouk and Bashir (2017)	Nigeria	137 listed firms	2008 – 2014	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Blockholder ownership has a significant negative impact on earnings management .	Secondary data (Quantitative method)	Multivariate analysis.	Agency
Fan and Song (2017)	China	400 listed firms	2003-2015	Ownership structure	Accrual-based and real earnings management. Discretionary accruals measured by Jones (1991) model.	They revealed that these state-owned enterprises do not hesitate to engage in earnings management to decrease GDP volatility.	Secondary data (Quantitative method)	Fixed effects model.	Agency
Bataineh et al. (2018)	Jordan	43 listed firms	2011 – 2016	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	Family ownership positively affected earnings management .	Secondary data (Quantitative method)	Multivariate analysis.	Agency

Gaio and Pinto (2018)	Europe	1,219 listed firms	2003 – 2010	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	State-owned firms have more abnormal accruals and lower accruals quality than non-government-owned companies	Secondary data (Quantitative method)	Multivariate analysis.	Agency
Boonlert-U-Thai and Sen (2019)	Thai	1,562 firm-year observations	2000 – 2007	Ownership structure	Quality of accruals measured by Dechow and Dichev (2002) model.	Firms run by founding family members have higher earnings quality.	Secondary data (Quantitative method)	Regression analysis.	Agency
El Moslemany and Nathan (2019)	Egypt	50 listed firms	2004 – 2015	Ownership structure	Discretionary accruals measured by modified Jones (1995) model.	They found a positive association between blockholder ownership and earnings management practices and no association between earnings management and managerial or public ownership.	Secondary data (Quantitative method)	OLS and the random-effects GLS regression.	Agency
Hossain (2020)	Bangladesh	32 listed firms	2014 – 2018	Ownership structure	Discretionary accruals measured by working capital accruals.	Institutional ownership has a negative influence on earnings management.	Secondary data (Quantitative method)	OLS regression.	Agency

4.4 Chapter Summary

This chapter identified some theories that have been used to explain earnings management behaviours: agency theory and stakeholder theory. In addition, factors that could affect earnings management—the IFRS, the ISA and firm ownership structure—were also discussed.

Agency theory was chosen for the present study because it is suitable for creating appropriate hypotheses for testing. Agency theory offers a useful approach to understanding and interpreting the connection between the IFRS, the ISA, ownership structure and earnings management.

In terms of factors that could affect earnings management—the IFRS, the ISA and ownership structure—studies have offered different and unexpected outcomes. In other words, it is not yet clear whether IFRS implementation and ownership structure could mitigate earnings management, although there is support for the concept that both play a role in constraining earnings management. With regard to the factor ISA, the current study anticipates that earnings management will be mitigated with the introduction of the ISA because the quality of auditing performance improves on adopting the ISA.

Chapter 5: Methodology

5.1 Introduction

The previous chapter identified the theories most often used to explain earnings management, focusing on the theory adopted in this study. In addition, the chapter presented and discussed factors that may influence earnings management: the IFRS, the ISA and ownership structure.

As noted earlier, this study aims to answer the following questions: (a) Does the implementation of the IFRS influence earnings management in listed Saudi companies? (b) Does the implementation of the ISA influence earnings management in listed Saudi companies? (c) Does ownership structure influence earnings management in listed Saudi companies? This chapter will present and explain the methodology utilised to fulfil the aims of the current study.

This chapter is organised as follows: Section 5.2 describes the research method of the present study. Section 5.3 describes the empirical research models used in the current study. Next, explanations of how the dependent, independent and control variables are measured are provided in Sections 5.4, 5.5 and 5.6, respectively. The data collection methods and the study sample are described in Sections 5.7 and 5.8, respectively. Section 5.9 describes the analytical procedures used in the current study, and Section 5.10 provides a concise summary of the chapter.

5.2 Research Method

Silverman (2006) defined a method as 'particular research techniques that contain quantitative and qualitative methods like [statistical correlation and interviewing and audio recording]' (p. 15). There are three types of research methods: qualitative,

quantitative and mixed (Creswell & Creswell, 2018). According to Saunders, Lewis and Thornhill (2012), the choice of the research method is guided by the study question(s) and study aims.

Creswell and Creswell (2018) described qualitative research as 'an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem' (p. 41). This approach uses questions, procedures, data (which are typically collected from the participants' setting) and a comprehensive data analysis of particular and general themes that seek to interpret the data (Creswell & Creswell, 2018). According to Guba and Lincoln (1994), qualitative research can be used to address questions such as *what*, *why* and *how*.

In terms of quantitative research, Creswell and Creswell (2018) defined quantitative research as 'an approach for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analysed using statistical procedures' (p. 41). According to Bryman and Cramer (2002), it is a strategy that emphasises quantification in the collection and analysis of data and therefore involves collecting and examining numerical data and carrying out statistical tests. Measurements are quantitative, unbiased and statistically valid and are used to establish and examine hypotheses (Neuman, 2013). On other hand, a mixed-methods approach is 'an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks' (Creswell & Creswell, 2018, p. 41).

Based on the information in Table 4.1, 4.2 and 4.3, it could be concluded that all the previous empirical research examining the relationship of the IFRS, the ISA and

ownership structure with earnings management has been carried out utilising quantitative methods (secondary data). These studies used this method because they depend on analysing quantifiable sources such as financial data to achieve their studies aims. They also aim to investigate the connections between dependent and independent variables in order to test hypotheses generated based on prior literature and theory. Therefore, the current study believes that the most appropriate method for the present study is quantitative methods (secondary data). This is because the current study uses financial statements as its primary source to fulfill the aims of the current study as well as its aims is in line with the aims of prior studies in Table 4.1, 4.2 and 4.3, which examines hypotheses generated depend on the previous literature review and theory.

Furthermore, from 59 studies, 56 studies used multivariate analysis (regression analysis) to test hypotheses, as shown in Table 4.1, 4.2 and 4.3. This is because these studies aim to illustrate the change on the dependent variable using one or more independent variables (Saunders et al., 2012). They also aim to identify which independent variables have an impact on a dependent variable (Gujarati, 2003). Therefore, following the majority of previous studies in Table 4.1, 4.2 and 4.3, the current study employs multivariate analysis (regression analysis) to examine the current study's hypotheses, as will be illustrated in Section 5.9. This is because the present study examines whether a regression model can describe variations in earnings management (dependent variable) using variations in the IFRS, the ISA and ownership structure (independent variables), which is in line with the aims of prior studies in Table 4.1, 4.2 and 4.3. In other words, the current study uses regression analysis in order to explore whether or not earnings management, the IFRS, the ISA and ownership structure are linked.

5.3 Empirical Research Models

The present study used the following regression equation to test the proposed hypotheses of the relationship of the IFRS, the ISA and ownership structure with earnings management:

Equation 5.1

$$MJ - DAC = \beta_0 + \beta_1\, IFRS + \beta_2\, ISA + \beta_3\, INSTOWN + \beta_4\, MANAGOWN + \beta_5\, BLOCKOWN + \beta_6\, FAMOWN + \beta_7\, STAOWN + \beta_8\, BRDIND + \beta_9\, BRDSIZE + \beta_{10}\, SIZE + \beta_{11}\, ROA + \beta_{12}\, COF + \beta_{13}\, INDUSTRY + \beta_{14}\, YEAR + \varepsilon$$

where:

Symbol	Variable name	Descriptions and measures
MJ-DAC	Discretionary accruals as a proxy of earnings management	Absolute value of the discretionary accruals estimated using the modified Jones model (1995).
IFRS	International Financial Reporting Standards	A dummy variable that takes the value of 1 for annual reports from 2016 to 2019 (after IFRS implementation) and 0 for annual reports from 2014 to 2015 (before IFRS implementation).
ISA	International Standards on Auditing	A dummy variable that takes the value of 1 for annual reports from 2017 to 2019 (after ISA implementation) and 0 for annual reports from 2014 to 2016 (before ISA implementation).
INSTOWN	Institutional Ownership	The proportion of stock held by institutional investors.
MANAGOWN	Managerial Ownership	The proportion of common stock held by executive directors.
BLOCKOWN	Blockholder Ownership	The proportion of 5% or more of a firm's stock held by individual blockholder.
FAMOWN	Family Ownership	The proportion of stock held by family members.
STAOWN	State Ownership	The portion of stock owned by government.

BRDIND	Board Independence	The proportion of independent non-executive directors on the board.
BRDSIZE	Board Size	Total numbers of the board members.
SIZE	Firm Size	The natural log of the company's total assets.
ROA	Return on Assets	Net income divided by total assets.
CFO	Cash Flow from Operations	Annual net cash flow of operational activities divided by total assets at year end.
INDUSTRY	Industry	A dummy variable that takes the value of 1 in an observation industry and 0 otherwise.
YEAR	Year	A dummy variable that takes the value of 1 in an observation year and 0 otherwise.
ε	Error	The error term.

5.4 Measurement of the Dependent Variable

The dependent variable in this study is earnings management. Earnings management is the manipulation of financial statements to obscure the true data (Bens, et al., 2003; Payne & Robb, 2000). In other words, one of the creative techniques that companies use to manipulate financial reporting is earnings management. However, as mentioned in Chapter 3, Section 3.4, there are three types of earnings management: accruals-based earnings management, classification shifting earnings management and real activities earnings management. Accruals-based earnings management is the least visible method, and studies have indicated that it is also the most common method (Alghamdi, 2012; Alzoubi, 2018; Bowman & Navissi, 2003; Burilovich & Kattelus, 1997; Hanwen Chen et al., 2011; Dechow et al., 1995, 2012; DeFond & Jiambalvo, 1994; Gul et al., 2003; Jones, 1991). Further, Healy (1985) claimed that managers prefer using accruals when they engage in earnings management. Therefore, the current study measures only accruals-based earnings management as an indicator of all earnings management, not only because this is the most common method of earnings management, but also because it will help in identifying earnings management. Adopting this approach will enable the current study to completely and properly evaluate the effects of the IFRS, the ISA and ownership structure on earnings management.

In addition, as noted in Section 3.5, accruals-based earnings management can be measured using the distribution of earnings, total accruals or specific accruals. The current study has adopted the total accruals approach to calculate accruals-based earnings management because a number of previous studies have identified the total accruals method as a suitable, accepted proxy for accruals-based earnings management (Habbash, 2010). In this method, accruals are separated into discretionary and non-discretionary accruals. Discretionary accruals are under managers' control, while non-discretionary accruals are outside their control. In the current study, changes in total accruals are used to represent discretionary accruals as a proxy of earnings management. In other words, the difference between non-discretionary accruals and total accruals represents discretionary accruals. Following prior studies, such as Alzoubi (2018) and Zéghal et al. (2011), equation 5.2 is used to measure discretionary accruals in this study.

Equation 5.2

$$\boldsymbol{DAC_{ijt} = TAC_{ijt} - NDAC_{ijt}}$$

where:

$\boldsymbol{DAC_{ijt}}$ = discretionary accruals for firm *i* in industry *j* in year *t*;

$\boldsymbol{TAC_{ijt}}$ = total accruals for firm *i* in industry *j* in year *t*; and

$\boldsymbol{NDAC_{ijt}}$ = non-discretionary accruals for firm *i* in industry *j* in year *t*.

Based on this equation, discretionary accruals are measured in two steps. First, total accruals are estimated; for this estimation, the balance sheet approach or the cash flow approach can be used. Hribar and Collins (2002) compared these two approaches and found that the cash flow approach estimates total accruals more effectively than the balance sheet approach. The balance sheet approach can include measurement errors that

result in computation errors in the total estimated accruals, leading to an inaccurate estimation of earnings management. Therefore, the cash flow approach is used to calculate total accruals in this study. The cash flow approach is presented in equation 5.3.

Equation 5.3

$$\boldsymbol{TAC_{ijt} = NI_{ijt} - OCF_{ijt}}$$

where:

$\boldsymbol{NI_{ijt}}$ = net income value before extraordinary items for firm *i* in industry *j* in year *t*; and $\boldsymbol{OCF_{ijt}}$ = operating cash flow for firm *i* in industry *j* in year *t.*

The second step is the computation of non-discretionary accruals. As mentioned in Section 3.5.1, several models can be used to calculate non-discretionary accruals: the Dechow and Dichev model (2002), the modified Jones model (1995), the Jones model (1991), the industry model, the DeAngelo model (1986) and the Healy model (1985). The current study measures non-discretionary accruals using the modified Jones model as described by Dechow et al. (1995) since it has the greatest ability to detect earnings management and is the most widely accepted model in the literature (Alzoubi, 2018; Baxter & Cotter, 2009; Hanwen Chen et al., 2011; Chen et al., 2010; Cohen & Zarowin, 2010; Dechow et al., 1995; Gim et al., 2019; Guay et al., 1996; Iqbal et al., 2009; Subramanyam, 1996). Equation 5.4 presents the modified Jones model.

Equation 5.4

$$\boldsymbol{NDAC_{ijt} = \beta_1(1/A_{ijt-1}) + \beta_2(\Delta REV_{ijt} - \Delta REC_{ijt})/A_{ijt-1}) + \beta_3(PPE_{ijt}/A_{ijt-1}) + \varepsilon_{ijt}}$$

where:

NDAC$_{ijt}$ = non-discretionary accruals for firm *i* in industry *j* in year *t*;

A$_{ijt\text{-}1}$ = total assets for firm *i* in industry *j* in year *t* – 1;

ΔREV$_{ijt}$ = change in revenue for firm *i* in industry *j* in year *t*;

ΔREC$_{ijt}$ = change in net accounts receivable for firm *i* in industry *j* in year *t*;

PPE$_{ijt}$ = gross property, plants and equipment for firm *i* in industry *j* in year *t*; and

B1, **β2**, **β3** = estimated parameters.

As noted in Section 3.5.1.5, there are two versions of the modified Jones model: a time-series model and a cross-sectional model. Subramanyam (1996) and Bartov et al. (2000) compared the ability of cross-sectional models and time-series models to evaluate discretionary accruals using the Jones and the modified Jones models. They found that these models measure earnings management more powerfully in a cross-sectional approach. Therefore, following Subramanyam (1996) and Bartov et al. (2000), whose used a cross-sectional version, as also used by Alzoubi (2018), Becker et al. (1998), El Moslemany and Nathan (2019), Garg (2018), Ho et al. (2015), Jaggi et al. (2009) and Klein (2002a), the current study uses the cross-sectional version of the modified Jones model by industry and year to estimate earnings management (discretionary accruals) through equation 5.5:

Equation 5.5

$$\boldsymbol{TAC_{ijt}/A_{ijt-1} = \beta_1(1/A_{ijt-1}) + \beta_2(\Delta REV_{ijt} - \Delta REC_{ijt})/A_{ijt-1}) + \beta_3(PPE_{ijt}/A_{ijt-1}) + \varepsilon_{ijt}}$$

where:

TAC$_{ijt}$ = total accruals for firm *i* in industry *j* in year *t*;

A$_{ijt\text{-}1}$ = total assets for firm *i* in industry *j* in year *t* − 1;

ΔREV$_{ijt}$ = change in revenue for firm *i* in industry *j* in year *t*;

ΔREC_{ijt} = change in net accounts receivable for firm *i* in industry *j* in year *t*;

PPE_{ijt} = gross property, plants and equipment for firm *i* in industry *j* in year *t*; and

εijt = error term for sample firm *i* in industry *j* in year *t*. This error refers to the variation between total accruals and non-discretionary accruals.

As a further check of the robustness of the present study's results, Kothari et al.'s (2005) model is used as an alternative measurement of earnings management, consistent with prior studies, such as Baig and Khan (2016), Swastika (2013) and Sun, Salama, Hussainey and Habbash (2010). In Kothari's model of cross-sectional version by industry and year, earnings management (discretionary accruals) is estimated using the following regression equation:

Equation 5.6

$$TAC_{ijt}/A_{ijt-1} = \beta_1(1/A_{ijt-1}) + \beta_2(\Delta REV_{ijt} - \Delta REC_{ijt})/A_{ijt-1}) + \beta_3(PPE_{ijt}/A_{ijt-1}) + \beta_4\, ROA_{it-1} + \varepsilon_{ijt}$$

where:

TAC_{ijt} = lagged total accruals for firm *i* in industry *j* in year *t*;

A_{ijt-1} = total assets for firm *i* in industry *j* in year $t - 1$;

ΔREV_{ijt} = change in revenue for firm *i* in industry *j* in year *t*;

ΔREC_{ijt} = change in accounts receivable for firm *i* in industry *j* in year *t*;

PPE_{ijt} = gross property, plants and equipment for firm *i* in industry *j* in year *t*;

ROA_{ijt-1} = lagged return on assets for firm i in industry j in year $t - 1$, and

ε_{ijt} = error term for sample firm *i* in industry *j* in year *t*. This error refers to the variation between non-discretionary accruals and total accruals.

