

Internet Financial Reporting Practices in Saudi Arabia

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Abstract

This paper examines the firm characteristic and corporate governance determinants of Internet Financial Reporting (IFR) practices in Saudi Arabia to help address the paucity of research for MENA region firms. The paper employs manual content and regression analyses of online annual report data for Saudi listed firms for the year 2018 using 28 IFR disclosure items. The results show that Saudi firm IFR has increased over time compared to previous studies to an average of 85% disclosure as a result of IFRS implementation and new corporate governance regulations. Firm size is a positive determinant of IFR disclosure, firm age and ownership concentration are negative drivers. Further, the extent of IFR disclosure varies by industry type, while profitability, liquidity, leverage, board size, board independence and role duality have no impact on IFR disclosure. Employing agency and signalling theories, the paper determines the influence of firm characteristics and corporate governance on IFR, identifying implications for stakeholders, and providing some evidence on the impact of IFRSs and corporate governance regulation on such disclosure. Further, the paper provides additional insight into progress towards Saudi's Vision 2030.

Keywords: internet financial reporting, disclosure, firm characteristics, corporate governance, IFRS, Saudi Arabia

1. Introduction

The growth of internet technology has allowed firms to provide more direct and rapid disclosure of corporate information (Kieso et al., 2011; Alarussi et al., 2013) and a move away from traditional and expensive hard copy reporting (Xiao et al., 2004). Maintaining a high quality, effective and up-to-date website has become a strategic priority to ensure good information flow (Al-Debei, 2014), with benefits including reduced distribution costs, broader and more rapid stakeholder engagement, and enhanced marketing opportunities (Xiao et al., 2002; Poon et al., 2003). Internet Financial Reporting (IFR) is a voluntary financial performance disclosure practice, with guidelines issued by the International Accounting Standards Board (IASB) that online financial reports should retain the same scope and scale as hard copy versions, with any additions or omissions highlighted. In so doing, firms should provide legitimate, usable, complete, secure and transparent financial information online of interest to different users (Lymer et al., 1999).

While the format and content of IFR disclosure differs significantly across countries and firms (Ashbaugh et al., 1999; Debreceny et al., 2002; Ettredge et al., 2002), and the approach of security regulators and audit standard setters lags behind reporting technologies Lymer and Debreceny (2003), the information disclosed on corporate websites is still used for decision-making purposes (Hanafi et al., 2009) and to attract investors. Many factors have encouraged the corporate move toward IFR. In addition to the benefits identified above, such reporting: (i) is much less expensive than distributing printed information; (ii) allows broad rather than selected group dissemination (Ashbaugh et al., 1999); (iii) provides faster/more timely financial disclosure (Lymer et al., 1999), with for example Saudi energy companies providing daily stock prices; (iv) allows greater financial disclosure frequency, for example daily; (v) facilitates greater disclosure quantity and granularity (Ashbaugh et al., 1999), with for example the National Commercial Bank (NCB) providing 65 years of annual reports; (vi) allows greater investor interaction (Lymer, 1997); (vii) reduces the cost of capital and increases share liquidity (Oyelere et al., 2003); (viii) matches better the needs of users by allowing non-sequential information access and navigation (Miniaoui & Oyelere, 2013); and (ix) provides shareholders with better access to quality accounting information thereby protecting them against self-serving managers and enabling better new equity issue purchase decisions (Berglöf & Pajuste, 2005).

The impact of corporate governance (CG) on IFR is a fertile field for research in Saudi Arabia and the wider Middle East given the existing paucity of research. Most Arab region studies dealt examine corporate financial characteristic determinants of IFR and fail to consider CG determinants. Saudi Arabia has introduced legislation issued by Saudi Capital Market authority (CMA) on 31/21/2017 to enhance financial reporting disclosure quality and transparency of financial reporting (Saudi Corporate Governance Regulations, 2017), and thus an empirical study of the impact of this initiative is timely.

This study aims to examine the firm characteristic and corporate governance determinants of IFR practices in Saudi Arabia as an under-researched yet pivotal member of the MENA region generating 25% of its GDP. There are three key motivations for this study. First, research in this field for Saudi Arabia is both embryonic and underdeveloped (Al-Saeed, 2006; Al-Motrafi, 2008; Alshowaiman, 2008). Studies vary from examining a limited range of determinants of IFR, through descriptive analysis, to studies of IFR user perceptions. Some studies focus on the nature and practice of Saudi CG though fail to examine its relationship with IFR practice (Al-Harkan, 2005; Falgi, 2009; Almajid, 2008; Abu-Musa, 2010, Al-Ajlan, 2005; Almarshad, 2011; Alkahtani, 2013; Al-Janadi et al., 2013). Second, the Saudi CG code for Tadawul listed firms states that such firms should disclose on their websites all required disclosure information plus details of further information published through other disclosure methods” (Saudi Corporate Governance Regulations, 2017). Third, the study provides a useful evaluation of CG reforms following application of IFRs and the Saudi Corporate Governance Regulations issued by the Capital Market Authority in 2017 (CMA, 2017a). The objectives of the paper are therefore to explore the development of IFR as a response to the governmental and regulatory body initiatives in Saudi Arabia to enhance corporate transparency, to examine the practice of IFR in Saudi listed firms, and to understand its firm characteristic and CG determinants.

In order to achieve the study’s objectives, this paper employs manual content and regression analyses of online annual report data for Saudi listed firms for the year 2018 using 28 IFR disclosure items.

This paper is organized as follows. Section 2 explains the internet financial reporting in Saudi Arabia and reviews the literature review and hypothesis development. Section 3 sets out the research methodology and the results are discussed in Section 4. Section 5 sets out the conclusions and their implications, along with limitations of the study and recommended avenues for future research.

2. Literature Review

2.1 Background

One of the main benefits of IFR is the potential for large savings in the cost of the production and distribution of financial information. Internet reporting allows firms to reach a much wider range of stakeholders at a relatively low cost. There are also a number of other benefits that arise from IFR, including more equal information dissemination among stakeholders as a result of the improved accessibility of the information. With IFR, users can choose to access information that meets their specific needs as the internet allows non-sequential access to information through the use of hyperlinks, interactivity and search facilities. IFR presents firms with the opportunity to provide more information than is available in their hard copy or electronic corporate financial statements to communicate additional financial information to users, possibly even in real-time and on an interactive basis (FASB, 2000; Ettredge et al., 2002; Wickramasinghe, 2006; Basuony & Mohamed, 2014). The amount of information contained provided by IFR is used by the firm to signal to the market that investors are interested in investing in the firm. The higher level of transparency of the information, the greater the impact of the disclosure on the decisions taken by investors. The implementation of IFR is expected to provide more information not only for investors but also for other interested parties. The higher level of information transparency provided by the firm to an outside party should encourage more investors to invest in the firm.

