

Corporate Governance and Risk Disclosure: Evidence from Saudi Arabia

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Abstract

Purpose- This study aims to empirically explore corporate governance and the demographic traits of top management teams as the determinants of voluntary risk disclosure practices in listed banks. This study also aims to contribute to the existing risk disclosure literature by investigating the effect of a combination of determinants on voluntary risk disclosure practices in an emerging market. Furthermore, this study seeks to contribute to risk disclosure theories by employing the upper echelons theory to examine the determinants and their effects on voluntary risk disclosure practices.

Design/Methodology/Approach- This investigation uses manual content analysis to measure the levels of risk disclosure in all Saudi listed banks from 2009 to 2013. It also uses ordinary least squares regressions analysis to examine the joint effect of corporate governance and demographic traits on risk disclosure.

Results- The empirical findings show that external ownership, audit committee meetings, gender, size, profitability and board size are primary determinants of voluntary risk disclosure practices in Saudi listed banks. The remainder of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with voluntary risk disclosure practices in Saudi listed banks. This study supports upper echelons theory and further encompasses demographic research into the risk disclosure field.

Potential Implications- The empirical findings offer several important implications by reporting to banks' stockholder, regulatory bodies and any other interested group on the importance of corporate governance and demographic determinants, which can be used to augment risk reporting in the banking industry. This study also backs upper echelons theory and encourages further demographic research into the risk disclosure field.

Originality- To the best of the researcher's knowledge, no prior research has been conducted on the determinants of risk disclosure in Saudi Arabian listed banks. Therefore, this is the first study to investigate the determinants of risk disclosure in the context of Saudi Arabia.

Keywords- Banks, Saudi Arabia, Risk Disclosure Determinants, Upper Echelons Theory, Board Demography

Paper Type- Research paper

Introduction

Regulatory institutions have had to reconsider the basis of banking regulations due to the global financial crisis. Beltratti and Stulz (2012) and Erkens et al. (2012) argued that this event resulted in serious concerns regarding risk disclosures. Due to this catastrophic corporate failure, investors' and stakeholders' attention has been drawn to the importance of risk reporting (Linsely et al., 2008). These concerns are coherent with the argument put forward by Meier et al. (1995), Schrand and Elliot (1998), Beretta and Bozzolan (2004), Cabedo and Tirado (2004), Ahmed et al. (2004), Linsley, Shrivies and Crumpton (2006), Linsley and Shrivies (2006), Abraham and Cox (2007), Linsley and Lawrence (2007) and Hassan (2009), which is that risk disclosure is a pivotal aspect of business risks, where reporting offers greater transparency and enhances investors' confidence. As is evident, the global crisis also resulted in a deceleration of the global economy and thus the demand for risk reporting increased. This had led to a number of regulatory reforms, for example, the birth of the International Financial Reporting Standard 7 Financial Instruments and BASEL II, which includes greater measures on risk transparency and disclosure. It also emphasises the significance of informative risk disclosure in the banking industry for the overall enhancement of market discipline. The disclosure of informative risk information in banks has been cited as instrumental in eluding banking catastrophes (Financial Stability Board, 2012).

Disclosure of financial risk information is important since it increases transparency, thus giving shareholders' more confidence and lowering their uncertainty about future cash flow as well as

making it more viable for corporations to obtain external funding at a cost of capital, hence increasing capital market activities in general (Deumes, 1999; Easley and O'Hara, 2004; Kothari et al., 2009). Institutions are encouraged not only to report their activities but also the risks associated with them as well as their strategy for and capacity to manage these risks (ICAEW, 1999).

However, prior research shows that financial statements suffer from serious deficiencies and inadequacies in terms of the provision of risk and uncertainty disclosures (Cabedo and Tirado, 2004). One of the main causes of the global financial disaster in 2007 was the absence of adequate risk disclosure available to investors. This dearth of risk disclosure prohibited investors from having adequate appropriate information to evaluate corporations' risk reportage (Rahman, 1998). Solomon et al. (2000) found that institutional investors consider risk reporting inadequate in the UK. Therefore, this leaves investors unable to adequately assess a firm's risk profile, and hence they are unable to deliberate on the scale and categories of risk in their venture decisions (Linsley et al., 2008). This dearth of risk information in annual reports indicates the necessity to examine the determinants of risk disclosure in different settings, particularly developing markets, such as in our case study, Saudi Arabia.