Therefore, to summarise, the current study uses total accruals calculated using the cash flow approach and the cross-sectional version of the modified Jones model to measure discretionary accruals as the proxy of earnings management in the main test. In other

words, the absolute value of discretionary accruals is estimated using the cross-sectional modified Jones model in the main test. Some recent studies that have employed this model to estimate discretionary accruals include Alzoubi (2018); El Moslemany and Nathan (2019); and Setiawan et al. (2019).

The absolute value of discretionary accruals (DAC) is employed as a measure for the level of earnings management rather than the direction of earnings management. This approach is consistent with that of prior studies on earnings management, including Alzoubi (2018), Chen, Elder, and Hsieh (2007) and González and García-Meca (2014), which pointed out that the quality of a study's findings does not impose any direction.

5.5 Measurement of the Independent Variables

The IFRS, the IAS and ownership structure are the independent variables in this study, measured as described next.

5.5.1 International Financial Reporting Standards

Consistent with most previous research on the effect of the IFRS on earnings management, such as Doukakis (2014), Marra, Mazzola and Prencipe (2011) and Van Tendeloo and Vanstraelen (2005), in the current study, the IFRS are measured using a dummy variable that takes the value of 1 if a company applied the IFRS and 0 otherwise.

As mentioned earlier, the Saudi Government requested all listed companies to apply the IFRS in their 2017 financial reporting. However, according to IFRS Standard 1, First-Time Adoption of International Financial Reporting Standards, an entity must apply these standards retrospectively for the earliest comparative period (comparative information) as if the requirements of the standards had always applied. It must also disclose how the transition from the GAAP to the IFRS influenced the company's financial reports (IFRS,

2018). This means that Saudi listed companies were required to restate their 2016 figures in accordance with the IFRS to enable comparison of those figures with the corresponding figures in the 2017 reports. As reported by Nurunnabi (2017a), Saudi listed firms were therefore required to carry out dual reporting and reconciliation for 2016 in order to have figures to compare with 2017 figures.

For the current study, the researcher checked the 2017 financial reports of the companies in the study sample and found that these companies restated their 2016 figures according to the IFRS, indicating that the companies did apply the IFRS in 2016. These financial reports also include specific sections confirming that the companies started to shift to the IFRS in 2016 (including the date of the transition) and illustrating the effect of applying the IFRS to their 2016 figures. Therefore, it is confirmed that the companies' 2016 figures that were included in the 2017 financial reports were restated to comply with the IFRS. Therefore, in the current study, it is assumed that the included companies applied the IFRS from 2016 to 2019 and did not apply them from 2014 to 2015. It should be noted that for the present study, 2016 data were manually collected from the 2017 reports, which include restatements of the 2016 figures according to the IFRS, as described in Section 5.7.

5.5.2 International Standards on Auditing

In the current study, the ISA are measured using a dummy variable that took the value of 1 if a firm audited its financial statements according to the ISA and 0 otherwise. Since 2017, audit companies operating in Saudi Arabia have been required to audit the financial statements of Tadawul-listed companies according to the ISA (SOCPA, 2018a). Therefore, in the present study, financial statements for 2014–2016 are assigned a value of 0 and financial statements for the later years are assigned a value of 1.

5.5.3 Ownership Structure

Several types of ownership structures were considered in this study: managerial ownership, institutional ownership, blockholder ownership, family ownership and state ownership. The proportion of stock held by executive directors is used to measure managerial ownership. Institutional ownership is calculated using the proportion of stock owned by institutional investors. Blockholder ownership is measured by identifying the individual shareholders who hold 5% or more of a firm's stock. Family ownership is measured based on the proportion of stock held by family members. The current study also adopts state ownership as one of the proxies of ownership structure and measures it using the proportion of stock owned by the government. All measurements of ownership structure types are obtained from prior studies: Alves (2012), Alzoubi (2016) and El Moslemany and Nathan (2019).

5.6 Measurement of the Control Variables

Since the main objective of the current study is to determine whether there is an association between earnings management and the IFRS, the ISA and ownership structure, it is essential to control for other factors that influence earnings management. The need for control variables is addressed by Johnson, Khurana, and Reynolds (2002) who discussed that apart from the primary variable, some variables could lead to differences in the independent variable. In models without control variables, the primary variable may serve as a proxy of other factors, specifying the independent variable (Myers, Myers, & Omer, 2003). Therefore, the current study includes a set of control variables to control for the company characteristics that are likely to affect the extent of earnings management.

According to Archambeault (2002), it is difficult to measure some variables that can affect earnings management, which include management style, integrity and corporate culture. However, Dechow et al. (1995) indicated a number of control variables that provide meaningful information about earnings management, such as cash flow from operations and the company's growth, performance and size. Thus, the current study uses company size, cash flow from operations and company performance as control variables. Industry and year are also used as control variables, in line with previous studies, including Alzoubi (2016), Chua et al. (2012); Ho et al. (2015); Van Tendeloo and Vanstraelen (2005); and Zang (2011).

Corporate governance mechanisms can reduce earnings management because they actively monitor management through financial reporting (Lin & Hwang, 2010). Board of directors and audit committees are the mechanisms of corporate governance (Klein, 2002a). However, Fama and Jensen (1983) suggested that the most crucial mechanism within the structure of corporate governance is the board of directors since it was emphasised as the most crucial management mechanism of monitoring. Board independence and board size are regarded as the essential board of director characteristics. Cornett et al. (2008) indicated that board independence is considered one of the most important tools of controlling management discretion that curbs earnings management practices. Furthermore, Persons (2006) indicted that board size is widely acknowledged as an important part of the capability of boards to monitor the management in an effective fashion and to collaborate on overseeing the process of running the business. Thus, the board of director characteristics (board independence and board size) are regarded as the most crucial mechanisms within corporate governance that curb earnings management and thus improve the quality of financial reporting (Jaggi et al., 2009; Lee & Liao, 2004). Following prior research (e.g. Ahmed, 2014; Aygun et al., 2014; Alzoubi, 2018; Chen et

al., 2007; Chen, Cheng, and Wang, 2015; El Diri, Lambrinoudakis, and Alhadab, 2020; Jaggi et al., 2007; Lee and Liao, 2004; Obigbemi, Omolehinwa, Mukoro, Ben-Caleb, and Olusanmi, 2016; Yang, Chun, and Ramadili, 2009), the current study uses board independence and board size as control variables.

Hence, the current study uses six variables as controls: board independence, board size, firm size, firm performance, cash flow from operations and industry and year effects. In the next section, each control variable is introduced and the measurement method used for each variable is specified.

5.6.1 Board Independence

Ensuring certain processes regarding financial report quality is a critical corporate governance function (Cohen, Krishnamoorthy, & Wright, 2002). Fama and Jensen (1983) suggested that the most crucial mechanism within the structure of internal corporate governance is the board of directors since it was emphasised as the most crucial management mechanism of monitoring. Habbash (2010) stated that the increase in terms of appointments of non-executive directors or independent directors on firm boards is reflective of the enhancement of corporate governance practice. Jaggi et al. (2009) suggested that even though institutional environments differ from each other, corporate board independence is significant in terms of ensuring high-quality financial reporting. It is the responsibility of non-executive directors to monitor managers and take actions towards decreasing agency costs resulting from the separation between control and ownership (Fama & Jensen, 1983).

Prior studies have shown that an independent board is quite efficient at being a control safeguard. In that sense, Beasley (1996) advocated that usually, the presence of greater proportions of non-executive directors on boards is negatively associated with financial

reporting fraud. According to Haniffa and Hudaib (2006), the performance of a particular firm is directly influenced by board independence and it influences financial disclosure as well, since outside directors are able to push managers to enhance the quality of the company's disclosure. Along the same lines, the literature review on independent boards and earnings management practices indicates that organisations featuring a greater proportion of independent board members experience fewer incidences of earnings management (Klein, 2002a). Kelton and Yang (2008) asserted that the board's capacity in terms of executing its monitoring duties is predicated on its independence from management. Therefore, independent boards are associated with a higher capacity to restrain managerial opportunistic behaviour and decrease the ability of the management to withhold information. Agency theory suggests that since an independent board comprises a high number of non-executive directors all of whom are dedicated to monitoring the behaviour of the management and its performance, it is more probable to be alerted to agency problems (Fama, 1980).

In contrast, some scholars have mentioned the downsides of having a greater proportion of non-executive directors on the board. Stifling strategic actions, the lack of business knowledge, excessive monitoring and the absence of real independence are among such shortcomings. These disadvantages are observed to an even higher extent when these non-executives are the former employees of the organization or when they develop personal relationships with an executive (Demb & Neubauer, 1992; Goodstein, Gautam, & Boeker, 1994; Patton & Baker, 1987).

With regard to empirical studies, several studies, such as those of Alzeban (2018), Klein (2002a) and Marra et al. (2011), have documented a negative relationship between board independence and earnings management practices, in line with agency theory. However,

Khalil and Ozkan (2016), Hashim and Devi (2008b) and Osma and Noguer (2007) have documented a positive relationship between board independence and earnings management. Further, other studies have found no association between board independence and earnings management practices (Katmon & Al Farooque, 2017; Ramachandran, Ngete, Subramanian, & Sambasivan, 2015).

Based on the results of these empirical studies, it could be concluded that there is some controversy over whether board independence can eliminate or at least reduce the level of earnings management. Therefore, the present study does not predict the direction of the impact of board independence on earnings management. It uses the proportion of outside directors (non-executive) on the board to estimate the board independence, in line with Alzeban (2018).

5.6.2 Board Size

The term board size is used to refer to the number of members on the board, and it usually ranges between four and 22 (Bajra & Cadez, 2018). As a significant characteristic of board composition, the board size can influence the ability of the board to monitor the management. Board size is widely acknowledged as an important part of the capability of boards to monitor the management in an effective fashion and to collaborate on overseeing the process of running the business (Persons, 2006). The board size also influences the board's roles of monitoring and advising, and both of these roles may contribute to understanding management behaviour (Coles, Daniel, & Naveen, 2008).

According to Klein (2002b), the board's monitoring capacity is proportional to the size of the board. In a supporting argument, Alzoubi (2016) stated that the larger the number of board members, the higher the extent of the board's management monitoring activities. Klein (2002b) and Xie et al. (2003) indicated that larger boards play a fundamental role

in improving reporting quality. The likelihood of larger boards providing greater diversity and expertise is higher, leading to a rise in the board's monitoring capacity (Beasley & Salterio, 2001). Further, since larger boards are more likely to have more independent directors having valuable experience, they have a greater ability to transfer accountability to the board, compared with minor boards, which also helps to prohibit or restrict the management's opportunistic behaviour (Xie et al., 2003). From the standpoint of an agency, larger boards tend to show higher vigilance towards agency problems because it is possible to deploy a large number of experienced directors for monitoring and reviewing the actions taken by the management. It is also conceived that a larger board has a better bargaining position vis-a-vis the CEO, and hence, larger boards are more effective than smaller boards with respect to monitoring the management (Ghosh, Marra, & Moon, 2010; Kiel & Nicholson, 2003). A substantial number of studies, such as those by Alzoubi (2016), Ghosh et al. (2010), Bajra and Cadez (2018), Xie et al. (2003), Marra et al. (2011), that have supported this argument on the grounds that there is a relationship between larger boards and a lesser degree of earnings management practices.

However, Jensen (1993) favoured the idea that when a board consists of more than seven or eight people, it becomes less effective because of coordination and process issues that eventually lead to weaker monitoring. Alonso, Palenzuela and Iturriaga (2000) also supported this argument by stating that large boards are associated with a poor degree of communication and coordination among board members. It is possible that increasing the number of board members may have an adverse impact on the cohesiveness and effectiveness of the board, resulting in a weaker monitoring role. Larger boards bring in difficulties related to organising meetings and reaching a consensus, and communication problems together with coordination issues lead to inefficient and slower decision-making

and directors not exercising their right of criticising the behaviour of top managers (Yermack, 1996).

Habbash (2010) stated that a larger board size is usually associated with bureaucracy and a greater potential for contradictory interests and opinions, which in turn result in independent directors being hindered from conducting their monitoring activities. Nguyen and Faff (2007) said that reporting quality may be improved if the board size is smaller. A significant number of researchers, such as Rahman and Ali (2006), Alonso et al. (2000), González and García-Meca (2014), Gulzar (2011), Ramachandran et al. (2015) and Kapoor and Goel (2017), have supported this argument by highlighting the positive relationship between larger boards and earnings management practices. However, some researchers, such as Katmon and Al Farooque (2017) and Xie et al. (2003), have found that there is no relationship between board size and earnings management practices.

Based on this discussion, it could be concluded that it does not make great sense to criticise the different outcomes related to board size, namely, that it has either a negative or positive relationship with earnings management, because prior studies have supported both effects, which are acceptable from a logical perspective. In other words, the nature of the association between earnings management and board size is yet to be uncovered (Ghosh et al., 2010). Therefore, the current study does not predict the direction of the impact of board size on earnings management. In the current study, following Alzoubi (2016) and Marra et al. (2011), board size is estimated as the total number of the board members.

5.6.3 Firm Size

Jensen and Meckling (1976) stated that an increase in a firm's size tends to be followed by an increase in agency costs, which may lead to a higher level of managerial discretion

as well as opportunism. Large companies are subjected to greater political costs and thus have more robust incentives to manage earnings since it is crucial for them to decrease political risk (Watts & Zimmerman, 1990). Knowing this, large firms tend to utilise the GAAP's flexibility to manipulate earnings.

According to Bartov (1993), large companies are more likely than smaller ones to engage in earnings management because their management is under more pressure to report predictable earnings, which can be accomplished through the use of the earnings management technique (Pincus & Rajgopal, 2002). Similarly, because large firms are more likely to be exposed to market pressure than smaller firms, the former's incentive to engage in earnings management is considerably greater than the latter's (Richardson, 2000). Likewise, Lemma, Negash and Mlilo (2013) indicated that large firms can be more inclined to engage in earnings management because of the pressure to meet or exceed analyst expectations.

However, Lobo and Zhou (2006) claimed that company size can influence earnings management either positively or negatively. Large companies could have more opportunities to manipulate earnings because their operations are highly complex, which also makes it overly difficult for outside observers to understand these operations. Consistent with this view, Wang (2014) found that company size is positively related to earnings management. In a study of Nigerian companies, Elijah and Ayemere (2015) discovered that firm size positively influences earnings management. Moreover, Charfeddine, Riahi and Omri (2013) conducted a study of Tunisian companies and discovered a positive connection between company size and accruals-based earnings management. Likewise, Alzoubi (2016), who conducted a similar study of firms based in Jordan, reported results consistent with that of these studies.

However, Becker et al. (1998) suggested that firm size can potentially influence the selection of discretionary accruals, arguing that large firms are less motivated to engage in earnings management since they indirectly monitored by outsiders. Large companies can incur higher reputation expenses than smaller ones if the reliability of their financial disclosures is compromised. They are also usually audited by qualified audit services, which can decrease their ability to involve in earnings management practices (Lemma et al., 2013). Moreover, Sun and Rath (2009) noted that large companies might be more motivated to refrain from earnings management due to the higher level of auditor scrutiny and public pressure they are subjected to, whereas small firms do not face similar scrutiny, given that it is more difficult to observe their business operations. According to Hessayri and Saihi (2015), large companies are less likely to be involved in accruals-based earnings management for such companies have fewer opportunities to engage in earnings management since they are closely scrutinised by financial analysts.

Moreover, Ghosh and Moon (2010) argued that there is a negative association between earnings management and firm size because major companies are more likely to have advanced internal operational control systems and to face supplementary scrutiny from the market. This view is supported by the findings of Xie et al. (2003), who found that smaller companies have higher current discretionary accruals and concluded that large companies engage in earnings management less frequently than smaller ones because of the scrutiny and the pressure from the market. Doukakis (2014) examined earnings management in 22 European countries and reported that small companies engage in earnings management to a greater extent than do large ones. In a similar study of Chinese firms, Ho et al. (2015) found that large firms engage in less real earnings management. Alzoubi (2018) and Gul, Fung and Jaggi (2009) also found that company size is negatively related to earnings management. Similarly, El Moslemany and Nathan (2019)

found that there is a negative association between company size and earnings management practices in Egyptian companies.

Therefore, it is safe to say that engagement in earnings management is likely to be affected by firm size. Taking this into account, the current study includes firm size as a control variable in order to investigate the relationship of earnings management with the IFRS, the ISA and ownership structure. Since there are conflicting findings on this issue, the current study does not predict how earnings management is affected by firm size. This study calculates firm size using the natural log of the firm's total assets, a measure is derived from previous studies (e.g. Alzoubi, 2018; Jaggi et al., 2009).

5.6.4 Firm Performance

Zalata and Roberts (2016) and McVay (2006) found that firm performance can influence earnings management. According to Abbott and Parker (2000), in previous literature, return on assets (ROA) is employed as a proxy to control for a firm's financial performance. According to Kothari et al. (2005) and Carter, Simkins and Simpson (2003), it is important to use ROA as a control variable in studies on earnings management to ensure the model's validity. They also proposed that ROA is a valuable measure of a company's real value. Thus, ROA is used as a proxy of firm performance in this study; it is employed as a control variable to examine the association of earnings management with the IFRS, the ISA and ownership structure.