Using IFR disclosure helps firms to project its image and other significant information directly to interested parties, thereby increasing transparency and reducing monitoring costs. Several studies draw on agency theory and argue that increasing the transparency of disclosure can reduce agency problems and information asymmetry. Disclosing financial information in a timely manner should decrease agency costs, protect investors’ rights and improve their confidence, improve data transparency, and reduce monitoring costs and information asymmetry (Basuony & Mohamed, 2014). Moreover, IFR disclosure is directly related to firm value due to the capital market benefits that can be gained by firms that engage in IFR. Ali-Khan *et al.* (2013) indicate that through IFR disclosure, firms are able to attract more investors, promote the firm more widely to the public, provide wider disclosure coverage, and promote transparency compared to the traditional format of the annual report. Thus, IFR disclosure provides the opportunity for Saudi firms to communicate financial information to their stakeholders and attract potential local and foreign investors at a time when there is considerable interest in

investment opportunities in the country due to the rapid economic growth fuelled by buoyant oil revenues. Furthermore, IFR leads to increased disclosure transparency through content and presentation disclosure (Kelton & Yang, 2008), and enables organisations to disclose timely information and increase accessibility to both financial and non-financial information (Bollen et al., 2008). These benefits enjoyed by firms that choose to adopt better IFR, are relevant in the context of reducing information asymmetry as well as serving as a signal to differentiate good firms from other firms. These in turn may decrease the cost of a firm's capital and increase its value, which helps in achieving its survival in a competitive market (Elsayed et al., 2010). In addition, firms that commit to engaging in better IFR disclosure are seen as making efforts towards greater commitment to investor relationship-building as well as to society as a whole. The reputation effect arising from such a commitment thus brings capital market benefits to firms.

By far the greatest challenge facing the IFR environment is that of ensuring the reliability and security of the financial information published on firm websites. Apart from possible errors in the publishing process, materials published on the web are susceptible to all kinds of security risk. Financial information could, post-publication, be knowingly or unknowingly altered by parties both internal and external to the organization. There is a real risk that critical decisions could be made by users of financial information based on inaccurate financial information collected from firm websites. The extent to which these issues are dealt with by the firm is likely to determine the long-term usefulness of the internet as a method of IFR dissemination.

2.2 Internet Financial Reporting in Saudi Arabia

In Saudi Arabia, the influence of politics and government bureaucracy is the factor that affects the adoption of innovations by organizations (Wheeler, 2005). In many cases politics determines the adoption of new technologies in the country, regardless of commercial needs. In the last three decades the Kingdom of Saudi Arabia has witnessed significant developments in all fields including the business sectors. These developments have led to an increased perception in the importance of financial information and their impact on the national economy as a whole. Hence serious steps have been taken to promote the disclosure of financial information.

Stock trading in Saudi Arabia began in 1935 when the first public firm was established. However, the market remained informal and trading did not become organized until the early 1980s when the Saudi government embarked on a rapid development program. In 1984 the Saudi government placed all stock trading under the supervision and control of the Saudi Arabian Monetary Agency (SAMA) and authorized commercial banks to act as brokers. In 1985 the Ministry of Commerce and Industry issued the disclosure and transparency standard. Corporate governance is supported by issuing this standard because disclosure and transparency is considered to be one of the most important elements of corporate governance best practice (Al-Janadi et al., 2013).

A major development in the Saudi stock market was the introduction of an electronic stock trading system called Tadawul in October 2000. Tadawul provides investors with the opportunity to invest from the comfort of their homes or offices via internet. Tadawul website provides market prices, news and corporate information within Saudi Arabia and abroad. This new technology has boosted the transparency of the Saudi stock market, with issuers submitted regulatory announcements such as financial statements which are then released immediately to the public via internet. On 16th June 2003, Saudi Capital Market authority (CMA) by the Capital Market law issued a Royal decree No.(M/30) that require all Saudi listed firms to publish some required financial information on the CMA's website which is Tadawul website (CMA, 2020). Among other CMA requires all SLCs to publish their quarterly financial statement online no later than fifteen days after every quarterly report and no later than forty days after their annual statement report. CMA also provides specific online forms to be filled in the Tadawul website (Abdull Razak & Zarei, 2015).

In 2006, the board of CMA issued corporate governance guidance in Saudi Arabia. This guidance recommends all listed firms to disclose corporate governance information to the public. Because of that, firm in Saudi Arabia started to disclose financial and non-financial information on their websites. However, to date there is no mandatory regulations on the specific types of financial information need to be disclosed on firm's website (Al-Moataz & Hussainey, 2012).

The corporate reporting legal framework in Saudi Arabia is based on: (i) the Companies Law Act of 1965 and (ii) the Capital Market Law of 2003 and regulations issued by the Board of the Capital Market Authority (CMA), under the Capital Market Law (CML), which issued Corporate Governance Regulations. Corporate governance development in Saudi firms gained momentum from 1985, when the Ministry of Commerce and issued the Disclosure and Transparency standard to promote corporate transparency and disclosure, where previous disclosure requirements had been minimal (Al-Janadi et al., 2013). The Code of Corporate Governance issued in 2017 aimed to harmonize Saudi with international standards of corporate governance such as the OECD

principles. The Code addresses disclosure and transparency, the rights of shareholders, the General Assembly and the board of directors. Further, Saudi adopted IFRSs from 2017 such that listed firms were then required to report using national standards that converge with full IFRSs (IASPlus, 2020), leading to enhanced disclosure and transparency quality, increased statement comparability, and potentially reducing the cost of capital for adopting firms.

2.3 Hypotheses Development

Over the last two decades there have been many studies of the determinants of IFR across both developed and developing country settings, spanning a range of empirical methodologies. Determinants might be classified into firm characteristics and CG factors, and evidently there are very few studies of the latter focusing on Saudi Arabia of the Middle East. The agency framework of Jensen and Meckling (1976) helps to explain the influence of CG on IFR, whereby manager-shareholder agency costs may be reduced through greater monitoring and voluntary disclosure (Xiao *et al.*, 2004). Corporate governance mechanisms have evolved to facilitate monitoring and to determine a firm's overall information disclosure policy (Kelton and Yang, 2008). In this section, potential firm characteristic and CG determinants of IFR are explored in turn with reference to the extant literature, thereby allowing the development of the study hypotheses.