Whilst previous literature discusses extensively the relationship between the determinants of risk disclosure in developed economies (Lajili and Zeghal, 2005; Linsely and Shrivies, 2006; Abraham and Cox, 2007; Konishi and Ali, 2007; Deumes and Knechel, 2008; Hill and Short, 2009; Taylor, Tower and Neilson, 2010), there is very little mention of developing markets (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013). Furthermore, none of the preceding risk disclosure studies have investigated the impact of the joint effect of corporate governance and demographic variables on risk disclosure practices. This study aims to investigate risk disclosure practices in an emerging market, Saudi Arabia, empirically examining corporate governance and demographic traits as the determinants of risk reporting practices in Saudi listed banks. To the best of the researcher's knowledge, this is the only study that has attempted to examine the joint effect of corporate governance and demographic traits on risk disclosure in emerging markets, and thus this research makes a novel contribution to the existing accounting literature. Furthermore, this study contributes to the risk disclosure literature by employing upper echelons theory in order to examine the determinants and their effects on risk disclosure practises. In addition, this is the only study that examines the demographic traits of the board of directors in a developing country. In particular, this study contributes to the board demography, governance and risk disclosure literature by theoretically justifying and empirically investigating the implications of such determinants and theories in regards to risk disclosure in the banking industry. This study is motivated, firstly, by the call made by Dobler et al. (2011) for more investigation into the influence of corporate governance determinants on risk disclosure, especially in developing markets and, secondly, by the call made by Abdullah, Hassan and McClelland, (2015) for more research into the relationship between demographic characteristics and risk disclosure.

This study differs from Mousa and Elamir (2013), Mokhtar and Mellett (2013) and Abdullah, Hassan and McClelland (2015), who examined a single attribute of corporate governance characteristic and from Amran, Bin and Hassan (2009), Hassan, (2009), Abdullah and Hassan (2013) and Al-Shammeri (2014), who did not investigate corporate governance and demographic attributes by comprehensively examining corporate risk disclosure and exploring demographic characteristics. Moreover, not a single study has examined corporate governance as a determinant of risk disclosure in the Saudi context. Also, not one of the above-mentioned studies explored the demographic traits of a top management team in emerging markets. This investigation differs from all of the above-mentioned studies in that it examines the demographic characteristics of the top board of directors, employing upper echelons theory to examine risk reporting practices in the banking industry. Furthermore, this study differs from Amran, Bin and Hassan, (2009), Hassan, (2009), Abdullah and Hassan, (2013), Mousa and Elmir, (2013), Mokhtar and Mellett, (2013), Al-Shammeri, (2014) and Abdullah, Hassan and McClelland (2015) by being the first to examine risk disclosure over a period of five years in a developing economy.

The empirical findings show that large banks with high outsider ownership, high profitability, high regularity of audit committee meetings and gender are more likely to demonstrate higher levels of risk disclosure practices. Also, risk disclosure is negatively affected by board size. Moreover, as can be seen from our empirical findings, external ownership, audit committee meetings, gender, size, profitability and board size are primary determinants of risk disclosure practices in Saudi listed banks, while the rest of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with risk disclosure practices in Saudi listed bank. Our findings have several important implications for banks stockholder, regulatory bodies and any other interested group on the importance of corporate governance and demographic determinants, which can be used to augment risk reporting in the banking industry. This study also supports upper echelons theory and further encompasses demographic research into the risk disclosure field.

The remainder of the paper proceeds as follows: section 2 discusses the theoretical framework; section 3 develops the hypotheses; section 4 outlines the research design and methodology; section 5 discusses empirical analysis; section 6 is the discussion; and section 7 offers conclusions.

Corporate Governance and Banking

It has been argued that compared with other industries, the banking industry is the industry which has the highest requirements for corporate governance and disclosure regulations. As such industry is a financial intermediary body which is an important part in every country's economy and has a major role in the financial system of that country (Khaled, 2008). Furthermore, the banking industry is based on trust, however banks as financial entities deal with all kinds of risks on a daily bases since it is a part of their business (Barakat and Hussainey, 2013). Therefore, to keep public confidence and decrease risks, Saudi banks need to have good financial performance and demonstrate corporate governance best practice. Such behaviour is greatly important for shareholders when considering investment decision makings.