Firm performance and earnings management can have a negative or a positive relationship. Hessayri and Saihi (2015) suggested that firms with high profits may be more motivated to manage earnings because manager compensation is closely linked with the firm's financial performance. A firm's operating performance heavily influences the extent of earnings management. When operating performance is very low, some

companies might choose to take a big bath, drastically decreasing income and giving them more achievable goals for future earnings (Sun & Rath, 2009). According to Watts and Zimmerman (1990), companies with better financial performance usually use specific accounting policies to decrease discretionary accruals, which alleviates political pressure. Chen, Lee and Chou (2015) noted that better-performing firms have less incentive to employ earnings management practices. In line with this finding, in a study of firms based in Jordan, Alzoubi (2016) discovered a negative correlation between ROA and accruals-based earnings management practices. Chen et al. (2015) reported the same in a similar study of US companies. In a study of 22 European countries, Doukakis (2014) reported that firms with lower profits engage in more earnings management practices.

In contrast, Cohen and Zarowin (2010) reported a positive association between firm performance and earnings management. Hessayri and Saihi (2015), who investigated companies in the United Arab Emirates, Morocco, South Africa and the Philippines, also found a positive relationship between earnings management and performance. Likewise, Jo and Kim (2007) found a positive and very significant relationship between high profits and discretionary accruals. In a study of Turkish companies, Aygun et al. (2014) found that ROA positively influences earnings management practices. El Moslemany and Nathan (2019) also found that ROA has a significant positive impact on earnings management in Egyptian companies. Thus, these studies have provided mixed results. Therefore, the current study does not predict the direction of the impact of ROA on earnings management. In this study, following Alzoubi (2018), ROA is estimated by dividing net income by total assets.

5.6.5 Cash Flow from Operations

Cash flow from operations (CFO) is commonly utilised as a control variable in studies of earnings management, such as those of Alzoubi (2018), Marra et al. (2011), Peasnell et al. (2005), Van Tendeloo and Vanstraelen (2005) and Yang et al. (2008). According to Dechow et al. (1995), CFO can influence the extent of discretionary accruals. Lobo and Zhou (2006) argued that high-performing firms are less likely to engage in discretionary accruals since they already have strong operating cash flow. Likewise, Becker et al. (1998) and Gul et al. (2009) reported that firms with strong operating cash flow engage in earnings management less frequently. Consistent with this finding, Dechow et al. (1995) found an association between higher CFO and lower discretionary accruals. Alzoubi (2018) found that operating cash flow is negatively related to discretionary accruals in Jordanian companies. In a study of 1,306 listed Taiwanese firms, Yang et al. (2008) revealed that operating cash flow is negatively related to earnings management practices.

In contrast, Leuz et al. (2003) argued that companies with higher cash flow might manipulate earnings to establish a reserve for future needs. They also contended that managers dealing with lower cash flow are more motivated to manage earnings using current expenses to report a better current financial condition or by reporting future revenues. In line with this view, in a study of UK firms, Peasnell et al. (2005) reported a positive association between operating cash flow and discretionary accruals. Further, Marra et al. (2011) reported similar findings for Italian companies.

Therefore, the current study uses CFO as a control variable to capture the performance of companies in different industries and to control for the relationship of earnings management with the IFRS, the ISA and ownership structure. Because the findings of

previous studies vary, the study does not assume that there is a relationship between CFO and earnings management. In the current study, following Klann and Beuren (2018), CFO is calculated as the annual net cash flow of operational activities divided by total assets at year end.

5.6.6 Industry and Year Effects

Following the majority of previous studies, including Chua et al. (2012), Kabir et al. (2010), Van Tendeloo and Vanstraelen (2005) and Zang (2011), the current study employs industry and year in the regression model to control for the impact of the IFRS, the ISA and ownership structure on earnings management. It also measures the industry and year using a dummy variable. Further, since the sample size of the present study is small and has little variation in terms of industry, the Global Industry Classification Standard (GICS) two-digit sector codes, which classify industries into 10 sectors, are employed in this study to classify companies, following Chua et al. (2012). Morgan Stanley Capital International (MSCI) and Standards and Poor's (S&P) developed the GICS. MSCI is one of the leading independent providers of global indices and benchmarks for products and other services; S&P is a premier independent provider of international financial data and other services; it provides equity indices worldwide (MSCI, 2019a). The following GICS industry sector classifications were used in the current study (MSCI, 2019b).

GICS Classification

1. Energy
2. Materials
3. Industrials
4. Consumer Discretionary

5. Consumer Staples
6. Health Care
7. Financials
8. Information Technology
9. Telecommunication Services
10. Utilities

5.7 Data Collection

In the current study, the required data can be collected based on annual reports and thus, this study employs such secondary data for measuring the variables considered.

The current study uses data from two main sources: company annual reports and DataStream. The data on the independent variables were manually collected from the 2014, 2015, 2016, 2017, 2018 and 2019 annual reports of each company. The annual reports of listed Saudi companies are available on the Tadawul website. The rates of earnings management (the dependent variable) for 2014, 2015, 2017, 2018 and 2019 were collected using data from DataStream (Thomson Reuters), which is available from Victoria University. The data on the control variables for 2014, 2015, 2017, 2018 and 2019 were collected from DataStream and from company annual reports as well. Figures for 2016 were manually collected from the 2017 reports, which included restatements of the 2016 figures according to the IFRS.

5.8 Sample Selection

In 2012, the Saudi Government implemented reforms in Saudi Arabia's stock market. As noted earlier, in 2012, SOCPA decided in favour of moving towards convergence with international standards, such as the ISA and the IFRS, in Saudi Arabia. It also issued a compliance decision notice requiring all publicly listed firms in Saudi Arabia to

implement all endorsed IFRS for the fiscal period starting on 1 January 2017 and requiring audit companies working in Saudi Arabia to apply the ISA in 2017. Thus, the present study covers six years of financial periods from 2014 to 2019.

The initial sample comprised all Saudi companies listed on the Tadawul. Financial institutions, such as banks and insurance companies, were eliminated from the initial sample because they use special accounting practices and have working capital structures that differ from those of other sectors. In other words, the discretionary accruals model does not apply to these sectors. This exclusion is consistent with the work of Arun, Almahrog and Aribi (2015), Chen et al. (2005), Klein (2002a), Peasnell et al. (2000) and Sun et al. (2010). Because of this difference, previous studies have employed specific methods to measure earnings management in financial companies, such as earnings management through loan loss provision. Therefore, to ensure consistent outcomes in the present study, firms in the financial sector were eliminated (Alqatamin, Aribi, & Arun, 2017; Sun et al., 2010).

As mentioned earlier, the current study classified companies according to the 10 GICS sectors, following Chua et al. (2012). Therefore, the real estate sector was excluded as well since it is considered a financial sector under the GICS. To ensure unbiased estimations of earnings management (discretionary accruals), the present study also excluded industry groups with fewer than eight observations, following Cohen and Zarowin (2010), Klein (2002a) and Yuan, Cheng and Ye (2016). For this reason, companies in the energy, utilities, information technology, telecommunication services and healthcare industries were excluded from the sample in the current study. This study also excluded companies with missing data from the sample. The final sample consisted

of 92 companies (see Table 5.1), which generated 552 observations for the period 2014–2019.

Table 5.1: Final Sample Selection

Description	31 December 2014
Total number of companies listed (initial sample)	171
Excluded companies	-
Financial sectors (according to the GICS classifications)	(59)
Industries with fewer than eight observations	(17)
Missing data	(3)
Final sample	92

The final sample of this study is distributed across GICS industries. Companies in the final sample belong to the materials sector (44%), industrials (20%), consumer discretionary (20%) and consumer staples (16%), as shown in Table 5.2. As the table indicates, materials, industrials and consumer discretionary are the most common industries in the sample.

Table 5.2: Industries in the final sample

GICS industry classification	Number	Percentage
Materials	41	44
Industrials	18	20
Consumer Discretionary	18	20
Consumer Staples	15	16
Total	92	100

5.9 Analytical Procedures

This section describes the type of data used in the current study. It also covered data analysis—preliminary analysis and multivariate analysis that were used in the current study.

5.9.1 Panel Data

Time series, cross-section and panel (pooled) are the different types of data that can be subjected to empirical analysis. The present study utilises panel data because its dataset includes Saudi listed companies over six consecutive years from 2014 to 2019. In other words, the dataset in this study has both cross-sectional and time-series data whereby the same cross-section unit is viewed over time, as is now increasingly the situation in economic studies (Gujarati, 2003).

Biørn (2016) stated that 'panel data, longitudinal data, or combined time-series/cross-section data are terms used in econometrics and statistics to denote data sets which contain repeated observations on a selection of variables from a set of observation units' (p. 1). It also has confirmed especially popular between applied econometricians. Hsiao (2007) indicted that panel data have several advantages over cross-sectional or time-series data: '(i) More accurate inference of model parameters. Panel data usually contain more degrees of freedom and more sample variability than cross-sectional data. (ii) Greater capacity for capturing the complexity of human behavior than a single cross-section or time series data. (iii) Simplifying computation and statistical inference. Panel data involve at least two dimensions, a cross-sectional dimension and a time series dimension' (pp. 3-6).

Furthermore, there are two types of panel data which are balanced panel data and unbalanced panel data. The balanced panel data refers to that the same units are observed during all the periods under consideration, while unbalanced panel data refers to that not the same individuals are observed in all periods (Biørn, 2016).

5.9.2 Preliminary analysis

In the preliminary analysis, the descriptive statistics are presented; this includes the description of minimum, maximum, mean and standard deviation for all the variables. The correlation between the variables of the present study is identified using a correlation matrix to explain the direction and strength of the linear relationships between the variables in empirical models. The correlation coefficient can range from −1 to +1; a ±1 relationship indicates a perfect linear association between two variables (Wilson, 2014). Hair, Black, Babin and Anderson (2013) stated that a high correlation coefficient (0.90 or higher) between variables indicates a multicollinearity problem, which can influence the outcomes of regression models.

The correlation matrix can be analysed using two main tests: Pearson correlation and Spearman rank correlation (Wilson, 2014). According to Hintze (2007), the Spearman rank correlation is a better choice to investigate the relationship between variables when there may be nonlinearity, non-normality, non-constant variance and outliers between the variables under investigation. The Pearson correlation is affected by nonlinearity, non-normality, unequal variances and outliers, and is hence appropriate to use for analysing parametric data (Bishara & Hittner, 2012; Wilson, 2014). However, certain studies have mentioned that the Spearman rank correlation and Pearson correlation tests produce comparable results (Al-Shiab, 2003). Nevertheless, the current study employs Spearman rank correlation to check for a high correlation among variables because the present study data are nonparametric in nature, as will be illustrated in Sections 5.9.3.1 and 5.9.3.2 (Ntim & Soobaroyen, 2013). In addition to the correlation matrix, other statistical tests, the variance inflation factor (VIF) test and a tolerance test, are used to check for multicollinearity problems.

5.9.3 Multivariate Analysis

A multivariate analysis employs a regression model that includes multiple independent variables. A multiple regression analysis is defined as a regression model that uses at least two independent variables to explain changes to a single dependent variable. Regression analysis is regarded as one of the widely employed methods of multivariate analysis (Saunders et al., 2012). Multiple regression models use unit changes to a specific independent variable to measure changes in the explained dependent variable while keeping all other independent variables fixed at their averages (Brooks, 2008). A multiple regression model also can be used to ascertain how the independent variable is affected by the dependent variable. This impact, which is the net effect, is evaluated after the impact of all other independent variables in the model have been determined (Brians, 2016). Therefore, the current study employs multivariate analysis (regression analysis) to examine its hypotheses. This is because it aims to investigate whether there is a relationship between the dependent and independent variables, rather than to explore the causality of the relationship (Gujarati, 2003). In other words, the present study examines whether a regression model can describe variations in earnings management using variations in the IFRS, the ISA and ownership structure.

Parametric and nonparametric statistical methods can be used to examine data. Data diagnostic tests should be used to select an appropriate statistical method of data analysis. The data diagnostic tests performed in the present study are described in the next section.

5.9.3.1 Data Diagnostic Tests

Data diagnostic tests were performed to identify the most appropriate method of statistical analysis for this study. Statistical methods used for analysing data are categorised into two large groups: parametric and nonparametric. The appropriate analysis method for a given study is determined by its features and nature. According to Hair et al. (2013) and Gujarati (2003), five crucial assumptions must be met for the parametric method to be appropriate (the Ordinary least squares (OLS) regression): no multicollinearity, no autocorrelation, no homoscedasticity, multivariate normality and linearity.

Some statistical analyses are used to test the five assumptions listed above. The statistical analyses provided in the SPSS and STATA statistical tool are used to test the five assumptions. These tests and their results are described in the following five subsections.

5.9.3.1.1 Assumption of Normality

As mentioned above, one of the assumptions of the parametric method (OLS regression) is that the data are normally distributed. According to Wooldridge (2013), under the assumption of normality, it is assumed that population errors do not depend on explanatory variables; normally distributed data have a mean of zero and a common variance. Hence, given any values of the independent variables, the mean variance of the real error must be zero, and all values of the independent variables must have the same variance (homoscedasticity) in order for the normality assumption to be met. Normal distribution can be examined by testing for skewness and kurtosis. Hair et al. (2013) stated that 'skewness and kurtosis explain the shape of the data distribution. Specifically, the skewness measures the symmetry of distribution while kurtosis measures the peakedness or flatness of the distribution (height), as compared to normal distribution' (pp. 35–36).

According to Rahman and Ali (2006), if the value of standard kurtosis is ±2 and standard skewness is within ±1.96, then the data are normally distributed.

Table 5.3 presents the results of the assumption of normality tests using skewness and kurtosis. As the table shows, most of the independent and dependent variables have high values of kurtosis and skewness. This means that the assumption of normality is not met for the data in the current study. This study assumes that the dependent variables are not normally distributed, and variable outliers are intentionally included in the data because firms with the highest levels of earnings management could provide observations that constitute significant positive accruals or significant negative accruals that could actually form managers' discretion. Removing firms with the highest levels of discretionary accruals would exclude the earnings management cases that are precisely the focus of the present study (Alzoubi, 2018). Thus, the assumption of normality is not met. According to Rahman and Ali (2006), this is expected in this type of study.

Table 5.3: Results of the Assumption of Normality

Variables	Skewness	Kurtosis
Discretionary Accruals	3.770	22.706
IFRS	−0.709	−1.503
ISA	0.001	−2.007
Institutional Ownership	0.959	−0.427
Managerial Ownership	4.029	17.709
Blockholder Ownership	2.113	5.689
Family Ownership	4.135	18.515
State Ownership	3.172	10.556
Board Size	0.520	1.274
Board Independence	0.438	−0.097
Firm Size	0.672	1.515
Return on Assets	−4.849	62.283
Cash Flow from Operating Activities	−0.545	5.344

5.9.3.1.2 Assumption of No Multicollinearity

This section discusses whether the model in the current study meets the assumption of no multicollinearity. Hair et al. (2013) indicated that multicollinearity may influence the outcome of a regression model. Multicollinearity occurs when one independent variable is perfectly linear with one or more other independent variables or when one variable is a fixed multiple of another variable and both variables are involved in the regression (Wooldridge, 2013).

According to Dam and Scholtens (2012) and Kajananthan (2012), two statistical tests are commonly employed to test for multicollinearity: the VIF test and a tolerance test. If the tolerance value is near zero and the VIF value is greater than 10, then multicollinearity is a serious problem (Gujarati, 2003; Kajananthan, 2012). Therefore, in the current study, the VIF and tolerance tests were used to check for multicollinearity.

As Table 5.4 shows, the VIF values for the variables in the present study are less than 10, with a minimum value of 1.12 and a maximum value of 2.06, indicating no multicollinearity. According to Table 5.4, tolerance is over zero for all variables; the minimum and maximum tolerance values are 0.487 and 0.891. Therefore, based on the results of the VIF and tolerance test statistics, it may be concluded that there is no serious multicollinearity issue in the model used in the current study. To confirm this conclusion, other statistical tests, the correlation matrix, is used to check for multicollinearity problems. The results of this test confirm that the data of the present study do not suffer from the issue of multicollinearity. This test is discussed in Section 6.3.