2.3.1 Firm Size

Firm characteristic determinants of IFR identified in the extant literature include firm size, industry type, profitability, liquidity, leverage and firm age. Firm size is identified as a potential determinant of IFR disclosure in the literature. Jensen and Meckling (1976) argue that the agency costs associated with the separation of management from ownership are expected to be greater in larger firms. Increased disclosure may reduce information asymmetry and agency costs, and thus larger firms will offer high-level, transparent, timely, and accurate disclosures to maintain their competitive advantage. Larger firms will disclose more given their greater expertise and resources required for more sophisticated disclosure (Ahmed and Nicholls, 1994), along with greater analyst following (Lang and Lundholm, 1993) and increased need for external capital (Wallace and Naser, 1995), and their increased concomitant information requirements. In terms of empirical evidence, Oyelere *et al.* (2003), Matherly and Burton (2005), Cormier *et al.* (2008), Damaso and Lourenco (2011), Sharma (2013), Dyczkowska (2014), and Dolinšek and Lutar-Skerbinjek (2018) find a positive relation between IFR and firm size, while Laswad *et al.* (2005) and Cormier *et al.* (2008) find no relation. For the MENA region, a positive relation is also found (Ismail, 2002; Ezat and El-Masry, 2008; AbuGhazaleh *et al.*, 2012; Miniaoui and Oyelere, 2013; Ahmed *et al.*, 2017), though Aly *et al.* (2010) Al-Shammari and Al-Saidi (2015) and Sanad and Al-Sartawi (2016) find no effect. For Saudi Arabia, Al-Saeed (2006) and Al-Motrafi (2008) find a positive relation between firm size and IFR. The hypothesis is stated as follows:

H1: There is a positive relationship between the extent of IFR and firm size.

2.3.2 Industry Type

Disclosure levels should vary by industry membership, for example, varying between manufacturing and service sectors or between financial and non-financial sectors. Mitchell *et al.* (1995) finds that voluntary disclosure varies by industry, with mining and oil industry firms disclosing more, while Marston and Leow (1998) find that industry determines the depth of detail of internet disclosure. Brennan and Hourigan (2000) find internet disclosure variation by industry which they argue is due to industry variation in proprietary disclosure costs and technological capability. This paper classifies firms as financial and non-financial industry members given that finance industry firms are pivotal to the Saudi economy, the industry is highly regulated and supervised by both the Saudi Arabian Monetary Agency and the Saudi Capital Market Authority, and the fact that the industry has invested significantly in internet-related capacity. It may therefore be argued that finance industry firms are more likely to invest in IFR than other industry firms. The empirical evidence on industry membership is mixed, with some studies finding a significant effect on IFR (Ashbaugh *et al.*, 1999; Craven and Marston, 1999; Brennan and Hourigan, 2000; Bonson and Escobar, 2002; Ismail, 2002; Oyelere *et al.*, 2003; García-Borbolla *et al.*, 2005; Ezat and El-Masry, 2008; Al Jawder and Sarea, 2016; Ahmed *et al.*, 2017; Dolinšek and Lutar-Skerbinjek, 2018), while others find no relationship (Larrán and Giner, 2002; Trabelsi and Labelle, 2006; Al-Motrafi, 2008; Desoky, 2009). On the basis of theory arguments, the hypothesis is stated as follows:

H2: The level of IFR is higher in financial than non-financial industry firms.

2.3.3 Profitability

More profitable firms may disclose more to signal their strength and success to current and potential investors, and to strengthen the position of management and their compensation (Inchausti, 1997; Singhvi and Desai, 1971).

More profitable firms are more vulnerable to regulatory intervention and thus may disclose more detailed annual report information to justify their financial performance and reduce political costs (Watts and Zimmerman, 1986), while poor performing firms may restrict access (Craven and Marston, 1999). With regard to IFR, Ahmed *et al.* (2002) argue that while more profitable may disclose more information to showcase management achievements in order to build reputation and raise preferential terms capital, less profitable firms may also wish to disclose more to explain the reasons for their poor performance and thus maintain their integrity. However, the evidence on the effect of profitability on IFR is mixed, with many studies finding no effect (Oyelere *et al.*, 2003; Cormier *et al.*, 2008; Damaso and Lourenco, 2011; Sharma, 2013; Dolinšek *et al.*, 2014; Dolinšek and Lutar-Skerbinjek, 2018). However, Ettredge *et al.* (2002), Kamalluarifin (2016) and Soriya and Dhaigude (2016) find a positive relation while Dyczkowska (2014) find a negative effect. For the Middle East, Ismail (2002), Aly *et al.* (2010), Al-Sakarneh (2011), Miniaoui and Oyelere (2013) find a positive relationship, while Al-Saeed (2006) and Al-Motrafi (2008) find such a relation for Saudi firms. The hypothesis is stated as follows:

H3: There is a positive relationship between the extent of IFR and firm profitability.

2.3.4 Liquidity

Firms with higher liquidity may wish to inform stakeholders about management's confidence in firm solvency and future prospects through IFR disclosure (Oyelere *et al.*, 2003), to distinguish themselves from less liquid firms, consistent with signalling theory (Cooke, 1989; Oyelere *et al.*, 2003; Aly *et al.*, 2010). Conversely, less liquid firms may provide more information to provide assurance to creditors and capital markets (Aly *et al.*, 2010). Few empirical studies examine this relationship, however. Oyelere *et al.* (2003), Omran and Ramdhony (2016), Soriya and Dhaigude (2016) find a positive relation while Ismail (2002) and Ezat and El-Masry (2008) find such a relation for the Middle East. The hypothesis is stated as follows:

H4: There is a positive relationship between the extent of IFR and firm liquidity.