Theoretical framework

Corporate governance has been defined by Solomon and Solomon (2004: 14) as "the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all stakeholders and act in a socially responsible way in all areas of their business activities". Also, Sharman and Copnell, (2002) defined corporate governance as "the system and process by which entities are directed and controlled to enhance performance and sustainable shareholder value, and it is concerned with the effectiveness of management structure, the sufficiency and reliability of corporate reporting and the effectiveness of risk management systems".

The literature has established a robust relationship between disclosure and corporate governance. The FRC (2008) affirmed that management effectiveness, firm performance and shareholder value is supported by the combined code on corporate governance, which also promotes certainty in corporate disclosure and governance. Mallin (2002: 253) stated that "corporate governance codes and their recommendations undoubtedly contribute towards increased transparency and disclosure". Previous studies by Solomon et al. (2000) and Solomon and Solomon (2004) have also contributed to the relationship between corporate governance and risk disclosure.

In concordance with various theoretical debates (i.e. agency theory regards corporate governance as a control mechanism), the literature has generally reported a link between reporting and corporate governance (Ho and Wang, 2001; Elshandidy and Neri, 2015). For instance, the impact of corporate governance attributes on disclosure exercises has proven to diminish information asymmetries and enhance the functionality of organisational stewardship. Furthermore, the precision of risk information is used as an external control mechanism, which lessens agency costs and is of great importance to all interested groups (investors and analysts). This provides all interested groups with the functionality to formulate precise investment decisions and evaluate institutions' risk profiles effectively (Elshandidy and Neri, 2015; Campbell et al., 2014; Kravet and Muslu, 2013; Miihkinen, 2013).

The theoretical association between corporate governance and disclosure has mainly been examined through information asymmetry (signalling theory) and agency theory. In the case of future disclosure examinations, the literature has proposed the employment of agency and signalling theories to examine the links between disclosure and managerial incentives (Core, 2001; Beyer et al., 2010). Moreover, corporate governance mechanisms have been recognised as controlling agency problems and guaranteeing that directors' actions are in the best interest of shareholders (Ho and Wong, 2001).

Agency theory explains the disagreements between directors and shareholders when directors' interests differ from those of shareholders. However, it has been established by a number of prior investigations that various monitoring mechanisms, such as audit committees, independent external auditing and well-timed financial reviews (Deumes and Knechel, 2008; Spira and Page, 2003) are able to mitigate agency problems since they provide top management with more reliable information for financial reporting purposes. Jensen and Meckling (1976) argue that monitoring plays a central part in controlling the conduct of directors. Healy and Palepu (2001) proposed four resolutions for agency problems, the second of which includes corporate governance, with an emphasis on the board of directors' responsibility to monitor and discipline management in the best interest of outside owners.

Information asymmetry conflicts (also underpinned by signalling theory) between internal directors and external investors could extend to internal control systems in the case of corporate governance (Akerlof, 1970; Spence, 1973). Accordingly, outsiders cannot observe internal control activity and conduct in some circumstances due to the lack of regulations and guidance on internal control activity and conduct. Therefore, shareholders tend not to have a full understanding of the nature and scope of internal control systems. This leads to shareholders having difficulty appreciating managers' efforts to counter risks. Yet, managers could reduce information asymmetries by using their discretion to provide more information on internal control and risk management, potentially benefitting analysts, investors and other market users (Lajili and Zeghal, 2005; Deumes and Knechel, 2008).

It has been noticed from prior literature that agency theory and information asymmetry, both of which underpin signalling theory, are deployed to explicate risk disclosure to investors (Abraham and Cox, 2007; Lopes and Rodrigues, 2007; Vandemaele et al., 2009; Elshandidy et al., 2013). When internal management decides to disclose risk information to decrease agency conflicts, this culminates in mitigating information asymmetries between both parties. However, internal management might sometimes choose to release some risk information to signal their competence and capability to handle risks to distinguish themselves from the rest, which might translate into an improved reputation and some monetary gain. In addition to formulating this paper's hypotheses, the following section discusses a number of corporate governance attributes and their potential impact on risk disclosure practices.