Table 5.4: Results of the Assumption of No Multicollinearity

Independent Variables	VIF	Tolerance
IFRS	2.06	0.487
ISA	2.05	0.488
Institutional Ownership	1.32	0.760
Managerial Ownership	1.12	0.890
Blockholder Ownership	1.12	0.891
Family Ownership	1.20	0.832
State Ownership	1.61	0.623
Board Size	1.16	0.860
Board Independence	1.23	0.810
Firm Size	2.00	0.500
Return on Assets	1.96	0.510
Cash Flow from Operating Activities	1.92	0.521

5.9.3.1.3 Assumption of No Autocorrelation (Independent Error Terms)

Another assumption in an OLS regression is that the error terms of two different periods are uncorrelated. Autocorrelation (or independent error terms) occurs when there is an association between the error term of one period and the error term of the previous period. In other words, this occurs when the residuals are not independent, which means that the assumption of independence is violated. Autocorrelation can lead to inaccurate standard errors. Acceding to Hill, Griffiths and Lim (2008), the Durbin–Watson test is commonly used to check for autocorrelation. Therefore, the Durbin–Watson test was used to check for autocorrelation in the current study.

Table 5.5 shows the results of the Durbin–Watson test for the current study, which is 1.925. This result suggests that autocorrelation is not an issue in the current study. According to Hill et al. (2008), if the result of the Durbin–Watson test is close or equal to two, then autocorrelation is not present in the data.

Table 5.5: Results of Assumption of No Autocorrelation, Homoscedasticity and Linearity.

Test of assumption of no autocorrelation		
	Durbin–Watson	Autocorrelation
The current study's model	1.925	No
Test of the assumption of homoscedasticity		
The current study's model	P-value = 0.004	
Test of the assumption of linearity		
The current study's model	Cook's distance	
	Minimum	Maximum
	0.000	0.252

5.9.3.1.4 Assumption of Homoscedasticity

In an OLS regression, it is also assumed that the error terms or standard deviation are stable or homogeneous, that is, that the same variance is present in all the error terms (Gujarati, 2003). Unequal variance is called heteroscedasticity; it can be caused by outliers or by skewness in the distribution of one or multiple regressors in the model (Zhu, Chen, Guo, & Zhu, 2016). Hill et al. (2008) highlighted the importance of checking for heteroscedasticity. They indicated that 'the least squares estimator is still a linear and unbiased estimator but is no longer best.' They also stated that 'the hypothesis tests that use these standard errors may be misleading (Hill et al., 2008, p. 201)'. Further, according to Gujarati (2003), the ability of an OLS regression to generate efficient estimates is hindered by heteroscedasticity.

In the current study, the assumption of homoscedasticity is tested using the Breusch–Pagan (B–P) test, in line with Wooldridge (2013). As shown in Table 5.5, the chi-square statistic for the current study's model is significant ($p < 0.004$), and hence, the null hypothesis of homoscedasticity that the variance of the residuals is constant is rejected. In other words, heteroscedasticity is an issue in the current study. The following section will address the solution to this.

5.9.3.1.5 Assumption of Linearity

Another assumption in an OLS regression is that the model is linear in parameters such that the estimators are linear functions related to the random (dependent) variable (Wooldridge, 2013). Since the independent variables change per unit, the dependent variable should change by distinguishable degrees (Gujarati, 2003).

In the current study, Cook's distance test was used to check the linearity of the variables, consistent with Haniffa and Hudaib (2006) and Jallow, Ntim, Opong, Danbolt and Thomas (2012). Table 5.5 shows the result of Cook's distance test for the assumption of linearity. The results of Cook's distance test are between 0.00 and 0.252. This result implies that there is linear correlation among the variables in the current study. According to Maddala and Lahiri (2009), if the value of Cook's distance test is greater than one, then there is nonlinearity among the variables.

5.9.3.2 Addressing the Violation of Assumptions (Alternative Method of Regression)

The diagnostic tests described above show that some assumptions of parametric testing (OLS regression) are violated in the current study. These are normality and homoscedasticity assumptions. Therefore, an alternative regression method is needed. When the assumptions of an OLS regression are violated, an OLS regression will lead to standard errors and inaccurate coefficient estimates (Wooldridge, 2013). As mentioned earlier, all assumptions should be met for an OLS regression to be effective. Zhang and Liu (2009) and Sheskin (2003) proposed that it is possible to view nonparametric testing as an alternative to parametric testing (OLS regression) to avert the need to meet the assumptions needed for parametric testing. When nonparametric tests are used, the data do not need to be measured on an interval scale, nor do they need to satisfy the stringent assumptions of homogeneity of variance and normality that are required for parametric techniques (Judge, Griffiths, Hill, & Lutkepohl, 1984; Zhang & Liu, 2009). Therefore, in

the current study, nonparametric tests were used to analyse the data since the data do not meet the assumptions of parametric tests (OLS regression).

The generalised least squares (GLS) regression is an appropriate alternative to OLS regression that can be used to correct for non-normality, autocorrelation, and heteroscedasticity (Gujarati, 2003). Greene (2007) also stated that GLS regression corrects for the appearance of heteroscedasticity and autocorrelation as well as omitted variables in pooled time-series data. Another reason for the advantage of a GLS regression above pooled OLS regression is due to the significant assumptions of homoscedasticity and no sequential correlation in pooled OLS (Greene, 2007).

Two approaches can be used to explain the relationships inter and intra cross-sections (Baltagi, 2008). The first approach is the least squares dummy variable (fixed effect). This approach presumes that individual constants are group-based constant terms within the regression model. The second approach, the generalised least squares (random effect), presumes that individual constants are, similarly to the error term, a group-specific disturbance excepting for each group. The random effect also helps control for unobserved heterogeneity. The credibility of the fixed effect method is associated with the efficiency of the random effect method on the basis of a mutual relationship (Greene, 2007). According to Judge et al. (1984), when there is a high number of cross-sectional units and few time-series data, the statistical inference depends on the monitored cross-sectional units within the sample, making the random effect approach a more suitable choice. In the current study, the random effect approach is more appropriate because the study has a relatively high number of cross-sectional units and includes six years' worth of time-series data. However, it is also common to use the Hausman (1987) test to choose between the fixed and random effect approaches. The Hausman specification test

examines the correlation between the individual random effects εi and x to facilitate the differentiation between fixed effects and random models. The Hausman test first checks if there is any remarkable exogeneity. If there is no correlation, the random effects approach is preferred. Where correlation is found, the fixed effects approach should be utilised (Clark & Linzer, 2015).

Following Alzeban (2018), a Hausman test was conducted in the present study to determine whether the random effect or fixed effect approach should be used. According to Clark and Linzer (2015), if the p-value of the Hausman test is higher than 5%, then the preferred model is random effects. Since the results of the Hausman test for this study were non-significant ($p = 0.337$), the random effects approach was used to examine the hypotheses in this study.

Therefore, in the current study, the GLS (random effects) regression was used for the time-series data for six years (2014–2019) to examine the hypotheses, in line with Alghamdi (2012), Alzoubi (2016), Alzoubi (2018), El Moslemany and Nathan (2019) and Habbash (2010). This method can be used to test variations among cross-sectional units and to simultaneously test variations in individual units over time (Baum & Christopher, 2006). It assumes that regression parameters remain constant over time and that there is no difference between various cross-sectional units; these assumptions boost the credibility of the coefficient estimates (Baum & Christopher, 2006).

In summary, the following multivariate GLS (random effects) regression technique is employed to identify the relationships between the dependent variable (earnings management) and the independent variables (IFRS, ISA and ownership structure) and the control variables (certain corporate governance mechanisms and company

characteristics). The current study's main regression equation to be evaluated is specified as follows:

Equation 5.7

$$MJ - DAC = \beta_0 + \beta_1\, IFRS + \beta_2\, ISA + \beta_3\, INSTOWN + \beta_4\, MANAGOWN + \beta_5\, BLOCKOWN + \beta_6\, FAMOWN + \beta_7\, STAOWN + \beta_8\, BRDIND + \beta_9\, BRDSIZE + \beta_{10}\, SIZE + \beta_{11}\, ROA + \beta_{12}\, COF + \beta_{13}\, INDUSTRY + \beta_{14}\, YEAR + \varepsilon$$

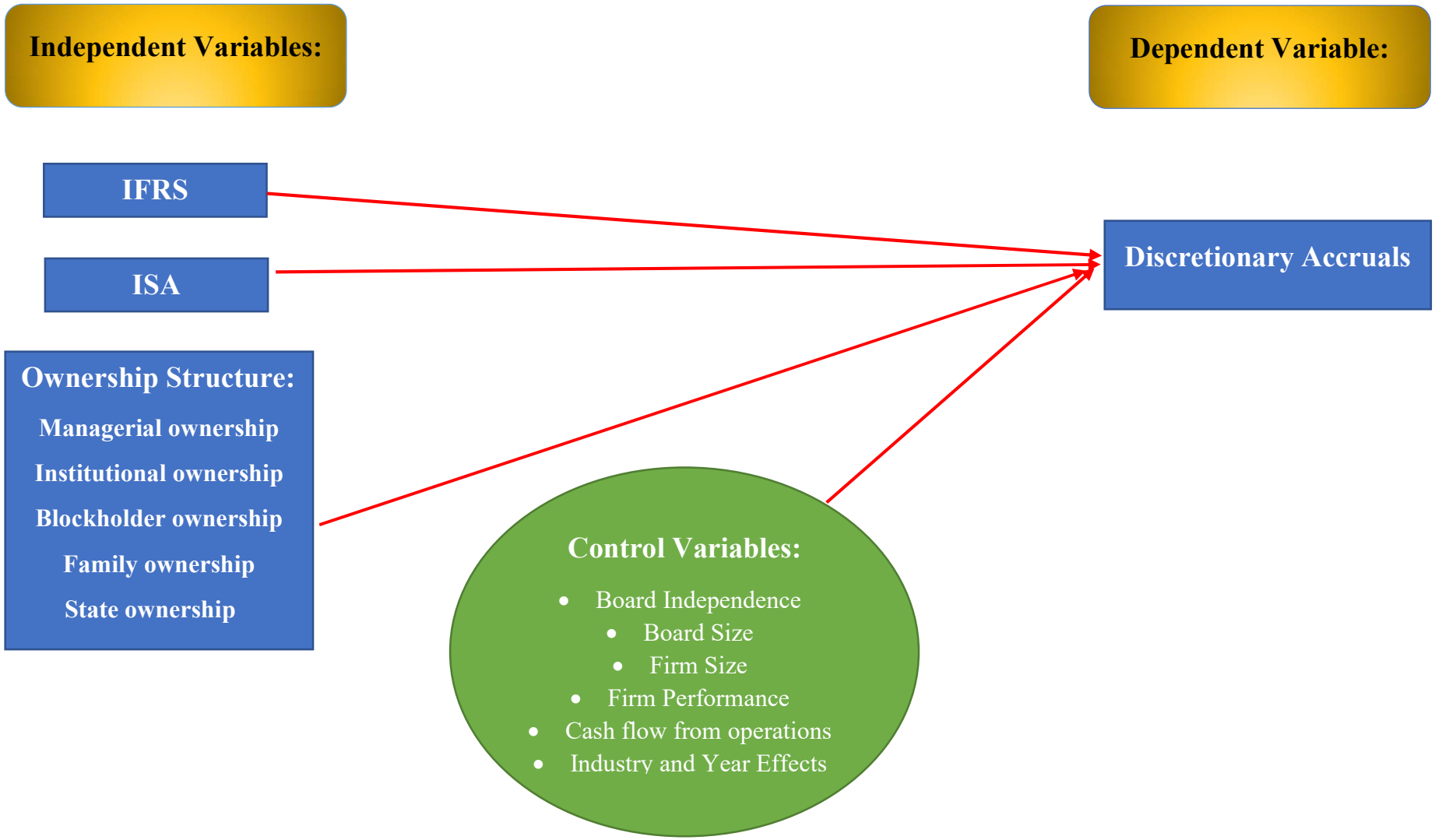
where:

Symbol	Variable name
MJ-DAC	Discretionary accruals as a proxy of earnings management estimated using the modified Jones model (1995)
IFRS	International Financial Reporting Standards
ISA	International Standards on Auditing
INSTOWN	Institutional Ownership
MANAGOWN	Managerial Ownership
BLOCKOWN	Blockholder Ownership
FAMOWN	Family Ownership
STAOWN	State Ownership
BRDIND	Board Independence
BRDSIZE	Board Size
SIZW	Company Size
ROA	Return on Assets
CFO	Cash Flow from Operations
INDUSTRY	Industry
YEAR	Year
$\boldsymbol{\varepsilon}$	Error

Furthermore, several additional analyses are conducted to check the robustness of the current study's results. The following analyses are employed: firstly, the main findings are checked for robustness by employing an alternative measurement of earnings management. Secondly, a parametric test (OLS regression) with a robust standard errors

test, and the generalised method of moments test, are conducted. Lastly, since some scholars have suggested that endogeneity is the principal challenge for studies in the field of finance and accounting, a robustness check is performed to control for endogeneity.

5.10 Conceptual Framework of the Current Study



5.11 Chapter Summary

Choosing an appropriate research methodology is an important step in any research project. This chapter has provided an overview of the research methodology of the present study. It has addressed the research method and explained how the dependent, independent and control variables were measured and the empirical research models that were adopted. Moreover, the data collection method, sample selection and analytical procedures have been described.

Since the purpose of the current study is to examine the actuality of an existing phenomenon—the relationship between earnings management and the IFRS, the ISA and ownership structure—it adopted quantitative research.

The absolute value of discretionary accruals as a proxy for earnings management (the dependent variable) was measured using a modified cross-sectional Jones model as described by Dechow et al. (1995) in the main test since it is the most powerful tool to detect earnings management and the one most widely accepted in prior studies. The Kothari et al. (2005) model was also employed as an alternative proxy for earnings management. A dummy variable was used to measure IFRS and ISA implementation. Companies took the value of 1 from 2016 to 2019, as they applied IFRS, and 0 from 2014 to 2015. Companies also took the value of 1 from 2017 to 2019 because they have audited their financial reporting using the ISA and 0 from 2014 to 2016. In terms of ownership structure dimensions, the proportion of stock held by executive directors was used to measure managerial ownership; institutional ownership was calculated using the proportion of stock owned by institutional investors. The proportion of 5% or more of a firm's stock held by individual blockholders was used to estimate blockholder ownership.

The proportion of stock held by family members was used to measure family ownership. State ownership was measured using the proportion of stock owned by the government.

The current study included several control variables employed in earlier studies which might cause variations in the independent variable. These variables are board independence, board size, company size, cash flow from operations, company performance and industry and year effects. The proportion of independent non-executive directors on the board was used to measure board independence. Board size was estimated using the total number of board members. The natural log of the company's total assets was used to measure firm size. Firm performance was defined by return on assets, which was calculated by dividing the net income by the total assets. Cash flow was estimated using the ratio of operating cash flow to total assets. A dummy variable was utilised to estimate the industry and the year effects. The current study also adopted the 10 GICS classifications to define sectors.

The present study developed a regression equation based on previous studies to test the impact of the IFRS, the ISA and ownership structure on earnings management. It also used data from two main sources. The data used to calculate the dependent and control variables were collected from DataStream and annual reports. The data for the independent variables were collected from the annual reports of the sample companies, which are available on the Tadawul website. The final sample included data from 92 firms (552 firm-year observations) from an initial sample of 171 Saudi listed firms (1,026 firm-year observations) for the 2014–2019 period.

A regression analysis was also conducted. First, a data diagnostic test (regression assumptions) was conducted to check whether the data fulfil the assumptions for an OLS regression. Since this diagnostic test indicated that the OLS assumptions were not met, a

GLS regression was used as a multivariate test method. The results of the Hausman test implied that a random effect was appropriate for the regression analysis in the current study. Therefore, the GLS (random effects) regression over six years (2014–2019) was used to test the study's hypotheses.

Chapter 6: Data Analysis, Results and Discussion

6.1 Introduction

The previous chapter discussed the research approach and method. The empirical research model and the measurement of the variables, along with the sample and the method of data collection, were also provided in the previous chapter. This chapter presents and discusses the results of the current study's questions: (a) Does the implementation of the IFRS influence earnings management in listed Saudi companies? (b) Does the implementation of the ISA influence earnings management in listed Saudi companies? (c) Does ownership structure influence earnings management in listed Saudi companies?

This chapter presents the preliminary analysis (descriptive statistics) for all the variables considered in the current study in Section 6.2. It also provides the correlation matrix, which demonstrates the correlations among the independent variables, in Section 6.3. The results of the tests of the study's hypotheses are also described and discussed in Section 6.4. In Section 6.5, the robustness checks are illustrated and discussed. Section 6.6 presents a summary of this chapter.

6.2 Descriptive Statistics

Table 6.1 presents the descriptive statistics, including the minimum, maximum, mean and standard deviation for all the variables (dependent, independent and control) used in the current study to examine the impact of the IFRS, the ISA and ownership structure on the sample data for 2014–2019.