2.3.5 Leverage

Firm leverage refers to the firm's mix of debt and equity, and it is argued that more highly levered firms will need to satisfy concerns about debt servicing and repayment by distributing reliable IFR information. More generally, Similarly, both creditors and shareholders require quality information on the firm's financial risk (Ismail, 2002; Larrán and Giner, 2002; Oyelere *et al.*, 2003; Xiao *et al.*, 2004). However, there is mixed evidence on the relation between IFR and leverage. Some studies find a positive relationship (Laswad *et al.*, 2005; Al-Sakarneh, 2011; Miniaoui and Oyelere, 2013; Kamalluarifin, 2016; Soriya and Dhaigude, 2016), others find a negative relationship (Cormier *et al.*, 2008; Damaso and Lourenco, 2011), while further studies find no relation (Oyelere *et al.*, 2003; Ezat and El-Masry, 2008; Alarussi *et al.*, 2009; Aly *et al.*, 2010; Sharma, 2013; Al-Shammari and Al-Saidi, 2015; Omran and Ramdhony, 2016; Sanad and Al-Sartawi, 2016; Ahmed *et al.*, 2017). On the basis of theory arguments, the hypothesis is stated as follows:

H5: There is a positive relationship the extent of IFR and firm leverage.

2.3.6 Firm Age

Owusu-Ansah (1998) argues that the level of IFR may be associated with firm age (length of establishment) as a proxy for its stage of development/growth on the basis that (i) younger firms may suffer competitive disadvantage if they disclose critical information on capital expenditure, research expenditure and product development; (ii) information gathering, processing, and dissemination costs will be less onerous for older firms; and (iii) younger firms may lack a 'track record' to support disclosure and may produce less rich disclosure. Evidence on the impact of firm age on voluntary disclosure is mixed, with some studies finding a positive relation (White *et al.*, 2007; Hossain & Hammami, 2009), while others find no relationship (Al-Shammari, 2008; Chung & Zhang, 2011; Alotaibi, 2014). On the basis of theory arguments, the hypothesis is stated as follows:

H6: There is a positive relationship between the extent of IFR and firm age.

In addition to firm characteristics, corporate governance (CG) factors are also likely to impact on IFR practice. Good CG practices should translate into strong internal CG structures (Yap *et al.*, 2011) which in turn require the presentation of clear, timely and comparable information, especially concerning firm management and ownership (Almilia, 2015). This study focuses on the IFR impact of good CG practices including larger board size, the separation of the chair from the CEO role, a greater proportion of independent non-executive board members, and reduced ownership concentration.

2.3.7 Board Size

Board size can critically impact strategic decision making and board monitoring, such that larger boards lead to

enhanced monitoring, greater diversity to provide critical resources and address environmental uncertainties, reduced CEO dominance, and a wider pool of expertise (Singh et al., 2004; Yermack, 1996). Further, Gandia (2008) argues that larger board size leads to greater collective disclosure, though may also lead greater conflict and delay or cancellation of critical decisions with Haniffa and Hudaib (2006) suggesting that larger boards are less effective at monitoring performance. Empirical evidence on the relationship between board size and IFR is mixed, whereby some studies find a positive relationship (Ezat & El-Masry, 2008; Elsayed, 2010; Yap et al., 2011; Al-Shammari & Al-Saidi, 2015; Sanad & Al-Sartawi, 2016), Haniffa and Hudaib (2006) find a negative relation, while Erer and Dalgic (2011) and Al-Motrafi (2008), the latter examining Saudi Arabia, find no relation. On the basis of most of the empirical evidence and theory arguments, the hypothesis is stated as follows:

H7: There is a positive relationship between the extent of IFR and board size.

2.3.8 Board Independence

Board independence is the proportion of outside (independent) directors on the board (Haniffa and Cooke, 2002), and a higher proportion is seen as a sign of good corporate governance leading to increased disclosure quality and quantity (Xiao et al., 2004). Independent directors help in monitoring and controlling management performance and increasing transparency (Gul and Leung, 2004), and can protect shareholders' interests and increase voluntary disclosure to reduce agency costs and information asymmetry (Forker, 1992). More independent directors on the board is found to lead to greater disclosure (Ghazali & Weetman, 2006) and greater engagement in IFR (Kelton & Yang, 2008). Most studies, including for Middle East countries, find a positive relation between IFR and board independence (Abdelsalam and El-Masry, 2008; Ezat & El-Masry, 2008; Yap et al., 2011; Sharma, 2013; Kamalluarifin, 2016), though Al-Motrafi (2008) and Sanad and Al-Sartawi (2016) find no relation for Saudi Arabia and Bahrain, respectively. On the basis of both evidence and theory arguments, the hypothesis is stated as follows:

H8: There is a positive relationship between the extent of IFR and the degree of board independence.

2.3.9 Role Duality

Role duality occurs where the Chief Executive Officer (CEO), and also holds the board position, the former responsible for strategy implementation and daily management while the latter as a part-time position ensures board effectiveness (Weir & Laing, 2001). Cheung *et al.* (2010) argues that boards with separate roles tend to produce greater voluntary disclosure, consistent with the findings of Chau and Gray (2010). The empirical evidence is, however, mixed, as some international and Middle East studies find that role duality leads to lower IFR (Abdelsalam & Street, 2007; Al-Shammari & Al-Saidi, 2015), while others find no relationship (Ezat & El-Masry, 2008; Elsayed, 2010; Kamalluarifin, 2016). Based on theory arguments, the hypothesis is stated as follows:

H9: The extent of IFR is lower in the presence of role duality.

2.3.10 Ownership Concentration

Concentrated ownership leads to significant influence on the firm by a small group of equity owners, while dispersed ownership leads to lower individual shareholder influence through diffusion and a greater separation of ownership and control (Haniffa & Cooke, 2002). Greater ownership diffusion tends to lead to greater website information disclosure to meet shareholder needs, while greater concentration leads to less as shareholders are effectively firm insiders (Marston & Polei, 2004), with Kelton and Yang (2008) and Damaso and Lourenco (2011) making similar arguments for voluntary IFR. However, the empirical evidence on the relation between IFR and ownership concentration is mixed, with some studies finding a negative relation (Damaso & Lourenco, 2011), some finding a positive relation (Elsayed, 2010; Dolinšek et al., 2014), and others finding no relation (Cormier et al., 2008; Erer & Dalgic, 2011; Sharma, 2013). Thus, based more on theory arguments, the hypothesis is stated as follows:

H10: There is a negative relationship between the extent of IFR and the degree of ownership concentration.

3. Research methodology

3.1 Data and Sample

This study examines the websites of the largest 100 listed firms sorted by market capitalisation on the Saudi Stock Exchange (Tadawul) at the end of 2018. The year 2018 was chosen because annual reports for that year were the latest source of information available at the time the study was conducted. At that time, the total number of firms listed on the Saudi Stock Market was 190 firms spanning 21 different sectors. The sample selected represents 53% of the total population. After excluding the firms which did not provide a website, 86 firms

remained in the study sample. Corporate website information is collected from the Tadawul website (www.tadawul.com.sa) or Google. An IFR disclosure index is derived from a comprehensive review of the IFR literature and this list is then compared with those items recommended by the Saudi Arabian Capital Market Authority (SACMA) corporate governance regulations to enable its application to Saudi firms. Data for the potential firm characteristic and CG determinants are collected from firm websites and latest firm annual report and board reports on the Tadawul, Argaam or Mubasher corporate information websites.