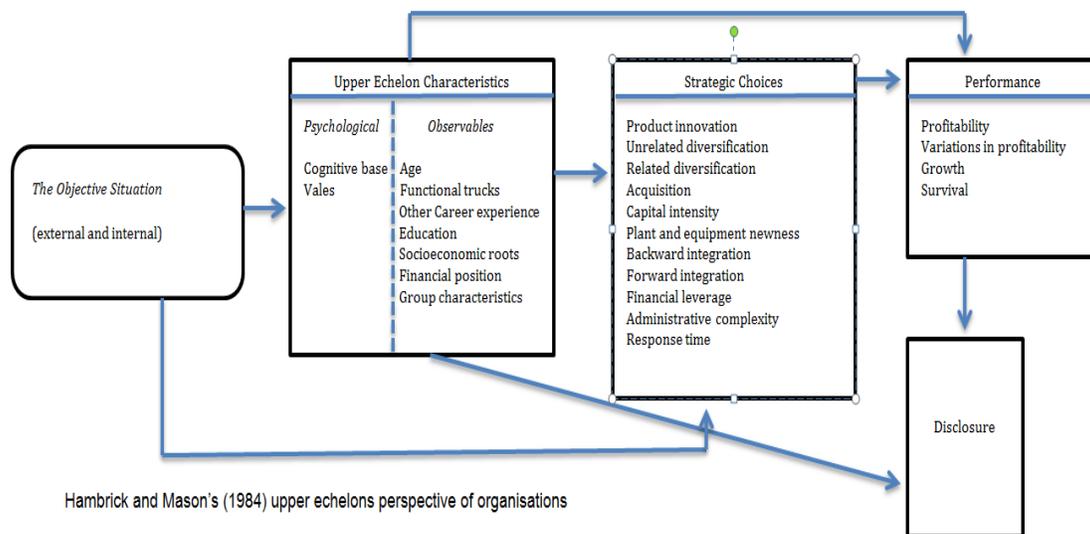
Corporate governance studies investigate the relationship between corporate governance attributes and corporate performance. This investigation concentrates on the impact of corporate governance attributes on risk disclosure. Whilst a number of studies have looked into the effect of corporate governance on disclosure in developed countries, the impact of corporate governance on risk disclosure in developing markets has received scant attention. Thereafter, this research will try to address this gap and contribute to the literature by examining the effect of corporate governance attributes on risk disclosure practices in Saudi Arabia.

The Upper Echelons Theory

In pioneering work by Hambrick and Mason (1984), the two concepts of the dominant coalition and demographic research were combined. The authors suggested that certain organizational effects are linked to top management teams having specific demographic profiles. Moreover, upper echelons theory proposes that the characteristics of top management, in particular demographic characteristics, might affect strategic decision-makings and hence performance. At the centre of this theory is the notion that the background knowledge and values of corporate directors impact

upon the essential strategic decisions made by these central corporate managers. Hambrick and Mason also claimed that observable attributes, e.g. age, practical experience and tenure, could function as practical proxies for the cognitive base that directs top directors' decisions. Moreover, upper echelons theory is categorized according to several important elements. As highlighted by Hambrick and Mason (1984), demographic features influence strategic decision making and performance. Thus, in this study the concept is extended to the determinants of risk disclosure, investigating whether such features of the top board could impact upon the determinants of risk reportage in the banking sector.

Figure: 1 The Upper echelons model



Above is the adapted upper echelons framework, which is based on three fundamental principles: first, the strategic choices taken by institutions (the representations of the cognitive bases and values of the dominant players, the top board members); second, the cognitive bases and values of such players (the ramifications of their observable characteristics, such as functional trucks and education); and third, significant institutional consequences that are related to the observable characteristics of such players. In fact, this theory proposes that institutional performance is only a representation of its top board directors. However, the fourth dimension (disclosure) added to the above framework can be directly influenced by upper echelons theory characteristics or indirectly by the ramifications of the overall performance of the company, where sometimes risk disclosure would mean survival for an institution. This model also plays a vital part in determining key institutional effects, such as the provision of risk disclosure. It also grants us the opportunity to investigate the core determinants of board demography in relation to risk disclosure.

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information in the annual reports. This theory will also be employed for reinforcing the results to the second research question. It also grants this study the opportunity to investigate the core determinants of board demography in relation to risk disclosure.