Table 6.1: Descriptive Statistics for All the Variables

Variables	N	Mean	SD	Maximum	Minimum
Dependent Variable					
Discretionary Accruals	552	0.050	0.060	0.611	0.000
Independent Variables					
IFRS	552	0.660	0.472	1.000	0.000
ISA	552	0.500	0.500	1.000	0.000
Institutional Ownership	552	0.182	0.219	0.835	0.000
Managerial Ownership	552	0.010	0.030	0.200	0.000
Blockholder Ownership	552	0.034	0.080	0.690	0.000
Family Ownership	552	0.051	0.098	0.700	0.000
State Ownership	552	0.055	0.133	0.750	0.000
Control Variables					
Board Size	552	8.220	1.353	14.000	5.000
Board Independence	552	0.408	0.217	1.000	0.000
Firm Size	552	14.479	1.438	19.643	9.856
Return on Assets	552	0.042	0.124	0.382	−1.640
Cash Flow from Operating Activities	552	0.085	0.098	0.392	−0.575

6.2.1 Descriptive Statistics for the Dependent Variable (Earnings Management)

As described in Chapter 5, the current study utilises the cross-sectional version of the modified Jones model to estimate earnings management (absolute discretionary accruals) in the main test. As shown in Table 6.1, the mean value of absolute discretionary accruals was 0.050, with a standard deviation of 0.060 and a minimum value of zero. This indicates that the average value of earnings management (discretionary accruals) in the included Saudi companies was 5.0% of total assets. These findings are consistent with those of Almahrog et al. (2018) and Kim, Udawatte and Yin (2019), who found a minimum value of zero for the discretionary accruals of UK and Chinese companies. The findings of the current study imply that the mean value of discretionary accruals in Saudi companies is

higher than that of companies in developed countries. For example, Almahrog et al. (2018) and Chahine et al. (2012) found that the mean value for discretionary accruals in UK companies were 4.4% and 3.0%, respectively. Similarly, Cohen and Zarowin (2010) reported that a sample of US companies had mean discretionary accruals of around 1.4%. Lakhal et al. (2014) also found that the mean value for discretionary accruals in firms in France was 0.031%. A possible explanation for the high level of discretionary accruals in Saudi companies could be based on Al-Moghaiwli's (2010) argument that listed Saudi firms are often controlled by foreign employees who may resort to engaging in earnings management in order to achieve their private interests.

6.2.2 Descriptive Statistics for the Independent Variables

The current study uses three independent variables to investigate their role in constraining earnings management: the IFRS, the ISA and ownership structure dimensions. As shown in Table 6.1, the mean values for the IFRS and the ISA were 66.0% and 50.0%, with standard deviations of 47.2% and 50.0%, respectively. This means that 364 of 552 firm-year observations for the study sample implemented the IFRS, and 276 firms audited their financial reports based on the ISA.

In terms of ownership structure dimensions, as can be observed from Table 6.1, most listed Saudi companies are controlled and owned by institutional investors; 18% of the total shares of the sample companies are institutionally owned, with maximum and minimum of 83.5% and 0.0%, respectively. By contrast, managerial ownership had an average value of 1%, which suggests that the percentage of total shares held by managers is low in the sample companies. The average percentage of individual blockholder ownership was 3.4%; some individuals owned as much as 69% of a firm's shares. Among the sampled companies, the maximum level of family ownership was 70% and the lowest

was 0%, with a mean value of 5.1%. Further, state ownership had a mean of 5.5%, a minimum value of 0% and a maximum value of 75.7%. This result indicates that the Saudi Government invests heavily in the Saudi stock market through its agencies, which include the Public Investment Fund, the General Organisation for Social Insurance and the Public Pension Agency. It also indicates the attention of the Saudi Government to improving the economy. As suggested by the Organisation for Economic Co-operation and Development (2005), one reason for the country's economic growth and development is the increased government ownership of companies.

As mentioned earlier, there are two broad types of ownership structure: concentrated and dispersed. When ownership is concentrated, one or more groups of owners significantly influence the equity owners. Ownership dispersion occurs when influence and ownership are spread across a group that includes equity owners and managers (Haniffa & Cooke, 2002). Therefore, based on the ownership structure dimensions shown in Table 6.1, it could be argued that the most common ownership structure in Saudi Arabia is concentrated ownership—on average, this type of ownership accounted for almost 32.2% of company shares. This finding supports Alotaibi's (2014) argument that a high level of concentrated ownership is common in emerging and developing countries.

6.2.3 Descriptive Statistics for the Control Variables

The current study included some control variables, namely corporate governance mechanisms and company characteristics, which affect the extent of earnings management. As shown in Table 6.1, the average board size in the sample was eight members (mean = 8.22), with a standard deviation of 1.353. Table 6.1 also shows that the minimum board size in the sample was five. These findings demonstrate that Saudi firms act in accordance with the Saudi corporate governance regulation issued by the board of

the SCM. As reported by the SCM (2017), boards should include at least three members and no more than 11 members. Board independence in the sample ranged from zero to 100%, with a mean of 40.8%. This means that about 40% of the boards of directors in the study sample were independent. These results also confirm that the study sample has a high rate of compliance with Saudi corporate governance regulations. According to the SCM (2017), the majority of members of boards of directors should be non-executive. In terms of firm size, this variable had a mean value of 14.47, with standard deviations of 1.438. The mean value of return on assets in the study sample was 4.2%, while cash flow from operating activities had a mean value of 8.5% as indicated in Table 6.1.

6.3 Correlation Matrix

This section discusses the correlation coefficients for the dependent, independent and control variables in the current study. According to Rahman and Ali (2006), a correlation coefficient analysis is essential to examine the associations between the dependent and independent variables. It is used to estimate the direction and strength of the linear relationships between variables in empirical models (Faul, Erdfelder, Buchner, & Lang, 2009). According to Wilson (2014), the correlation coefficient can range from −1 to +1; a ±1 relationship indicates a perfect linear association between two variables. Hair et al. (2013) stated that a high correlation coefficient (0.90 or higher) between variables indicates a multicollinearity problem, which can influence the outcomes of regression models.

There are two main methods for calculating correlation coefficients: a Pearson test and a Spearman's rank correlation test (Wilson, 2014). A Spearman's correlation test can be used to estimate the relationship between two variables on a ratio/interval (ordinal) scale (Hauke & Kossowski, 2011). According to Hintze (2007), Spearman's rank correlation is

the appropriate method for investigating the associations between variables in nonlinear, non-normal situations and variables with non-constant variance, and between outliers. In other words, Spearman's rank correlation coefficient is appropriate for analysing nonparametric data. Since Pearson correlations are affected by nonlinearity, non-normality, unequal variances and outliers, Pearson correlation coefficients are used to analyse parametric data (Bishara & Hittner, 2012; Wilson, 2014).

Previous studies have found that Spearman's rank and Pearson correlation tests produce comparable results (Al-Shiab, 2003). In the present study, the correlation coefficients were calculated using Spearman's rank because the data are nonparametric (Ntim & Soobaroyen, 2013).

Table 6.2 presents the Spearman's rank correlation coefficients for earnings management, the IFRS the ISA, ownership structure, corporate governance mechanisms and firm characteristics for the study sample.

Table 6.2: Correlation Coefficients for the Variables in the Current Study

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
Discretionary Accruals (1)	1.000												
IFRS (2)	−.109*	1.000											
ISA (3)	.103*	.707**	1.000										
Institutional Ownership (4)	−.097*	0.049	0.041	1.000									
Managerial Ownership (5)	0.033	0.049	0.067	−0.073	1.000								
Blockholder Ownership (6)	0.013	.103*	.092*	−.090*	−0.026	1.000							
Family Ownership (7)	−0.045*	0.012	0.008	.096*	.140**	−.209**	1.000						
State Ownership (8)	−.188	−0.002	−0.012	−.155**	−.094*	0.008	−.269**	1.000					
Board Size (9)	−0.071	0.001	0.002	0.038	−0.010	0.075	−0.041	.268**	1.000				
Board Independence (10)	−0.064	0.012	0.056	.135**	−.317**	0.026	−0.038	.178**	.113**	1.000			
Firm Size (11)	−.234	0.004	0.003	.222**	−.142**	−0.059	−.133**	.561**	.354**	.249**	1.000	.	
Return on Assets (12)	−.064*	−.275**	−.254**	.150**	0..028	−0.064	0.070	.163**	.136**	0.049	.260**	1.000	
Cash Flow (13)	−0.099	−.218**	−.229**	.186**	0.003	−0.045	.098*	.208**	0.072	0.068	.281**	.673**	1.000

Notes: *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

As Table 6.2 shows, the highest correlation coefficient is 0.707; this represents the correlation between the IFRS and the ISA. This finding indicates that the data of the current study do not suffer from multicollinearity, since, according to Hair et al. (2013), correlation coefficients over 0.90 indicate a multicollinearity problem.

Table 6.2 shows that none of the variables in the current study has a positive significant correlation with discretionary accruals (a proxy of earnings management) except the ISA. There is a significant positive correlation between the ISA and discretionary accruals at the 10% level. This indicates that the adoption of the ISA is likely to increase the level of earnings management.

As shown in Table 6.2, the IFRS is negatively related to discretionary accruals. This suggests that the adoption of the IFRS is likely to reduce the level of earnings management. Further, institutional ownership and family ownership are negatively and significantly correlated with discretionary accruals at the 10% level. These findings indicate that companies owned by institutions or family or by a combination of both are more likely to report lower levels of earnings management. This outcome is in line with Alzoubi's (2016) findings. Table 6.2 also shows that ROA negatively and significantly correlates with discretionary accruals at the 10% level, suggesting that firms with higher ROA are more likely to report lower levels of earnings management. This is also in line with Alzoubi's (2016) findings.

6.4 Regression Results

The previous section provided the descriptive statistics and the correlation matrices for all variables in the current study. This section describes the findings on testing the hypotheses proposed in this study (as described in Chapter 4). The hypotheses are tested using regression analysis, which is the most popular method of multivariate analysis. The

aim of the regression analysis test is to provide empirical evidence to answer the study questions: (a) Does IFRS implementation influence earnings management in listed Saudi companies? (b) Does ISA implementation influence earnings management in listed Saudi companies? (c) Does ownership structure influence earnings management in listed Saudi companies?

As mentioned earlier, the current study used the GLS (random effects) regression on a time series of six years' worth of data (2014–2019) to test the study hypotheses. Table 6.3 shows the findings of these tests. As the table shows, the model of the present study is significant and there is a highly significant value for Prob > chi2 ($p < 0.000$). This result indicates that the IFRS, the ISA and ownership structure can demonstrate the behaviour of the dependent variable of the current study (earnings management). As reported by Pelucio-Grecco et al. (2014), if the *p*-value is equal to zero, it can be confirmed that the independent variables of the study can explain the conduct of the dependent variable of the study. The R-squared value for the model of this study indicates that the IFRS, the ISA and ownership structure, along with the five control variables, account for around 11.63% of the variation in earnings management (discretionary accruals) levels for the listed Saudi firms during the period 2014–2019. A low R-squared value for the model may indicate variations in the levels of earnings management, and it is common in studies investigating earnings management (Rahman & Ali, 2006). However, the R-squared value for the model of the current study is reasonably similar to those of comparable studies, such as 10% found by Doukakis (2014), 6% by Jaggi et al. (2009), 9% by Habbash and Alghamdi (2017), 8% by Habbash (2019), 4% by Ho et al. (2015), 14% by Marra et al. (2011) and 12% by Rahman and Ali (2006). Moreover, the lowest R-squared value to be deemed statistically significant is equal to or greater than 0.10 (Falk & Miller, 1992).

As shown in Table 6.3, discretionary accruals has a negative relationship with the IFRS, institutional ownership and family ownership. Conversely, ISA implementation has a significant positive effect on discretionary accruals. Table 6.3 also presents that discretionary accruals has no significant relationship with blockholder ownership, managerial ownership or state ownership.

In terms of control variables, the results in Table 6.3 reveal that cash flow from operating activities is negatively related to discretionary accruals, whereas board size, board independence, firm size and return on assets have no relationship with discretionary accruals. The effects of the IFRS, the ISA, ownership structure and the control variables on earnings management (discretionary accruals) are discussed in the following subsections.

Table 6.3: Regression Results for the Hypotheses of the Current Study

Discretionary accruals (Modified Jones model)	Sign	Coefficient (β)	*T*-statistic	Sig (p)
IFRS	Negative	–0.031	–2.62	0.009***
ISA	Positive	0.026	2.25	0.024**
Institutional Ownership	Negative	–0.039	–2.58	0.010**
Managerial Ownership	Negative	–0.032	–0.32	0.751
Blockholder Ownership	Negative	–0.048	–1.35	0.176
Family Ownership	Negative	–0.062	–1.88	0.060*
State Ownership	Negative	–0.030	–1.04	0.298
Board Size	Positive	0.001	0.66	0.508
Board Independence	Negative	–0.007	–0.54	0.586
Firm Size	Negative	–0.002	–0.81	0.418
Return on Assets	Negative	–0.010	–0.40	0.690
Cash Flow from Operations	Negative	–0.065	–1.86	0.063*
Industry and Year		Included		
Constant		0.118	2.89	0.004***
No. of observations	552			
Between	0.2064			
R-squared Overall	0.1163			
Wald chi2	59.07			

Prob. > chi2	0.000

*, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

6.4.1 Impact of the International Financial Reporting Standards on Earnings Management

The IFRS is considered a set of accounting standards (Mackenzie et al., 2018). According to Budrina (2014):

> IFRS were created as a common global language for accountants all around the world and it was expected to become the key financial reporting standards for all business entities. IFRS provides understandable, reliable, relevant and comparable accounting rules which can be implemented in every country. (p. 11)

However, although there is support for the idea that the IFRS address earnings management by defining a set of high-quality accounting standards that bring transparency, accountability and efficiency to financial markets worldwide, the previous empirical studies showed different and unexpected outcomes about the role of the IFRS in diminishing the level of earnings management practices. In other words, it is not yet clear whether the implementation of the IFRS could curb earnings management practices and thereby increase the quality of financial reporting.

The current study found that the IFRS is significantly related to earnings management practices (discretionary accruals) in listed Saudi companies. Thus, hypothesis HA1, which predicted that there is a significant relationship between IFRS and earnings management in Saudi listed firms, is supported. The current study also found that the relationship between these variables is negative. As shown in Table 6.3, the IFRS has a significant ($p = 0.009$) negative (coefficient = -0.031) association with discretionary accruals at the 1% level of significance. This outcome suggests that IFRS adoption plays

a fundamental role in constraining the level of accrual earnings management and thus improving the quality of financial reporting.

This finding is consistent with the agency theory that the IFRS can act as a bonding mechanism to help minimise managers' opportunistic behaviour, including the manipulation of financial information, and it reduces agency costs by enhancing the quality of accounting information (Stiglitz, 2000; Wong, 2018). It also supports the argument that the IFRS is one factor that could minimise a company's ability to engage in earnings management and thus increase the quality of financial reporting (Ashbaugh & Pincus, 2001; Zéghal et al., 2011). Further, this finding is in line with the prior finding about the effect of the IFRS on accrual earnings management, such as in the studies by Barth et al. (2008), Huifa Chen et al. (2010), Iatridis (2010), Wan Ismail et al. (2013), Pelucio-Grecco et al. (2014), Setiawan et al. (2019), Yuk and Leem (2017) and Zéghal et al. (2011). All these studies found that IFRS implementation is negatively related to earnings management.

6.4.2 Impact of the International Standards on Auditing on Earnings Management

ISA adoption could constrain earnings management practices by enhancing the quality of auditing performance, whereby high-quality auditing helps curb earnings management practices and the inclusion of misleading information in earnings reports (Piot & Janin, 2005). Boolaky and Soobaroyen (2017) and Vanstraelen and Schelleman (2017) maintained that high-quality audits enhance the reliability of financial reporting, and that the ISA contributes to enhance the quality of audits. Hayes et al. (2015) also indicated that since the ISA enables auditors to establish reliable, trustworthy financial reports, these standards promote high-quality accounting information.

The current study found that the ISA has an impact on earnings management practices in listed Saudi companies. Thus, hypothesis HA2, which predicted that there is a significant relationship between ISA and earnings management in Saudi listed firms, is supported. The current study also found that the association among these variables is positive. As shown in Table 6.3, ISA adoption has a significant (p = 0.024) positive (coefficient = 0.026) association with discretionary accruals at the 5% level of significance. This outcome suggests that ISA adoption raises the level of accrual earnings management, this could have a negative effect on the quality of financial statements. In other words, companies that have their financial reports audited using the ISA report more accrual earnings management than do companies that use national auditing standards. This, in turn, means that the ISA is less active in decreasing managerial opportunism, such as earnings management. Therefore, in the Saudi Arabian context, the ISA is not a monitoring mechanism that could constrain the level of accrual earnings management.

This finding of the present study is in line with of those of Alves (2013), Chi et al. (2011) and Yasser and Soliman (2018) who reported a positive association between earnings management and external audit quality.