3.2 Model Variables and Specification

Disclosure transparency can be improved through the content and presentation format of internet disclosure as IFR allows for additional disclosures beyond the mandatory requirements (Yap *et al.*, 2011). An IFR disclosure index is developed and applied to each individual firm website, consistent with extant studies (Ettredge *et al.*, 2001; Homayoun & Abdul Rahman, 2010; Budisusetyo & Almilia, 2011; Damaso & Lourenco, 2011; Yap *et al.*, 2011; Sharma, 2013, Yassin, 2017). The index, which becomes the model dependent variable, contains of 28 items, 10 measuring the content, and 18 measuring the format. Following Kelton and Yang (2008), Homayoun and Abdul Rahman (2010) and Yassin (2017), the index is unweighted thereby avoiding weighting subjectivity (favouring a particular set of users). A score of 1 for an item is awarded where it is disclosed, and 0 otherwise. The total number of items disclosed by each firm is divided by the maximum number of the checklist items to compute the IFR disclosure index by applying Equation 1:

$$IFR_{it} = \frac{\sum Actual\ items\ disclosed_{it}}{Maximum\ checklist\ items} \quad (1)$$

This study presents a set of firm characteristics and corporate governance variables to examine different IFR disclosure determinants. Table 1 summarizes the definition and measurement of the model dependent and the independent variables, the latter representing firm characteristic and CG variables.

Table 1. Model variable definitions

Definition	Symbol	Measurement
<i>Dependent variable</i>		
IFR Index (total)	$IFR (total)$	Ratio of IFR (total) items disclosed by firm to the maximum number of IFR disclosure checklist items for firm i
IFR Index (content)	$IFR (content)$	Ratio of IFR (content) items disclosed by firm to the maximum number of IFR disclosure checklist items for firm i
IFR Index (format)	$IFR (format)$	Ratio of IFR (format) items disclosed by firm to the maximum number of IFR disclosure checklist items for firm i
<i>Independent variables:</i>		
Firm size	$Size_{it}$	Natural logarithm of total firm assets for firm i
Industry type	Ind_{it}	Dummy variable that equals one if the firm i belongs to the finance industry, and zero otherwise
Profitability (ROA)	ROA_{it}	Ratio of total net income to total assets for firm i
Liquidity	$Liquid_{it}$	Current assets divided by current liabilities for firm i
Leverage	$Levr_{it}$	Total liabilities divided by total assets for firm i
Firm age	Age_{it}	Natural logarithm length of establishment in years for firm i
Board size	$BrdSize_{it}$	Number of board members for firm i
Board independence	$BrdInd_{it}$	Ratio of independent board members to total board members for firm i
Role duality	$Duality_{it}$	Dummy variable that equals one if Chairman and CEO role are combined in firm i , and zero otherwise
Ownership concentration	$OwnerCon_{it}$	Ratio of shares held by large shareholders (>5%) to share of total shareholders for firm i

Three ordinary least squares (OLS) regression models are estimated to determine the impact of the independent variables on the IFR disclosure index, thereby testing the study hypotheses. Model I tests the relation between the dependent and independent variables for the combined IFR index, while models II and III test the relation of these independent variables on the content and format of IFR, respectively.

Model I:

$$IFR_{it} = \beta_0 + \beta_1 Size_{it} + \beta_2 Ind_{it} + \beta_3 ROA_{it} + \beta_4 Liquid_{it} + \beta_5 Levr_{it} + \beta_6 Age_{it} + \beta_7 BrdSize_{it} + \beta_8 BrdInd_{it} + \beta_9 Duality_{it} + \beta_{10} OwnerCon_{it} + \varepsilon_{it} \quad (2)$$

Model II:

$$Content_{it} = \beta_0 + \beta_1 Size_{it} + \beta_2 Ind_{it} + \beta_3 ROA_{it} + \beta_4 Liquid_{it} + \beta_5 Levr_{it} + \beta_6 Age_{it} + \beta_7 BrdSize_{it} + \beta_8 BrdInd_{it} + \beta_9 Duality_{it} + \beta_{10} OwnerCon_{it} + \varepsilon_{it} \quad (3)$$

Model III:

$$Format_{it} = \beta_0 + \beta_1 Size_{it} + \beta_2 Ind_{it} + \beta_3 ROA_{it} + \beta_4 Liquid_{it} + \beta_5 Levr_{it} + \beta_6 Age_{it} + \beta_7 BrdSize_{it} + \beta_8 BrdInd_{it} + \beta_9 Duality_{it} + \beta_{10} OwnerCon_{it} + \varepsilon_{it} \quad (4)$$

Where: i = company identifier and t = year identifier; IFR = internet financial reporting index; $Content$ = IFR content index; $Format$ = IFR format index; $Size$ = log of total firm assets; Ind = industry dummy where finance industry firms = 1 and 0 otherwise; ROA = total net income to total assets; $Liquid$ = current assets to current liabilities; $Levr$ = total debt divided by total assets; Age = natural log of firm age in years; $BrdSize$ = total number of board members; $BrdInd$ = proportion of independent directors; $Duality$ = role duality dummy where presence = 1 and 0 otherwise; $OwnerCon$ = ratio of shares held by large shareholders to total shareholders; ε = error term.

4. Results and Discussion

4.1 Descriptive Results for the IFR Disclosure Index

Table 2 presents the score for each content and format item along with percentage score across the sample, showing that firms focused marginally more on content (86%) than format (84%). The format scores range from 24 to 86 while for content they range from 19 to 86. For content, the most disclosed items are the financial statements in PDF format, financial highlights, three-year summaries (financial ratios, key statistics, or other information presented apart from the annual report), management discussion and analysis and the annual report of the year. In contrast, the most disclosed items for format are navigation consistent throughout the site, information clear and logically organised, financial information pages of the site can be accessed quickly, financial statements are structured to facilitate easy online access, file sizes listed and presentations easily downloadable, notes to financial statements and abstracts linked to financial statements, material printed from site easily readable and information is presented in a timely fashion, is complete and up-to date. Indicating that the stakeholders paid greater attention to those items. However, the least disclosed items in Saudi firms' websites for content and format are financial statements are presented in Excel format and analytical (spreadsheet) tools, respectively. Indicating that the stakeholders paid less attention to those items.