This theory has only been used in fields other than disclosure. For example, Peterson et al. (2003) deployed upper echelons theory when examining the determinants of organisational performance, while Tihanyi et al. (2000) used it when exploring the effects of firm international diversification and Mutuku et al. (2008) employed it when studying the quality of decisions and performance. To the best of the researcher's knowledge, no prior research has investigated disclosure in relation to upper echelons theory. Hence, this is the first study to extend the employment of upper echelons theory into the area of disclosure.

Literature

While many studies have examined the individual characteristics of corporate governance, such as ownership structure and independent outside directors (Mohobbot, 2005; Konishi and Ali, 2007; Deumes and Knechel, 2008; Hill and Short, 2009; Taylor, Tower and Neilson, 2010), only a few have explored corporate governance characteristics in developed countries (Abraham and Cox, 2007; Oliveira, Rodrigues and Craig, 2011b; Elzahar and Hussainey, 2012). Apart from Mousa and Elamir (2013), Mokhtar and Mellett (2013) and Abdullah, Hassan and McClelland (2015), who examined a single attribute of corporate governance characteristics, percentage of foreign ownership, duality and board size, the literature on developing economies has not explored comprehensively corporate governance characteristics (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013; Al-Shammeri, 2014). Furthermore, not a single study has examined corporate governance as a determinant of risk disclosure in the Saudi context in particular. Therefore, this is the first study that focuses on the Saudi market in that domain. In addition, the current study is the only one that explores corporate governance characteristics and risk disclosure in the GCC market since the previous literature focused on firm-specific characteristics.

Furthermore, whilst a small number of studies have examined risk disclosure over more than a one year period in developed economies (Cabedo and Tirado, 2004; Deumes, 2008; Deumes and Knechel, 2008; Rajab and Schachler, 2009; Hill and Short, 2009; Taylor, Tower and Neilson, 2010; Elshandidy, Fraser and Hussainey, 2015), none have examined risk disclosure over more than a one year period in developing economies (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013; Mousa and Elmir, 2013; Al-Shammeri, 2014; Abdullah, Hassan and McClelland, 2015). Therefore, the current study is the only study that examines risk disclosure over a period of five years in developing economies.

While nonfinancial and mixed institutions in developed countries have been widely researched and reported upon in the literature (Carlson, Loftus and Miller, 2003; Beretta and Bozzolan, 2004; Linsley and Shrive, 2005; Lajili and Zeghal, 2005; Combes-Thuelin, Henneron and Tournon, 2006; Abraham and Cox, 2007; Deumes and Knechel, 2008; Hill and Short, 2009; Taylor, Tower and Neilson, 2010; Oliveira, Rodrigues and Craig, 2011b; Dobler, Lajili and Zeghal, 2011; Elzahar and Hussainey, 2012; Elshandidy, Fraser and Hussainey, 2015), only a few studies have focused on financial institutions in developed countries (Solomon, Solomon and Norton, 2000; Linsley, Shrive and Crumpton, 2006; Oliveira, Rodrigues and Craig, 2011a; Maffei et al., 2014) and no investigations have been conducted on financial institutions in developing markets (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013; Mousa and Elmir 2013; Al-Shammeri, 2014; Abdullah, Hassan and McClelland, 2015). Therefore, this is the only study that investigates financial institutions in developing economies, particularly Saudi Arabia. Also none of the above studies have examined the demographic attributes of top management teams nor have they employed upper echelons theory in examining the nature and determinates of risk disclosure. Therefore, this is the only study that examines the demographic traits of the top boards in developing countries. This is a response to the call for more research into the relationship between the demographic characteristics and risk disclosure made by Abdullah, Hassan and McClelland (2015). Based on the developing and appropriate preceding literature on disclosure and risk

disclosure in relation to corporate governance, a number of corporate governance attributes will be presented along with their potential impact on risk disclosure practices. This paper's hypotheses will thus be formulated.