6.4.3 Impact of Ownership Structure on Earnings Management

Ownership structure is expected to limit the ability of managers to manage earnings and hence to enhance the quality of financial reports (Alzoubi, 2016). Pergola (2005) stated that ownership structure strongly affects the scope and quality of monitoring and observation within a firm. Habbash (2010) indicated that ownership structure can play a significant role in restricting earnings management. However, although the influence of ownership structure on earnings management has been investigated by several studies,

these have reached various conclusions. It is still unclear whether ownership structure can decrease or even eliminate earnings management.

The present study examines the hypotheses regarding the ownership structure in accordance with the theory that ownership concentration may alleviate agency problems and that it is possible to significantly reduce agency problems by aligning the controlling principal's interests with those of the firm (Ang et al., 2000).

The results of the current study confirm that the impact of ownership on earnings management differs according to the type of ownership structure; that is, the variability depends on the type of owner. This subsection discusses the results of the tests of the impact of five types of ownership structure on earnings management: internal managerial ownership, external institutional ownership, blockholder ownership, family ownership and state ownership.

6.4.3.1 *Managerial Ownership and Earnings Management*

Most relevant studies find that managers who own company shares are more likely to share the goals of shareholders (Peasnell et al., 2005). In other words, higher levels of managerial ownership enhance corporate performance while reducing opportunistic managerial behaviour (Teshima & Shuto, 2008). Agency theory explains this finding: When managers own no or very little stock in the company where they work, their conduct tends to be influenced by self-interest rather than the interests of the company or its shareholders. Eventually, the managers move away from the objective of adding value to the company, and this can result in earnings management (Jensen & Meckling, 1976). However, the opponents of this view have contended that a greater level of managerial ownership gives managers too much power, resulting in managers who put their own interests first rather than focusing on the interests of stockholders. Consequently, such

managers might engage in earnings management practices to benefit themselves (Peasnell et al., 2005).

Drawing on the assumption of agency theory, hypothesis HA3 in the current study predicts that there is a significant relationship between managerial ownership and earnings management. However, the results of the study do not support HA3. Managerial ownership is negatively (coefficient = −0.032) but insignificantly (p = 0.751) related to discretionary accruals, as shown in Table 6.3. Therefore, hypothesis HA3 is not supported. This outcome might be due to the fact that managerial ownership is negligible in the sample of the current study. As shown in Table 6.1, managerial ownership has an average value of 1.0% in the sample. This finding suggests that an increase in managers' equity does not necessarily decrease the level of earnings management practices. Managerial ownership may also be unlikely to reduce the possible conflicts of interest that can arise from the separation of ownership and management. This finding is not surprising because some previous empirical studies, such as those by Alghamdi (2012), El Moslemany and Nathan (2019) and Laux and Laux (2009), have found that managerial ownership has no impact on earnings management.

6.4.3.2 *Institutional Ownership and Earnings Management*

Bushee (1998) defined institutional ownership as owners who concentrate on the long-term value of shares. Institutional investors can take part in the decision-making processes of boards of directors, and this power positions institutional owners at the centre of a company's system of corporate governance (Ping & Wing, 2011). It is common sense that institutional investors play an essential role in monitoring and that they practice more control over managers than minor shareholders (Black, 1991). Ronen and Yaari (2008)

argued that institutional ownership is probably a corporate governance mechanism for preventing earnings management.

The findings of the current study are consistent with the aforementioned assumptions of researchers. As Table 6.3 shows, institutional ownership has a significant negative (p = 0.010, coefficient = −0.039) relationship with discretionary accruals at the 5% level of significance. Therefore, hypothesis HA4, which predicts that there is a significant relationship between institutional ownership and earnings management in Saudi listed firms, is supported. This result indicates that institutional shareholders can monitor and mitigate managers' opportunistic behaviour such as earnings management. This result is also in line with that of Abdul Jalil and Abdul Rahman (2010), Ajay and Madhumathi (2015), Alzoubi (2016), Charitou, Lambertides and Trigeorgis (2007), Osma and Noguer (2007) and Park and Shin (2004), who all found a negative relationship between institutional ownership and earnings management. However, this finding is not in line with that of Alves (2012) and El Moslemany and Nathan (2019), who found an insignificant relationship between institutional ownership and earnings management.

6.4.3.3 *Blockholder Ownership and Earnings Management*

In blockholder ownership, a single investor or a group of investors hold the majority of shares in a company. According to Zhong et al. (2007), there are two opposing views about the influence of blockholder ownership on earnings management. First, when large blocks of shares are sold, share prices experience a substantial drop. Therefore, blockholders can control managers' behaviour, which may reduce accruals earnings management. However, to report better financial performance, blockholders may pressure management to become involved in income-increasing accruals earnings management. Empirically, many studies have investigated the influence of the blockholder ownership

on earnings management but have found mixed evidence and thus reached diverse conclusions.

The present study found (as shown in Table 6.3) an insignificant (p = 0.176) negative (coefficient = −0.048) correlation between blockholder ownership and discretionary accruals. This result does not support hypothesis HA5, which predicts that there is a significant relationship between blockholder ownership and earnings management in Saudi listed firms. The implication of this empirical finding is that blockholder ownership in Saudi Arabia is not an effective mechanism for reducing opportunistic behaviour, such as earnings management. This insignificant correlation does not align with agency theory, which predicts that monitoring by blockholder owners can be a tool to reduce agency costs and thus could be expected to reduce earnings management (Jensen & Meckling, 1976). This finding also is inconsistent with that of Alves (2012), Farouk and Bashir (2017) and Zhong et al. (2007), who revealed that earnings management practicesis negatively affected by blockholder ownership. However, this result is line with that of Al-Fayoumi et al. (2010) and Alghamdi (2012), who found an insignificant correlation between blockholder ownership and earnings management.

6.4.3.4 *Family Ownership and Earnings Management*

The literature has reached different conclusions regarding the influence of family ownership on earnings management. Two of these conclusions are particularly important. The first conclusion suggests that a founding family has a long-term interest in the company and is therefore more likely to limit managers' ability to engage in earnings management. (Anderson & Reeb, 2003). In contrast, family ownership may eventually lead to the expropriation of interests on the part of minority shareholders (Jaggi et al., 2009). Because of the entrenchment effect, family members who control majority shares

may choose to extract certain benefits from the company at the expense of minority shareholders (Alzoubi, 2016).

In the current study, hypothesis HA6 predicts that there is a significant relationship between family ownership and earnings management in Saudi listed firms. As shown in Table 6.3, this study revealed that there is a significant association between family ownership and discretionary accruals, and hence, hypothesis HA6 is supported. Family ownership has a significant negative relationship (p = 0.060, coefficient = −0.062) with discretionary accruals at the 10% level of significance. The implication of this empirical finding is that companies with a higher percentage of family ownership can constrain earnings management and thus improve the quality of financial reporting.

This outcome is consistent with agency theory, which predicts that monitoring by family ownership could be a tool to diminish agency costs and thus could be expected to curb earnings management practices (Schulze et al., 2001). It also supports Anderson and Reeb's (2003) argument that a founding family has a long-term interest in the company and that its desire to maintain the firm's reputation will most likely limit managers' ability to engage in earnings management. This finding is also consistent with that of Alzoubi (2016), Bona-Sánchez et al. (2011) and Boonlert-U-Thai and Sen (2019), who found that family ownership can curb earnings management.

6.4.3.5 *State Ownership and Earnings Management*

It is unclear whether managers in government-owned organisations in emerging economies engage in earnings management as do those working in private companies (Wang & Yung, 2011). Undeniably, government-owned companies are much more closely connected to the government than are private companies, and hence, it is easier for government-owned organisations to access the equity market. Consequently,

government-owned companies are likely to have less interest in earnings management as a tool to facilitate the process of going public (Cheng et al., 2015). Conversely, Fan et al. (2007) stated that since the CEOs of government-owned companies have more connections to political figures, they do not monitor managers as much as non-government-owned companies do. This often means that such organisations are weaker and relatively unprofessional, and thus, government-owned organisations have much more motivation to engage in earnings management practices than non-government-owned organisations.

The current study's outcome is inconsistent with the arguments of Cheng et al. (2015) and Fan et al. (2007) about the motivation of state ownership to engage in earnings management. As shown in Table 6.3, there is a negative relationship (coefficient = −0.030) between state ownership and discretionary accruals; this relationship is insignificant (p = 0.298). Therefore, hypothesis HA7 is not supported, as this finding indicates that state ownership is not significantly related to earnings management. This insignificant relationship highlights that the state ownership in Saudi Arabia is not an effective mechanism to reduce opportunistic behaviour, such as earnings management.

The current study's result supports Najid and Rahman's (2011) argument that the state typically lacks adequate entrepreneurial expertise. It also prefers to be politically driven rather than economically motivated, which leads companies to weak financial performance. Empirically, the result of the present study is consistent with that of Almasarwah (2015), who found that state ownership has no impact on earnings management.

Overall, the findings of the present study confirm that IFRS implementation plays a fundamental role in curbing earnings management and thus improving the quality of

financial reporting. The current study also found that the implementation of the ISA may increase the level of earnings management.

In terms of ownership structure, the present study finds that institutional ownership and family ownership are negatively related to earnings management. Therefore, this study confirms that institutional ownership and family ownership are efficient monitors of management, leading to reductions in earnings management and thus improvements in the quality of financial reporting. However, managerial ownership has an insignificant association with earnings management. This outcome may be due to the fact that managerial ownership is negligible in the sample of the current study.

Blockholder ownership and state ownership also have no impact on earnings management. A probable explanation for these outcomes is the characteristics of those owners, such as their experience and knowledge, as well as their understanding and reactions as regards management discretion. Another reason for these outcomes could be that may be that such owners tend to favour short-term investments that do not demand significant attention. Furthermore, the Saudi government updated corporate governance regulation in 2016, and it required all companies to apply the new version in their 2017 financial reporting (CAM, 2017). Thus, another reason for the weak role of blockholder ownership and state ownership as monitoring mechanisms could be that the new version of corporate governance regulation in Saudi Arabia has only recently been applied, which means there are still some weaknesses in this regulation. Moreover, the weakness of investors protection in Saudi Arabia may be another likely reason (Alghamdi, 2012).

Another probable reason for these results could be that blockholder and state shareholders in Saudi Arabia tend to be traders rather than investors. A high turnover of the top shareholders in listed firms emerged. The list of blockholder and state shareholders

presented in firms' annual reports constantly changed, which indicates a shortage of active blockholder and state ownership. Additionally, it could be argued that the period during which the current study was conducted could have a role in obtaining these unexpected results.

Further, these results address the questions of the present study, which therefore concludes that the IFRS, the ISA and some types of ownership structure (institutional and family) affect earnings management. Table 6.4 summarises the relationships of the IFRS, the ISA and ownership structure with earnings management.

Table 6.4: Summary of Relationships of the IFRS, the ISA and Ownership Structure With Earnings Management

Earnings Management (Discretionary Accruals)				
Independent variable				
IFRS	Negative	−0.031	0.009***	Supported
ISA	Positive	0.026	0.024**	Supported
Managerial Ownership	Negative	−0.032	0.751	Not supported
Institutional Ownership	Negative	−0.039	0.010**	Supported
Blockholder Ownership	Negative	−0.048	0.176	Not supported
Family Ownership	Negative	−0.062	0.060*	Supported
State Ownership	Negative	−0.030	0.298	Not supported

*, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

6.4.4 Impact of the Control Variables on Earnings Management

Since the main objective of the current study is to determine whether there is an association between earnings management and the IFRS, the ISA or ownership structure, it is essential to control for other factors that influence earnings management. In this regard, Johnson et al. (2002) addressed the need for control variables, stating that apart from the primary variable, some variables may influence the dependent variable. Therefore, the current study includes a set of control variables to control for the corporate

governance mechanisms and company characteristics likely to influence the extent of earnings management.

This subsection describes the results of testing the impact of five control variables on earnings management—board independence, board size, firm size, cash flow from operations and firm performance.

6.4.4.1 *Board Size*

According to Klein (2002b) and Xie et al. (2003), larger boards play a fundamental role in improving reporting quality. Alzoubi (2016), who supported this idea, suggested that there is a positive association between larger boards and a higher number of management monitoring activities. Conversely, Jensen (1993) found that the presence of eight or more people on the board leads to coordination and process problems that lead to lower levels of monitoring. However, the findings of the present study do not support these arguments.

As shown in Table 6.3, board size has an insignificant relationship (p = 0.508) with discretionary accruals. This indicates that board size does not play a role in constraining earnings management. This result is line with Katmon and Al Farooque (2017) and Xie et al. (2003), who found an insignificant association between board size and earnings management practices.

6.4.4.2 *Board Independence*

Based on the literature review regarding the impact of independent boards on earnings management, companies with a higher proportion of independent board members are less likely to engage in earnings management practices (Klein, 2002a). However, some scholars highlighted the disadvantages of having a higher proportion of non-executive directors on the board. Among the downsides are a lack of business knowledge, an excessive degree of monitoring, stifling strategic actions and a dearth of real

independence (Demb & Neubauer, 1992; Goodstein et al., 1994; Patton & Baker, 1987). However, the outcomes of the current study do not support these arguments.

As shown in Table 6.3, the present study finds a negative (coefficient = −0.007) relationship between board independence and discretionary accruals; this relationship is insignificant (p = 0.586). This outcome is consistent with Katmon and Al Farooque's (2017) finding on the insignificant association between earnings management practices and board independence.

6.4.4.3 *Firm Size*

Watts and Zimmerman (1990) and Lemma et al. (2013) observed that larger firms are subjected to a greater level of political costs as well as pressure to meet or surpass analyst expectations. Thus, they are more motivated to manage earnings such that it will be higher than average, given that they pay close attention to keeping political risks at a low level and meeting analyst expectations. In contrast, Becker et al. (1998) claimed that large companies are less motivated to be involved in earnings management practices because managers are monitored indirectly by external entities as well as subjected to higher levels of auditor scrutiny and public pressure. However, the results of the present study do not support these arguments.

As shown in Table 6.3, the present study finds a negative (coefficient = −0.002) correlation between firm size and discretionary accruals; this correlation is insignificant (p = 0.418). This finding contradicts that of Doukakis (2014), El Moslemany and Nathan (2019), Gul et al. (2009) and Xie et al. (2003), who noted that firm size has a significant impact on earnings management. However, this finding aligns with Farouk and Bashir's (2017) finding that firm size is not related to earnings management.

6.4.4.4 *Firm Performance*

According to Hessayri and Saihi (2015), companies generating high profits may have more incentive to engage in earnings management practices because manager compensation is related to a company's financial performance directly. However, Chen et al. (2015) showed that high-performing companies are less motivated to manage earnings.

The current study finds no relationship (p = 0.690) between return on assets and discretionary accruals, as shown in Table 6.3. The result is inconsistent with that of Chen et al. (2015) and Aygun et al. (2014), as stated above, who explained that the ROA could influence the level of earnings management practices. Nevertheless, this outcome is in line with Rahman and Ali's (2006) finding that ROA does not influence earnings management practices.

6.4.4.5 *Cash Flow from Operations*

Lobo and Zhou (2006) argued that since high-performing companies already have robust operating cash flow, they tend to refrain from managing earnings. In contrast, Leuz et al. (2003) suggested that companies with higher cash flow might choose to manage earnings in order to establish a reserve for the future. However, the findings of the present study offer support for Lobo and Zhou's (2006) argument.

As shown in Table 6.3, the present study finds that cash flow from operations is negatively (coefficient = −0.065) and significantly (p = 0.063) associated with discretionary accruals at the 10% level. This outcome supports the theoretical argument that high-performing firms are less likely to manage earnings. This result is also consistent with Alzoubi (2018) and Yang et al. (2008), who find that cash flow from operations is negatively related to earnings management practices.

6.5 Robustness Tests

To ensure the robustness of the main results of the present study, several additional analyses were conducted. This check was performed to ensure that the primary findings are accurate and can represent trends in earnings management.

First, the main findings were checked for robustness by employing an alternative measurement of earnings management. Second, a parametric test (OLS regression) with a robust standard errors test, and the generalised method of moments test, were conducted. Lastly, since some scholars have suggested that endogeneity is the principal challenge for studies in the field of finance and accounting (Aebi, Sabato, & Schmid, 2012), a robustness check was performed to control for endogeneity.

6.5.1 Alternative Measurement of Earnings Management

To further check the robustness of the results, this study uses an alternative measurement of the dependent variable (earnings management). An alternative measure of earnings management is employed to examine whether the main findings are robust to various measures or not. The primary empirical analyses of earnings management (discretionary accruals) were conducted using the modified Jones model. In addition, Kothari et al.'s (2005) model was used as an alternative measurement of earnings management, consistent with previous studies, such as Baig and Khan (2016), Swastika (2013) and Sun et al. (2010).