Table 2. IFR disclosure index item scores

<i>IFR Content item</i>	<i>Score</i>	<i>%</i>
1. Financial statements in PDF format	86	100%
2. Financial highlights	86	100%
3. Three-year summaries (financial ratios, key statistics, or other information presented apart from annual report)	86	100%
4. Management discussion and analysis	86	100%
5. Annual report of year	85	99%
6. Annual report of last three years	84	98%
7. Share price information and history	81	94%
8. Dividend payment history	80	93%
9. Description of any available dividend reinvestment plan	61	71%
10. Financial statements in Excel format	6	7%
IFR Content score total	741	86%
<i>IFR Format item</i>	<i>Score</i>	<i>%</i>
1. Navigation consistent throughout the site	86	100%
2. Information clear and logically organised	86	100%
3. Financial information pages of site can be accessed quickly	86	100%
4. Financial statements are structured to facilitate easy online access	86	100%
5. File sizes listed and presentations easily downloadable	86	100%
6. Notes to financial statements and abstracts linked to financial statements	86	100%

7. Material printed from site easily readable	86	100%
8. Information presented in a timely fashion, complete and up-to date	84	98%
9. Presentation clear, well organised, intuitive and attractive	84	98%
10. Navigation is structured towards most commonly requested pages	83	97%
11. Large PDF files broken down into usable sections and clearly identified as PDFs with file sizes indicated	82	95%
12. Multiple ways exist to navigate site/access information	80	93%
13. Information archived (historical information is accessible to users)	80	93%
14. Useful search tool or site map	72	84%
15 Hyperlinks connect website with other useful third-party sites, such as SSE	54	63%
16. Summary of all PDF documents, especially as they relates to financial documents	30	35%
17. Site presents message consistent with actual financial performance, important transactions, and company difficulties during year	25	29%
18. Analytical (spreadsheet) tools provided	19	22%
<i>IFR Format score total</i>	1,295	84%

4.2. Descriptive Statistics

Table 3 shows the descriptive statistics for the study model variables. The mean for the total IFR disclosure index is 85%, with a range of 0.64 to 1.00, much higher than the IFR score of 59% of Ali Khan *et al.* (2007) 59% for Saudi listed firms, Hossain *et al.* (2012) of 52% for Qatari firms, Al Jawder and Sarea (2016) of 81% for Bahraini firms, Bin-Ghanem and Ariff (2016) of 58% for GCC firms, and Yassin (2017) of 56% for Jordanian listed firms, though these studies relate to earlier periods spanning 2006-2013. The evident improvement in IFR disclosure may result from the application of the new Saudi corporate governance CMA regulations and the SAMA decision to for Saudi firms to transition to IFRSs from 2017 (CMA, 2017b). However, the higher score may also be driven by the sample selection of only the largest firms representing only 53% of the total firms listed.

Table 3. Descriptive statistics for the model variables

Variable	Mean	Minimum	Maximum	Std. Deviation
IFR (total)	0.845	0.642	1.000	0.072
IFR (content)	0.861	0.600	1.000	0.084
IFR (format)	0.836	0.666	1.000	0.085
Firm size (ln)	22.647	19.763	29.476	1.591
Industry (Finance industry)	0.210	0.000	1.000	0.409
Profitability (ROA)	2.5993	-36.220	28.020	9.425
Liquidity	1.742	0.202	10.211	1.639
Leverage	0.511	0.031	0.893	0.241
Firm age	30.070	8.000	65.000	15.293
Firm age (ln)	1.412	0.903	1.812	0.253
Board Size	9.230	5.000	13.000	1.524
Board independence	0.903	0.500	1.000	0.116
Role duality	0.450	0.000	1.000	0.501
Ownership concentration	0.399	0.000	0.980	0.241

Firm size measured as log total assets has a mean of 22.65 and ranges from 19.76 to 29.48. A minority of 21% of firms belong to the finance industry. Firms have a mean profitability (ROA) of 2.60%, ranging from -36.22% to 28.02%, and mean liquidity of 1.74, ranging from 0.20 to 10.21. Firm leverage is on average 51%, though ranges from 0.03 to 0.89. Firms have on average been established for 30.07 years, with ages ranging from 8 to 65 years. The mean of board size is 9.32 directors, though this varies from with 5 to 13 board members. Boards comprise predominantly (90%) independent directors. In 45% of firms, role duality is present. Finally, 40% of shareholders in the sample firms are large shareholders owning more than 5%.

4.3 Pearson Correlation Test

Tables 4 provides a Pearson correlation matrix for the model variables. For the independent variables, the

strongest correlations are between liquidity and leverage (-0.540), the industry dummy and leverage (0.537), board independence and role duality (-0.487), and firm size and ownership concentration (0.390).

Table 4. Pearson correlation test

	Firm size (ln)	Industry dummy	Profitability (ROA)	Liquidity	Leverage	Firm age (ln)	Board Size	Board independence	Role duality	Ownership concentration
Firm size (ln)	1									
Industry dummy	.241*	1								
Profitability (ROA)	.208	-.093	1							
Liquidity	-.042	-.216*	.143	1						
Leverage	.158	.537**	-.318**	-.540**	1					
Firm age (ln)	.075	.084	.096	-.228*	-.007	1				
Board size	.254*	.147	-.107	-.005	.112	-.020	1			
Board independence	.147	.110	-.186	-.055	.259*	-.105	.154	1		
Role duality	-.103	-.009	.289**	.101	-.117	.071	.045	-.487**	1	
Ownership concentration	.390**	.097	.007	.018	.134	-.181	.021	.182	-.133	1

*. Correlation significant at the 5% level (2-tailed).