Hypotheses development

Ownership Structure

Corporate governance and financial reporting have been markedly affected by ownership structure and corporate culture (Beattie et al., 2001). It has been argued that ownership and governance (which constitute the board of directors) could affect companies' risk reporting since the directors compose the yearly reports for shareholders (Abraham and Cox, 2007). Moreover, when reviewing the literature for the purpose of conducting this investigation, it was noticed that a variety of proxies have been applied to the ownership structure variable. These are: ownership concentration; institutional ownership; the number of shareholders; government ownership; the proportion of shares owned by outsiders; family ownership; managerial ownership; the percentage of closely held shares (CHS); foreign ownership and the NOSH-Factor, which combines the free-float shares; the percentage of total share available to the ordinary investor; total strategic holdings; and investment-company held shares. However, empirical research has discovered a mixture of outcomes in this regard, which might be explained by the dissimilarity between the employment measurement and the ownership factor.

As a consequence, Fama and Jensen (1983) stated that modern establishments are distinguished by the detachment of ownership from control i.e. detaching management decisions from monitoring decisions. Additionally, Cooke (1989b, p.177) stated, "Where there is a divorce of ownership from control, the potential for agency costs exists because of conflict between, firstly, shareholders and managers and, secondly, bondholders and shareholder-managers". Owusu-Ansah (1998) confirmed that ownership structure and disclosure connection is explained by agency theory since modern corporations are distinguished by the detachment of ownership from control.

On the one hand, corporations with dispersed public ownership of securities will be inclined to have high agency costs, whereby stockholders can pressurize management for more information as part of the monitoring activity. On the other hand, in the event of concentrated ownership, there is little or no physical segregation between owners and managers of the capital and most of the risk related information can be exchanged at boardroom meetings or in a casual manner. Hence, less risk related information will be accessible to the public (Mohobbot, 2005).

Furthermore, information asymmetry can also be related to the discussion on the effect of ownership structure on financial reporting. Concentrated ownership companies may not encounter a high level of information asymmetry via augmented exposure, and these companies are not as easily able to comply with public reportage since most of the information is communicated at meetings and other informal manners (Mohobbot, 2005). What's more, Owusu-Ansah (1998) claimed that when there is extensively distributed ownership, individual shareholders are not in a strong position to influence company disclosure policies and practices owing to not having the power to access the firm's internal information. Conversely, Hossain, Tan and Adams (1994) posit that discretionary reporting tends to be more common in extensively held companies in order for directors to efficiently oversee managers so as to optimize the firm's financial interests and ensure that they are operating in the best interests of the owners. Nevertheless, Kothari (2000) stated that the ownership distribution pattern and dispersed managerial ownership foster the demand for reporting to be high. However, Mohobbot (2005) argued that in the case of concentrated ownership concentration, most of the risk related information could be exchanged at the boardroom meeting or by any other casual manner, which will result in less risk related information being available to the market. Thus, there may be a negative relationship between risk disclosure and the number of shareholders. What's more, Wallace and Nasser (1995) argued that the more people who demand to know about the activities of a company, the more comprehensive the reporting of the company. The authors also proposed that the boost in risk reporting could solve supervising difficulties related to growth in the proportion of the company owned by outsiders.

Konishi and Ali (2007) established that there was an insignificant correlation between the ownership diffusion pattern and the number of risk disclosures. However, the researchers still felt that there was an association between the two variables. They explained that managers could hold a high proportion of stocks and choose not to report all risk related information. Konishi and Ali (2007) confirmed that risk reporting policy is controlled by the board of directors or the top management team, implying that there can be no risk disclosure without their involvement. In addition, Deumes and Knechel (2008) discovered a negative relationship between internal control disclosures and both ownership concentration and managerial ownership. The authors suggested that this could indicate that there are monetary reasons why corporate managers voluntarily disclose more/less information on internal control and that corporate managers evaluate the disclosure's costs and advantages then only disclose if the advantages outweigh the costs.

In spite of this, The Office of Fair Trading (2009) argued that government ownership can influence markets through immediate participation, for example, as market makers or as suppliers and buyers of goods and services or by indirect participation in private markets via taxation, regulations and subsidies. Moreover, Owusu-Ansah (1998) claimed that government ownership could lead to unusual access to corporations' information so as to monitor their investment actions, making them less motivated to increase public disclosure.

Konishi and Ali (2007) acknowledged that the aim of those corporations' disclosure strategies is to respond to the disparities in the demand for public exposure encountered. They also argued that where the government owns the majority of shares, risk reportage would be lower than when ownership is dispersed. This is due to the increased pressure on corporate managers to report more risk related information. However, Cooke (1998) documented an insignificant relationship between government ownership and disclosure.