As mentioned in Chapter 3, the role of performance cannot be ignored when calculating earnings management. The Jones model indicates that discretionary accruals are related to return on assets (Dechow et al., 1995; Kasznik, 1999). Several studies have aimed to resolve the achievement matter related to uncertainty (Bartov et al., 2000; Kasznik, 1999; Kothari et al., 2005). These studies used the matching and platform techniques to stabilise

discretionary accruals and to exclude factors likely to affect the relationship between discretionary accruals and earnings performance. The only accounting study that satisfactorily addressed this issue is Kothari et al.'s (2005) study. They argued that the Jones model and the modified Jones models commit major moderation errors in their estimation of discretionary accruals because these models ignore firm performance. In Kothari's model of cross-sectional version by industry and year, earnings management (discretionary accruals) is estimated using the following regression equation:

Equation 6.1

$$\boldsymbol{TAC_{ijt}/A_{ijt-1} = \beta_1(1/A_{ijt-1}) + \beta_2(\Delta REV_{ijt} - \Delta REC_{ijt})/A_{ijt-1}) + \beta_3(PPE_{ijt}/A_{ijt-1}) + \beta_4\, ROA_{it-1} + \varepsilon_{ijt}}$$

where:

$\boldsymbol{TAC_{ijt}}$ = lagged total accruals for firm *i* in industry *j* in year *t*;

$\boldsymbol{A_{ijt-1}}$ = total assets for firm *i* in industry *j* in year *t* – 1;

$\boldsymbol{\Delta REV_{ijt}}$ = change in revenue for firm *i* in industry *j* in year *t*;

$\boldsymbol{\Delta REC_{ijt}}$ = change in net accounts receivable for firm *i* in industry *j* in year *t*;

$\boldsymbol{PPE_{ijt}}$ = gross property, plants, and equipment for firm *i* in industry *j* in year *t*;

$\boldsymbol{ROA_{ijt-1}}$ = lagged return on assets for firm *i* in industry *j* in year *t* – 1; and

$\boldsymbol{\varepsilon_{ijt}}$ = an error term for sample firm *i* in industry *j* in year *t*. This error refers to the variation between non-discretionary accruals and total accruals.

In the present study, the Kothari et al. (2005) model is utilised to estimate earnings management, and then, the same model is used to conduct an additional analysis to test the impact of the IFRS, the ISA and ownership structure on constraining earnings management. Table 6.5 shows the GLS regression for the alternative earnings

management proxy (the Kothari et al. model) on the IFRS, the ISA and types of ownership structure.

Table 6.5: Regression Results for Alternative Earnings Management Proxy

Discretionary accruals (model of Kothari, Leone, & Wasley, 2005)	Sign	Coefficient (β)	*T-statistic*	Sig (*p*)
IFRS	Negative	–0.028	–2.58	0.010**
ISA	Positive	0.027	2.51	0.012**
Institutional Ownership	Negative	–0.029	–2.16	0.031**
Managerial Ownership	Negative	–0.016	–0.18	0.856
Blockholder Ownership	Negative	–0.041	–1.29	0.196
Family Ownership	Negative	–0.053	–1.82	0.069*
State Ownership	Negative	–0.040	–1.57	0.117
Board Size	Positive	0.001	0.47	0.641
Board Independence	Negative	–0.001	–0.09	0.932
Firm Size	Positive	0.001	0.09	0.925
Return on Assets	Negative	–0.003	–0.13	0.896
Cash Flow from Operations	Negative	–0.059	–1.86	0.064*
Industry and Year	Included			
Constant		0.079	2.19	0.028**
No. observations	552			
Between	0.2165			
R-squared Overall	0.1152			
Wald chi2	58.79			
Prob. > chi2	0.000			

*, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Consistent with the main test results shown in Table 6.3, IFRS adoption is significantly and negatively associated with discretionary accruals, indicating that IFRS adoption plays a fundamental role in constraining earnings management. Table 6.5 also shows a significant positive relationship between ISA adoption and discretionary accruals. This result suggests that ISA adoption positively influences earnings management. This outcome aligns with the study's main findings, which are shown in Table 6.3.

In terms of ownership structure dimensions, consistent with the main test, institutional ownership and family ownership are negatively and significantly associated with discretionary accruals at the 5% and 10 % level, respectively, while managerial ownership, blockholder ownership and state ownership still have no significant association with discretionary accruals, as shown in Table 6.5. These results support the main findings of the study that institutional ownership and family ownership affect earnings management. In line with agency theory, these types of ownership can also efficiently reduce agency problems, as found in previous studies.

Consistent with the main test, discretionary accruals has no significant association with any of the control variables except for cash flow from operations. It has a significant negative association with discretionary accruals at the 10% level. This indicates that high-performing firms are less likely to engage in earnings management.

Overall, the findings of the GLS regression analysis as shown in Table 6.5 confirm that the main results in Table 6.3 are in line with, and robust to, alternative measurement of earnings management adopted in the current study.

6.5.2 Parametric Test (OLS Regression)

Based on the characteristics of the data of the current study, this study used a nonparametric test. The presumptions for OLS regression have been debated earlier in the current chapter, and it has been concluded that a GLS regression is a more suitable approach for the present study. However, some studies have questioned the need to satisfy all assumptions of OLS regression before conducting a parametric test. Several studies have examined the assumptions of normality and homoscedasticity and found that the results of parametric tests are only slightly affected by non-normal distributions and unequal variances in the data (Habbash, 2010).

One crucial presumption for OLS regression is the homogeneity of variance of the residuals, which significantly influences the model's credibility. In a well-fitted model, no pattern should appear when the residuals are plotted against fitted values. The residual variance is heteroscedastic when the variance of the residuals is non-constant. Robust standard errors (also known as Huber–White standard errors) are commonly used to correct for heteroscedasticity. This approach can correct for errors that are dependent and identically distributed. Utilising robust standard errors will not affect the coefficient estimates provided by an OLS regression, but it will affect the standard error and significance tests. Therefore, when heteroscedasticity is present, a robust standard errors OLS regression is more reliable (Hamilton, 1992). Gujarati (2003) supported the use of OLS regression with robust standard errors (Huber–White standard errors); it is one of the most common models for controlling and correcting problems linked with heteroscedasticity.

In this sensitivity analysis, the current study used a robust standard errors OLS regression as a parametric test to check the robustness of the primary results. This approach is consistent with the approach followed by Alzoubi (2016) and Dimitropoulos and Asteriou (2010). As Table 6.6 shows, there are no variances among the findings of the parametric test (OLS regression) and the primary analysis with the nonparametric test (GLS regression). As shown in Table 6.6, the R-squared has similar value in both analyses. Further, as shown in Table 6.6, the coefficients and significance levels for all the variables in the current study have similar values and directions in both analyses. The only exception to this is cash flow from operations, which has an insignificant association with earnings management in the OLS regression. This consistency of the findings across two statistical methods confirms that the current study's results are robust.

Table 6.6: Parametric Test (OLS Regression) Using Robust Standard Errors.

Discretionary accruals (modified Jones model)	Sign	Coefficient (β)	*T-statistic*	Sig (*p*)
IFRS	Negative	–0.028	–2.63	0.009***
ISA	Positive	0.025	2.15	0.032**
Institutional Ownership	Negative	–0.024	–1.72	0.086*
Managerial Ownership	Negative	–0.045	–0.66	0.509
Blockholder Ownership	Negative	–0.030	–1.00	0.320
Family Ownership	Negative	–0.063	–2.40	0.017**
State Ownership	Negative	–0.022	–1.01	0.314
Board Size	Positive	0.001	0.16	0.872
Board Independence	Negative	–0.006	–0.56	0.574
Firm Size	Negative	–0.003	–1.21	0.227
Return on Assets	Negative	–0.015	–0.27	0.786
Cash Flow from Operations	Negative	–0.048	–0.65	0.513
Industry and Year	Included			
Constant		0.135	3.11	0.002***
No. observations	552			
R-squared	0.1199			
Prob. > F	0.000			

*, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

6.5.3 Generalised Method of Moments

The present study used another statistical test to examine the relationship of earnings management with the IFRS, the ISA and ownership structure, which is the generalised method of moments (GMM) estimator. The current study used this estimator because the study period is small ($T = 6$; $N = 92$). According to Blackburne and Frank (2007), one of methods that can be used to estimate panel data for a small period is the GMM estimator. The GMM estimator is a combination of instrumental variable (IV) estimators and fixed-effect estimators. It optimally uses all linear moment limitations that follow from the presumption of no serial association in the errors in an equation that includes lagged dependent variables, individual influences and no exogenous variables (Arellano & Bond, 1991). According to Drukker (2010), a major feature of the GMM estimator is that it

enables evaluation in systems where the number of unknowns is less than the number of moment conditions and examining whether the moment conditions are constant. There are two forms of the GMM estimator: system GMM and difference GMM. Moreover, two approaches can be used to determine the GMM estimator: the one-step and two-step approaches (Drukker, 2010). The current study used system GMM because the model of this study includes dummy variables; it also employed the robust one-step estimator (Viljoen, Saayman, & Saayman, 2019).

Table 6.7 presents the findings on testing the influence of the IFRS, the ISA and ownership structure on discretionary accruals using the one-step system GMM. As shown in Table 6.7, the IFRS, institutional ownership and family ownership are negatively related to discretionary accruals. In contrast, ISA implementation has a positive association with discretionary accruals. This analysis does not find any evidence that managerial ownership, blockholder ownership or state ownership has any significant association with discretionary accruals. These results are in line with the main findings. This consistency of the findings s using another statistical test confirms that the current study's results are robust.

Table 6.7: One-Step System GMM

Discretionary accruals (modified Jones model)	Sign	Coefficient (β)	*T-statistic*	Sig (*p*)
Discretionary Accruals (lag)		0.176	3.04	0.003***
IFRS	Negative	–0.019	–2.62	0.010**
ISA	Positive	0.011	1.85	0.067*
Institutional Ownership	Negative	–0.025	–1.69	0.094*
Managerial Ownership	Negative	–0.001	–0.02	0.988
Blockholder Ownership	Negative	–0.038	–1.05	0.295
Family Ownership	Negative	–0.057	–1.92	0.058*
State Ownership	Negative	–0.017	–0.66	0.509
Board Size	Negative	–0.002	–0.42	0.672
Board Independence	Positive	0.009	0.68	0.497
Firm Size	Negative	–0.006	–1.82	0.072*

Discretionary accruals (modified Jones model)	Sign	Coefficient (β)	*T-statistic*	Sig (*p*)
Return on Assets	Negative	–0.029	–0.51	0.612
Cash Flow from Operations	Negative	–0.030	–0.37	0.709
Industry and Year	Included			
Constant		0.153	3.24	0.002***
No. observations	460			
Prob. > F	0.000			
Arellano–Bond Test (1)	–3.95***			
Arellano–Bond Test (2)	–1.66*			
Sargan Test	242.32***			
Hansen's Test	18.18			

*, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

6.5.4 Endogeneity Analysis

Most earnings management studies utilise single-equation regression models. However, according to some recent studies, it is more appropriate to use a simultaneous equations approach because endogeneity can adversely affect models that include corporate governance or ownership variables (Coles et al., 2008; McKnight & Weir, 2009). Moreover, Aebi et al. (2012) asserted that the principal potential problem in studies in the field of finance and accounting is endogeneity. Endogeneity occurs because of a close correlation between independent and dependent variables; the explanatory power of the independent variables do not play a role in this problem. Rather, variables that are not included in the model affect both the dependent and independent variables (Coles et al., 2008). Therefore, endogeneity can result in biased, inefficient, inconsistent inferences about the associations between dependent and independent variables (McKnight & Weir, 2009).

Following the approach employed by Coles et al. (2008) and McKnight and Weir (2009), the present study utilises an instrumental variables (IV) two-stage regression (2SLS) analysis and uses the lagged values of the endogenous variables as an instrumental

variable (IV) to explore whether endogeneity is present. In this analysis, all the variables in current study are assumed to be endogenous.

Before utilising the instrumental variable (IV) two-stage regression (2SLS) approach, it is necessary to conduct a Hausman test to determine whether endogeneity bias affects the independent variables (Greene, 2007). An insignificant Hausman test suggests that there is no endogeneity bias. This implies that, first, an OLS regression and a 2SLS regression should lead to similar outcomes. Second, it implies that since the lagged independent variables pass the Hausman test, they are more likely to be valid instrument variables. In other words, an insignificant Hausman test suggests that the results of the OLS regression can explain the relationships between the dependent and independent variables (Alzoubi, 2016; Greene, 2007).

As shown in Table 6.8, the Hausman test (p = 0.1520) is insignificant, indicating a lack of endogeneity bias. Therefore, endogeneity does not seem to significantly influence the outcomes of the current study, and the OLS regression results previously reported may be used to confirm the current study's findings.

Table 6.8: Test of Endogeneity

	Wu-Hausman	Durbin
The Current Study's Model	*P*-value = 0.1520	*P*-value = 0.1388

6.6 Chapter Summary

This chapter has analysed the data used in this study. It has presented the descriptive statistics for all the variables examined in the current study. The chapter identified some

independent variables that correlate highly with each other. The results of the tests of the hypotheses of the current study were also presented and discussed.

The results of the current study imply that the mean value of discretionary accruals in the sample companies are higher than those found in other studies conducted in developed countries. They also indicated that most of the sample companies are held and controlled by institutional or government investors.

This chapter has described the correlation matrix for the study's variables. The results of the Spearman's test revealed that the highest correlation between independent variables was 0.707; this correlation occurred between IFRS and ISA implementation. All correlations between variables were less than 0.7, indicating that there is no multicollinearity in the data used in the current study. These results were supported by the VIF results, since the VIF values for all the independent variables in this study were less than 10, indicating that the data of the current study do not suffer from multicollinearity.

The regression results show that IFRS implementation, institutional ownership and family ownership are negatively related to earnings management. Conversely, the analysis indicated a significant positive relationship between ISA implementation and earnings management. Managerial ownership, blockholder ownership and state ownership had insignificant associations with earnings management. Several additional analyses were conducted to check the robustness of the study's results; the findings of these analyses are line with the main results. Therefore, it may be concluded that earnings management has a negative and significant relationship with IFRS implementation, institutional ownership and family ownership; these factors may constrain the level of earnings management. These findings are in line with agency theory and with previous research.

Chapter 7: Summary and Conclusions

7.1 Introduction

This chapter summarises the current study and describes the results of the study's empirical investigation. The study has investigated the relationship of earnings management with the IFRS, the ISA and ownership structure in Saudi Arabia. This chapter is organised as follows. Section 7.2 provides the overview of the thesis, covering its background, aims and methodology. The results of the current study are summarised in Section 7.3. Section 7.4 describes the study's contributions and significance. The current study's limitations are explained in Section 7.5, and the study implications is provided in Section 7.6. Section 7.7 provides suggestions for future studies.

7.2 Overview of the Current Study

Earnings management is a creative technique that managers use to manipulate financial reports; it can take several forms and may include deceitful actions. Companies deliberately use earnings management to inflate or deflate their financial performance to meet certain goals (Bens et al., 2003; Payne & Robb, 2000). Earnings management has become a significant concern for policymakers and stakeholders. It has also received significant attention in the literature on accounting (Kumar & Vij, 2017). As a result, previous academic studies have attempted to identify factors that could be used to eliminate or at least reduce earnings management practices. For example, Constantatos (2018), Gulzar (2011), Katmon and Al Farooque (2017) and Lin and Hwang (2010) examined the impact of corporate governance in constraining the level of earnings management practices. Alzoubi (2018), Chen et al. (2005) and Piot and Janin (2005) investigated the relationship between earnings management and audit quality. Hong and

Andersen (2011) explored whether corporate social responsibility is negatively related to earnings management practices.

In the Saudi Arabian context, listed firms employ earnings management practices and the incidence of these practices could be high (Habbash & Alghamdi, 2015). Further, Saudi Arabia has reached an important position in the global economy. It also seeks to achieve its economic targets of Vision 2030, which is increasing the trust of investors in the Saudi market. Therefore, it is crucial to prevent earnings management practices in Saudi companies since these could have extensive repercussions for the Saudi economy as well as stakeholders all over the Middle East and in other developing economies. In addition, little research has examined the impact of the IFRS, the ISA and ownership structure on earnings management in the Saudi Arabian context. Based on this discussion, the present study focused on studying earnings management practices in Saudi Arabia by investigating the influence of the IFRS, the ISA and ownership structure on earnings management. Therefore, the current study aims to answer the following questions:

- Does the implementation of the IFRS influence earnings management in listed Saudi companies?
- Does the implementation of the ISA influence earnings management in listed Saudi companies?
- Does ownership structure influence earnings management in listed Saudi companies?

The conceptual framework for this thesis was developed using agency theory. To achieve the study aims described above, the present study adopted a quantitative approach. The current study also employed a multivariate analysis (regression analysis) to examine the study hypotheses using the GLS (random effects) regression on the sample of 92 listed

Saudi companies. Further, six years of financial periods from 2014 to 2019 were used as the data of the current study. These data were collected from two main sources: company annual reports and DataStream. The absolute value of discretionary accruals was used as the proxy for earnings management. In the main test, discretionary accruals were measured using a modified cross-sectional Jones model as described by Dechow et al. (1995). Then, Kothari et al.'s (2005) model was used as an alternative measurement of earnings management to check the robustness of the main findings. The current study also measured ownership structure by internal managerial ownership and external institutional, blockholder, family and state ownership. A dummy variable was used to measure IFRS and ISA implementation.