**. Correlation significant at the 1% level (2-tailed).

Table 5. Regression model results

Independent variables	Definition	Hyp.	Exp. sign	Model I (IFR Total)				Model II (IFR Content)				Model III (IFR Format)			
				Coef.	t- statistic	P> t	Coef.	t- statistic	P> t	Coef.	t- statistic	P> t			
Cons.	Model constant	-	+	β0	0.387	2.989	0.004***	β0	0.579	3.578	0.001***	β0	0.281	1.812	0.074*
<i>Firm factors:</i>															
Size	Firm size	H1	+	β1	0.022	4.046	0.000***	β1	0.013	2.017	0.047**	β1	0.026	4.092	0.000***
Ind (Financials)	Finance industry dummy	H2	+/-	β2	-0.035	-1.678	0.098*	β2	0.020	0.758	0.451	β2	-0.065	-2.621	0.011**
ROA	Firm profitability	H3	+	β3	0.000	0.548	0.585	β3	0.002	1.426	0.158	β3	0.000	0.114	0.909
Liquid	Firm liquidity	H4	+	β4	-0.003	-0.541	0.590	β4	-0.001	-0.197	0.844	β4	-0.004	-0.589	0.558
Levrg	Firm leverage	H5	+	β5	0.058	1.318	0.191	β5	0.035	0.650	0.517	β5	0.070	1.337	0.185
Age	Firm age	H6	+	β6	-0.057	-1.945	0.056*	β6	-0.067	-1.828	0.072*	β6	-0.052	-1.469	0.146
<i>Governance factors:</i>															
BrdSize	Board size	H7	+	β7	0.006	1.140	0.258	β7	0.009	1.535	0.129	β7	0.003	0.592	0.555
BrdInd	Board independence	H8	+	β8	0.015	0.207	0.837	β8	-0.030	-0.335	0.738	β8	0.040	0.463	0.645
Duality	Role duality	H9	-	β9	-0.017	-1.000	0.321	β9	-0.014	-0.665	0.508	β9	-0.018	-0.914	0.364
OwnerCon	Ownership concentration	H10	-	β10	-0.067	-2.066	0.042**	β10	-0.012	-0.300	0.765	β10	-0.097	-2.513	0.014**
Adjusted R ²					0.222				0.110				0.213		
F-value					3.423				2.052				3.294		
VIF					< 3				< 3				< 3		
Prob. (F)					0.001				0.001				0.001		
No. of observations					86				86				86		

*** significant at the 1% level, ** significant at the 5% level, * significant at the 10% level.

4.4 Regression Results

Table 5 summaries the results of the three models of the relationship between the level of IFR disclosure (total, content and format) and the firm characteristic and CG factors. Model I, which reports the results for the IFR (total) disclosure index modelled against the firm characteristic and CG factors, has an adjusted R^2 of 0.222 and the model F-test is significant ($F = 3.423$, $p < 0.001$). Model II, which reports the results for the IFR (content) disclosure index, has an adjusted R^2 of 0.110 and the model F-test is significant ($F = 2.052$, $p < 0.001$). Model III, which reports the results for the IFR (format) disclosure index, has an adjusted R^2 of 0.213 and the model F-test is significant ($F = 3.294$, $p < 0.001$).

The first set of hypotheses tested relate to the relationship between IFR disclosure and firm characteristics across the three models, relating to total (Model I), content (Model II) and format (Model III) IFR disclosure, respectively. There is a positive relation between IFR disclosure and firm size, which is significant at the 1% level in the total and format disclosure models, and at the 5% level in the content model, providing support for hypothesis H1. Thus, larger firms must disclose more information to reduce the increased information asymmetry and agency costs they experience (Elzahar & Hussainey, 2012), facilitated by their superior disclosure capabilities, a result consistent with extant empirical studies (Ashbaugh et al., 1999; Brennan and Hourigan, 2000; Oyelere et al., 2003; Xiao et al., 2004; Bollen et al., 2006; Ezat & El-Masry, 2008; Damaso & Lourenco, 2011; Miniaoui & Oyelere, 2013; Dyczkowska, 2014; Omran & Ramdhony, 2016; Ahmed et al., 2017; Dolinšek & Lutar-Skerbinjek, 2018).

The finance industry dummy is negative and significant at the 5% and 10% levels for total and format IFR disclosure, respectively, showing that such disclosure is lower in this industry and higher in non-financial firms, thereby providing support for hypothesis H2. However, there is no significant relation for IFR content disclosure. Clearly, there exist industry variations in proprietary disclosure costs and technologies and information sensitivity. Further, the non-financial sector is impacted more by pollution, contamination and other negative effects on the environment and society, and thus require more risk mitigation disclosure to investors (Suwaidan, 1997). The result is consistent with Ismail (2002), Oyelere et al. (2003), Xiao et al. (2004), Hussainey and Al-Nodel (2008), Al Jawder and Sarea (2016), Ahmed et al. (2017) and Dolinšek and Lutar-Skerbinjek (2018).

There is a positive but insignificant relation between IFR disclosure and firm profitability across the models, and thus there is no support for hypothesis H3. Thus, whether a firm is performing relatively well or badly appears to have no impact on its IFR disclosure policy, consistent with the findings of Ezat and El-Masry (2008), Damaso and Lourenco (2011), Sharma (2013), Al-Shammari and Al-Saidi (2015), Sanad and Al-Sartawi (2016) and Dolinšek and Lutar-Skerbinjek (2018).

There is a negative but insignificant relation between IFR disclosure and firm liquidity across the models, and thus there is no support for hypothesis 4. Whether a firm has more or less liquid resources to cover its liabilities as they fall due at the margin has no effect on its disclosure, consistent with other Middle East studies including Aly et al. (2010), Hossain et al. (2012), Miniaoui and Oyelere (2013), Al-Shammari and Al-Saidi (2015) and Ahmed et al. (2017).

There is a positive but insignificant relation between IFR disclosure and firm leverage across the models, and thus there is no support for hypothesis H5. Evidently, the financial risk as captured by a firm's capital structure has no impact on its IFR disclosure tendency and does not differentiate the information needs of debt and equity investors, consistent with the results of Oyelere *et al.* (2003), Ezat and El-Masry (2008), Aly *et al.* (2010), Sharma (2013), Al-Shammari and Al-Saidi (2015), Omran and Ramdhony (2016) and Ahmed *et al.* (2017) who arguing that the firm leverage has no influence on the level of IFR disclosure.

There is a weak negative relation between IFR disclosure and firm age in the total and content disclosure models, significant at the 10% level, but no such relation for format disclosure, thus providing no support for hypothesis H6. In contrast to expectations, younger firms tend to disclose more IFR information on their websites to bridge the information asymmetry gap (Trabelsi et al., 2008), perhaps as more established firms suffer from strategic inertia and reduced discretion (Hambrick & Finkelstein, 1987). The result is consistent with Lee *et al.* (2012) who find higher levels of online accountability in younger firms.