7.3 Summary of the Main Findings

To answer the first question of the current study ('Does the implementation of the IFRS influence earnings management in listed Saudi companies?'), the first hypothesis (HA1) was developed based on previous studies and the proposed theoretical framework to answer this question. HA1 predicted the IFRS is significantly related to earnings management. The results of the GLS regression confirmed a significant negative relationship between IFRS implementation and earnings management (absolute discretionary accruals) using the modified Jones model. This outcome supported hypothesis HA1. This finding suggests that IFRS implementation plays a fundamental role in curbing earnings management practices and thus improving the quality of financial reporting in listed Saudi firms. Further, the additional robustness analyses utilised in the present study confirmed the main outcomes that the IFRS is negatively related to earnings management.

A second hypothesis (HA2) was developed based on previous studies to answer the second study question ('Does the implementation of the ISA influence earnings management in listed Saudi companies?'). HA2 predicted that the ISA is significantly related to earnings management. The outcome indicated an association between ISA implementation and earnings management. Therefore, the second hypothesis, HA2, was supported. The outcome also found that the relationship between these variables is positive. This finding suggests that companies who audit their financial reporting according to the ISA could report more accrual earnings management than companies that use national auditing standards. Further, the additional and robustness analyses in the current study supported the main findings that the ISA has a positive impact on earnings management.

In answer to the last question in the current study ('Does ownership structure influence earnings management in listed Saudi companies?'), five hypotheses (HA3, HA4, HA5, HA6 and HA7) were developed to answer this question. The overall findings suggest that the impact of ownership on earnings management differs for various ownership structures; the effect depends on the type of ownership structure. The additional and robustness analyses confirmed the main findings.

No significant association was revealed between managerial ownership and earnings management. Therefore, hypothesis HA3 was not supported. This finding suggests that a rise in managers' stock does not significantly reduce earnings management practices. This outcome may be attributed to the negligible number of companies with managerial ownership in the sample of the current study. Further, the current study does not find any evidence that blockholder ownership and state ownership have any significant association with discretionary accruals. Therefore, HA5 and HA7 were not supported. The outcomes

indicated that blockholder ownership and state ownership in Saudi Arabia are not effective mechanisms to reduce opportunistic behaviour, including earnings management practices.

A probable explanation for these outcomes is the characteristics of those owners, such as their experience and knowledge, as well as their understanding and reactions as regards management discretion. Another reason for these outcomes could be that may be that such owners tend to favour short-term investments that do not demand significant attention. Furthermore, the Saudi government updated corporate governance regulation in 2016, and it required all companies to apply the new version in their 2017 financial reporting (CAM, 2017). Thus, another reason for the weak role of blockholder ownership and state ownership as monitoring mechanisms could be that the new version of corporate governance regulation in Saudi Arabia has only recently been applied, which means there are still some weaknesses in this regulation. Moreover, the weakness of investors protection in Saudi Arabia may be another likely reason (Alghamdi, 2012).

Another probable reason for these results could be that blockholder and state shareholders in Saudi Arabia tend to be traders rather than investors. A high turnover of the top shareholders in listed firms emerged. The list of blockholder and state shareholders presented in firms' annual reports constantly changed, which indicates a shortage of active blockholder and state ownership. Additionally, it can be argued that the period during which the current study was conducted could have a role in obtaining these unexpected results.

Conversely, the present study found that institutional ownership and family ownership have a significant and negative association with earnings management practices. Therefore, HA4 and HA6 were supported. This outcome suggests that institutional

ownership and family ownership are efficient monitors of management, leading to decreased earnings management and thus improved financial reporting in listed Saudi firms. Table 7.1 summarises the main findings of the current study.

Table 7.1: Summary of the Main Findings of the Current Study

Dependent variable: Earnings Management (Discretionary Accruals)				
Independent variable	Hypothesis	Sig (p)Findings		Hypothesis status
		Sign	Significance	
IFRS	HA1	Negative	Significant at 1% level	Supported
ISA	HA2	Positive	Significant at 5% level	Supported
Managerial Ownership	HA3	Negative	Insignificant	Not supported
Institutional Ownership	HA4	Negative	Significant at 5% level	Supported
Blockholder Ownership	HA5	Negative	Insignificant	Not supported
Family Ownership	HA6	Negative	Significant at 10% level	Supported
State Ownership	HA7	Negative	Insignificant	Not supported

7.4 Contributions and Significance of the Current Study

The current study contributes to the literature by providing empirical evidence on the nature of the relationship of earnings management with the IFRS, the ISA and company ownership structure, using Saudi Arabia as an example of a developing country.

Earnings management has become a significant concern for policymakers and stakeholders. It has also received significant attention in the literature on accounting. Many studies have sought to identify factors that might decrease earnings management. For example, Constantatos (2018), Gulzar (2011), Katmon and Al Farooque (2017) and Lin and Hwang (2010) investigated the impact of corporate governance code in constraining the level of earnings management practices. Alzoubi (2018), Chen et al.

(2005) and Piot and Janin (2005) investigated the relationship between earnings management and audit quality. Hong and Andersen (2011) explored whether corporate social responsibility is negatively related to earnings management.

However, one particularly significant aspect of the current study is its focus on a factor not explored that may affect the level of earnings management practices (i.e., ISA). ISA implementation improves enhances the quality of auditing performance, and many empirical studies have reported that high-quality auditing could be related to reductions in earnings management practices. The current study proposed that ISA implementation could reduce earnings management by increasing the quality of auditing performance. In terms of previous empirical studies, there are a number of studies that have examined the role of external audit in limiting the level of earnings management (e.g., Alzoubi, 2018; Alves, 2013; Alhadab and Clacher, 2018; Chen et al., 2005; Chi et al., 2011; Chen et al., 2011; Habbash, 2010; Piot and Janin, 2007; Van Tendeloo and Vanstraelen, 2008; Yasser and Soliman, 2018). However, to the best of the researcher's knowledge, none of these studies has provided evidence of ISA's effect on earnings management. Therefore, the present study makes a significant contribution to the existing knowledge by exploring the effectiveness of the ISA in constraining earnings management in Saudi Arabia (an example of a developing country).

Prior studies have reached varied conclusions on whether IFRS enforcement can reduce earnings management. Therefore, more comprehensive research is needed to acquire a better understanding of this question. Thus, the current study contributes to existing knowledge by shedding additional light on the relationship between earnings management and the IFRS. Further, given the dearth of research investigating the effectiveness of the IFRS in constraining earnings management in Saudi Arabian context

since 2017 when listed Saudi companies started to apply the IFRS in their financial reporting, the current study also addresses the gap in knowledge about the relationship between the IFRS and earnings management in Saudi Arabia.

One exciting aspect of exploring this issue in the context of Saudi Arabia is that the legislative changes aimed at enhancing the quality of financial statements, including the adoption of international standards, are heavily influenced by the Saudi economy and the Saudi stock market. The Tadawul, which was established in 2007 and is the only stock exchange in Saudi Arabia, is considered the most liquid stock market in the MENA region and features the largest market capitalisation in the region. Since different firms listed on the Saudi stock exchange possibly have different kinds of ownership structures, it is necessary to obtain more information about the relationship between ownership structure and earnings management. Further, in the Saudi context, few empirical studies have explored the impact of ownership structures on various accounting issues, including earnings management. Therefore, the present study expands the limited studies on ownership structure in Saudi Arabia by examining the impact of different types of ownership structure on earnings management.

The current study is also distinct in that it focuses mainly on one national zone and uses unique data from an emerging market. Prior studies on the relationship between the IFRS and ownership structure with earnings management uses international datasets, such as Barth et al. (2008), Aussenegg, Inwinkl and Schneider (2008), Gopalan and Jayaraman (2012), and Eng, Fang, Tian, Yu and Zhang (2019). Grougiou, Leventis, Dedoulis, and Owusu-Ansah (2014) indicated that earnings management proxies are impacted by ‘noise’ in different environments across countries. Thus, the current study focuses on a particular country context in the Middle East region, which is Saudi Arabia.

The previous research has separately examined the impact of the IFRS, the ISA and ownership structure on earnings management in the emerging market. However, to the best of the researcher's knowledge, this study is the first study that examines those components jointly.

The IFRS and the ISA have only recently been implemented in Arab countries. Therefore, an empirical investigation of the role of the IFRS and the ISA in constraining earnings management and encouraging high-quality financial reports is needed. Moreover, in 2017, the SOCPA made compliance with IFRS guidelines in financial statements mandatory for all Tadawul-listed companies. Under this SOCPA regulation, audit companies operating in Saudi Arabia are required to audit the financial statements of Tadawul-listed companies according to the ISA guidelines (SOCPA, 2018a). Moreover, most listed Saudi firms have concentrated ownership structures, which distinguishes them from US and UK firms, most of which have more dispersed ownership structures. This structure can affect earnings management; concentrated ownership may help minimise managers' opportunistic behaviour, including earnings management. Therefore, the present study elucidated the roles of the IFRS, the ISA and ownership structure in decreasing earnings management and thus enhancing the reliability and quality of financial reporting. Further, this study provided insights for small- to medium-sized companies that have not yet implemented the IFRS.

Last, Saudi Arabia is looking to fulfil its goal of diversifying production beyond oil while accelerating its economic growth to better position itself as a global force in the modern world. This process of diversification started a long time ago; however, as the Saudi Government implements Vision 2030, Saudi Arabia's economic growth will move to the next level, which will attract more foreign investors. Foreign companies that are

considering large investments expect that international standards, such as the ISA and the IFRS, will be implemented. This makes sense, especially since such large foreign companies have long conformed to these standards. In Saudi Arabia, however, these standards have only recently been implemented. Currently, an initial assessment of the impact of these standards on firms' financial management operations is needed. This study provides such an evaluation, focusing primarily on the roles of these standards in constraining earnings management and thus improving the quality of financial reporting.

7.5 Limitations of the Current Study

The current study does have some limitations that should be taken into account. These limitations do not necessarily impact the results of the present study negatively, but instead can be taken into consideration when conducting future studies.

The present study utilises data from Saudi Arabia. Therefore, the findings may not be generalisable to other states with different economic characteristics, regulations and practices or to capital markets of different sizes with different market valuations. However, the results of the current study can be generalised to a large extent, given the obvious similarities between the outcomes of this study and those of studies conducted in other countries.

Although the current study employed an initial sample of all Saudi companies listed on the Tadawul, some firms were excluded for various reasons. First, financial institutions, such as banks and insurance firms, were excluded because they use special accounting practices and have working capital structures that differ from those of other sectors. Second, firms operating in the real estate sector were excluded because real estate is considered a financial sector under the GICS classifications. Third, firms operating in the energy, utilities, information technology, telecommunication services and healthcare

industries were excluded because fewer than eight observations were available for these industries. Last, firms with missing data were excluded. Consequently, the present study's results cannot be generalised to all sectors of the Tadawul, but they can be generalised to other sectors engaged in the current study.

The dependent variable in the present study was accruals earnings management. The literature review showed that accrual models are commonly used to detect earnings management. However, the difficulty of distinguishing accruals earnings management from real activities earnings management, which is often perceived as opportunistic rather than informative, is another limitation of the current study. Accruals earnings management might signal relevant information by reflecting opportunistic behaviour on the part of management, but there is no clear method for making this distinction.

An additional limitation of the current study is that factors other than the IFRS, the ISA and ownership structure may affect earnings management. The current study employed further tests to limit variations in general firm features; it also included additional control variables in the tests to control for other factors that might influence earnings management. However, accrual earnings management may be affected by other aspects that were not controlled for through these tests. Nonetheless, as the present study does not propose to investigate causality, but rather the relationship of accrual earnings management with the IFRS, the ISA and ownership structure, the impact of this limitation on the study's findings is likely minor.

Last, the present study aimed to provide an overview and an explanation of the results for the entire target population; it did not focus on individual cases (such as specific firms, investors or directors). Thus, a quantitative approach was used to collect and analyse data.

7.6 Implications of the Current Study

Despite its limitations, the present study attempts to offers some insights into Saudi companies' use of earnings management and evaluates the role of the IFRS, the ISA and ownership structure in constraining earnings management and thus improving the quality of financial reporting.

The present study's results have number of significant implications for investors in the Saudi stock market. These results may help investors to understand the role of the IFRS, the ISA and ownership structure in constraining earnings management practices and thus enhancing financial reporting. It would also facilitate the decisions of market investors in Saudi Arabia when they assess the quality and reliability of financial statements. Further, the outcomes of this study have implications for government bodies, such as SOCPA and SCM. These findings can help government bodies continue to improve legal frameworks and guidelines to help companies produce high-quality financial reports. In Saudi Arabia, SOCPA and SCM are the main bodies regulating public companies' yearly reports and their disclosure of business results. They are also responsible for the application of the laws governing financial reporting and for monitoring the Tadawul. The implications of the present study are not only of interest and considerable benefit to government bodies and investors in the Saudi Arabian context but will also be beneficial for academics and researchers in other contexts.

The current study's findings demonstrated the key role of the IFRS in decreasing earnings management and thus increasing the quality of financial reporting. Evidence that the IFRS are implemented and enforced properly and effectively in listed Saudi firms implies that efforts by government bodies, such as SOCPA and SCM, have successfully improved the quality of firms' disclosures. This finding presents a clear picture for investors about the

reliability and quality of financial reports in Saudi companies after IFRS adoption, which may help them when making investment decisions in the Saudi stock market. However, the current study's findings indicated that ISA implementation does not constrain earnings management and may even negatively affect the quality of accounting information. This unexpected result leads to questions about auditing quality in Saudi Arabia and describes the shortcomings of the regulatory system. The study's outcomes have several implications: Investors should not perceive the ISA as constraining earnings management practices to a greater extent than do national auditing standards. Governing foundations should focus on improving the regulations and laws about the adoption of the ISA to ensure that the ISA are applied properly and effectively in Saudi audit firms. The current study also recommends that audit companies train their auditors to understand and apply the ISA; this will improve the enforcement of the ISA and thus improve the reliability and quality of audited financial statements. Further, the present study recommends that SOCPA and SCM assume a role in developing the auditor market by supervising the performance of auditing firms and offering practical auditing courses to help auditors and auditing firms acquire necessary skills that help them understanding and apply ISA standards. This study further recommends that audit companies acknowledge their legal responsibilities to shareholders by further enhancing audit teams' abilities and skills to detect earnings management and other illegal activities in financial reports.

The present study also provided evidence that institutional ownership and family ownership are efficient monitors of management and can lead to reductions in earnings management practices. This finding suggests that the investors and stakeholders will benefit from investments in Saudi companies with institutional or family ownership. In contrast, this study's outcomes indicate that blockholder ownership and state ownership do not influence earnings management practices in Saudi Arabia. This finding is likely

attributable to a lack of insight and a lack of awareness of the roles of these types of ownership structure in monitoring managerial opportunistic behaviour, such as earnings management. It may also be because such owners tend to favour short-term investments that do not demand significant attention. This finding has implications for regulators, who should increase investors' awareness about the importance of monitoring management behaviour and the consequences of using earnings management practices by (for example) holding business conferences. Regulators should also implement strong measures to protect investors and establish a stable, safe investment environment, which is key to long-term investment.

7.7 Recommendations for Future Research

The current study explored the impact of the IFRS, the ISA and ownership structure on earnings management in listed Saudi companies. However, several related areas that were not covered in this study merit further attention in future research.

As mentioned in Chapter 3 (the literature review), the literature has identified three distinct methods of earnings management: accruals-based earnings management, classification shifting earnings management and real activities earnings management. The current study has focused only on accruals-based earnings management. Thus, one potential topic for future research is the role of international standards and ownership structure in constraining classification shifting earnings management or real activities earnings management practices.

The present study found that ISA implementation may increase accruals earnings management; this could negatively affect the quality of financial reporting. This finding raises questions about the quality of external auditing in Saudi Arabia, about the role of the ISA in improving the reliability and quality of audited financial statements and about

the challenges associated with ISA implementation. These questions may be addressed in future studies.

The current study's findings also provided evidence that IFRS implementation, institutional ownership and family ownership can constrain accruals earnings management and therefore improve the quality of financial reporting. It would be interesting to examine the impact of these factors on companies' performance and level of accounting disclosures. It also would be exciting to investigate the role of IFRS and ISA in attracting foreign direct investment in the Saudi Arabia context.

Last, the present study used listed companies to explore the role of the international standards in reducing earnings management and enhancing the quality of accounting information. However, the IASB has recently published the IFRS for small and medium-sized entities (SMEs). Thus, it would be interesting to test the relationship between the adoption of the IFRS and the quality of financial reporting in SMEs.

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