The second set of hypotheses tested relate to the relationship between IFR disclosure and corporate governance factors across the three models. There is a positive but insignificant relation between IFR disclosure and board size across the models, and thus there is no support for hypothesis H7. Thus, whether boards have more or fewer directors has little impact on IFR disclosure, contrary to expectations. This suggests that board size is not necessarily an influential factor in improving IFR disclosure in Saudi listed firms. However, the result is consistent with the findings of Al-Motrafi (2008) and Erer and Dalgic (2011).

There is a positive but insignificant relation between total and format IFR disclosure and board independence, and an insignificant relation for content disclosure, and thus there is no support for hypothesis H8. The degree of board independence has little impact on disclosure, perhaps given the high independence characterising Saudi firms in general and thus relatively little variation observed. This implies that board independence has no explanatory power over IFR disclosure in Saudi listed firms. However, the result is consistent with the findings of Al-Motrafi (2008) and Sanad and Al-Sartawi (2016).

There is a negative but insignificant relation between IFR disclosure and role duality across the models, and thus there is no support for hypothesis H9. Thus, separating the roles of Chairman and CEO has no corporate governance impact in relation to IFR disclosure propensity in Saudi firms, consistent with the findings of Ezat and El-Masry (2008), Elsayed (2010) and Kamalluarifin (2016).

There is a negative relation between IFR disclosure and ownership concentration in the total and format disclosure models, significant at the 5% level, but no such relation for content disclosure, thus providing some support for hypothesis H10. Thus, increased ownership diffusion encourages the firms to disclose more IFR information on their websites due to less “insider” access to key financial information, consistent with the findings of Damaso and Lourenco (2011).

The overall model results show that, as expected, the level of IFR disclosure increases with firm size, and falls with firm age, ownership concentration, and for firms belonging to the finance sector. There is no observable relation in such disclosure with firm profitability, liquidity or leverage, and in relation to the corporate governance characteristics of board size and independence or the presence of role duality.

5. Conclusion

This study aimed to determine the extent of IFR disclosure and its firm characteristic and corporate governance determinants in Saudi Arabia, addressing a paucity of studies for emerging Arab countries. The study is important since it enables some evaluation of the impact of the new Saudi Corporate Governance Regulations applied in 2017 on website disclosure. The paper applies a self-constructed checklist of 28 IFR disclosure items based on content and format items, and employs a manual content analysis followed by a multiple regression analysis of data from 86 annual reports for the year 2018. The results indicate that the mean IFR disclosure is around 85% for Saudi firms which is higher than the 59% score found by Ali Khan et al. (2007) for Saudi firms in 2006, 52% found by Hossain et al. (2012) for Qatari firms in 2009, 81% found by Al Jawder and Sarea (2016) for Bahraini firms in 2013, 58% found by Bin-Ghanem and Ariff (2016) for GCC firms in 2012, 56% found by Yassin (2017) for Jordanian firms in 2011. In addition to the improved Saudi corporate governance framework, such improvement may be driven by the application of IFRS to Saudi listed firms. The study results show that IFR disclosure increases with firm size, indicating that larger firms disclose more IFR information to reduce information asymmetry and agency costs (Elzahar & Hussainey, 2012). However, the results reveal that IFR disclosure decreases with firm age and ownership concentration. This suggests that younger firms tend to disclose more IFR information on their websites to bridge the information asymmetry gap (Trabelsi et al., 2008), while more established firms limit disclosure due to strategic inertia and reduced discretion (Hambrick & Finkelstein, 1987). In addition, the results indicate that increased ownership diffusion encourages the firms to disclose more IFR information on their websites due to less “insider” access to key financial information. Moreover, the results show that IFR disclosure is lower in finance sector firms, indicating that non-financial sector firms tend to engage in greater IFR disclosure. As the non-financial sector is impacted more by pollution, contamination and other negative effects on the environment and society, they require more risk mitigation disclosure to investors (Suwaidan, 1997). However, the results of the models show that there is no relationship between IFR disclosure and firm profitability, liquidity or leverage, and in relation to the corporate governance characteristics of board size and independence or the presence of role duality.

There are four key implications of this study. First, the new Saudi corporate governance regulations introduced in 2017 likely contributed markedly to the greater improvement in IFR disclosure. Second, corporate governance regulations should recognize the positive role that firms which are larger, younger, with greater ownership diffusion, and drawn from the non-financial sector play in enhancing IFR disclosure at a country level. Third, stakeholders should not expect a higher level of IFR disclosure from firms with concentrated ownership and older firms, as such firms prefer to reduce their information costs and instead focus on profitability growth. Fourth, the results of this paper should help in the evaluation of the contribution of Saudi listed firms toward the achievement of Saudi Vision 2030. Fifth, IFR is developing rapidly and attracting more attention from interested parties such as investors, regulators, firms and academics, especially in Saudi Arabia. The findings of this study may contribute to the nascent literature by providing a deeper understanding to investors and regulators

concerning firm adoption of IFR along with the key determinants driving such adoption. Further, both accountants and auditors may benefit from these results when making decisions relating to internet disclosure of financial and non-financial information to improve the communication function of IFR. Finally, the application by a firm of the transparency principle to IFR should contribute to the reduction of monitoring costs and information asymmetry, thereby enhancing financial reporting disclosure quality through better content and presentation disclosure, and attracting more local and foreign investors.

A number of limitations of this study may be identified. First, the study sample is modest due to the time-consuming use of manual content analysis of internet-based information. The sample of this study is restricted to largest 100 listed firms in the Saudi exchange market, which represent only 53% of the total firms listed. Second, the study concentrates on the explanatory variables that are most expected to influence IFR practice in the Saudi context; however, some important variables which may make an important contribution to IFR practice could not be included because of either measurement difficulties or the unavailability of data on variables such as social norms, cultural values, political relations, Islamic business transactions, and the economic consequences of IFR for the cost of capital and firm value. Third, the study evaluates the period following the application of the new corporate governance regulations and thus omits earlier periods for comparison. Fourth, the focus is on the IFR disclosure level rather than the quality of disclosure. Fifth, the self-constructed checklist comprises a limited number of 28 IFR disclosure items. Future research might expand the sample size and provide a comparative study of the periods before and after the application of the new corporate governance regime. Furthermore, computerized content analysis may enable a larger scale study. Future analysis may allow for consideration of other explanatory variables such as social norms, cultural values, political relations, Islamic business transactions, and the economic consequences of IFR for the cost of capital and firm value that may add to the explanation of changes in IFR in the Saudi context. Finally, a cross-country study would enable greater understanding of the influence of differences in regulations and cultures on IFR disclosure practices.

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