Nonetheless, Mohobbot (2005) contended that if the number of foreign investors is high, there is more pressure on corporate managers to report higher numbers of risk related disclosures. Furthermore, Mangena and Taurigana (2007) reported a positive relationship between disclosure and foreign holdings, whereas Konishi and Ali (2007) documented an insignificant relationship between the two variables.

In the case of institutional holdings, Hassan (2008) affirmed that company directors respond to demands from institutional environments by adjusting some practices, such as the reportage of risk related information, so as to acquire social legitimacy. Additionally, Taylor (2011) stated that institutional stockholders are expected to reduce asymmetrical information by performing an overseeing role due to close contacts with the management of organizations as well as preventing management from withdrawing risk information. However, Solomon, Solomon and Norton (2000) reported that institutional stockholders in the UK acknowledged that expanded corporate risk disclosure would aid their portfolio investment decision-making, yet they did not support a regulated setting for risk disclosure or any general statement on business risk. Furthermore, Abraham and Cox (2007) discovered that there was a negative relationship between risk disclosure and long-term institutional investors in the UK, whereas they found a positive correlation with short-term investors. However, Taylor (2011) reported that there was no significant association between long-term institutional shareholders and disclosure in Australia. He also discovered a positive correlation between short-term institutional shareholders and risk reportage.

Elshandidy et al. (2013) documented a positive significant correlation between ownership structure (proxied by CHS and NOSH-Factor) and risk disclosure. In addition, some empirical research results have revealed that institutions with lower insider ownership (proxied by CHS) are prone to higher risk disclosure (Elshandidy et al., 2013; Marshall and Weetman, 2007; Gelb, 2000). Also, institutions with higher outsider ownership (proxied by NOSH-Factor) are prone to considerably higher levels of risk disclosure (Elshandidy et al., 2013; Deumes and Knechel, 2008; Abraham and Cox, 2007). Therefore, the following hypotheses were formulated:

H1: There is a negative relationship between risk disclosure and insider ownership.

H2: There is a positive relationship between risk disclosure and outsider ownership.

Board Size

To date, there have been few specific investigations into the relationship between board size and risk disclosure. However, a number of researchers have examined board size in the context of voluntary disclosure. Furthermore, Cheng and Courtenay (2006) claimed that there is no consensus regarding a connection between the level of voluntary exposure and board size and that it remains an empirical issue. The same could be said for the relationship between board size and risk disclosure. Moreover, Chen and Jaggi (2000) argued that a large number of directors on the board could lessen the information asymmetry issue and instigate more disclosure. Also, Healy and Palepu (2001) confirmed that the number of directors on the board could affect its control and monitoring operations, though disclosure is regarded as a monitoring item that could be increased.

Conversely, Cheng and Courtenay (2006) agreed that the more directors on the board the less efficient it would be at monitoring management. According to agency theory, bigger boards are bad and corrupt, while smaller boards are good and effective in terms of enhancing performance and disclosure (Jensen and Meckling, 1976). Free rider problems between executives, expanded decision making time, raised costs, poor communication and monitoring could all have an adverse effect on disclosure levels and good practice (Jensen, 1993). However, several recent studies have associated large boards with greater risk disclosure (Allegrini and Greco, 2013; Elshandidy et al., 2013; Ntim et al., 2013; Elshandidy and Neri, 2015)

All in all, the empirical findings on this issue have been mixed. Ntim et al. (2013), Elshandidy et al. (2013), Allegrini and Greco (2013) and Elshandidy and Neri (2015) all found a positive relationship between the number of directors on the board and risk disclosure. In addition, Abeysekera (2010) discovered that there was a positive connection between disclosure and board size in Kenya. However, Cheng and Courtenay (2006) established that there was no significant association between the two variables, while Jia et al. (2009) Guest (2009) and Coles et al. (2008) documented a negative relationship between board size and disclosure and performance. Therefore, the following hypothesis was formulated:

H3: There is a positive relationship between risk disclosure and board size.

Independent Directors

It has been claimed by agency theorists that the board of directors acts as a shield and plays a substantial part in corporate governance in terms of decision control and the monitoring of operations (Cheng et al., 2006). However, Ho and Wong (2001) contented that agency theory does not assume that all groups on the board of directors enhance accountability and extend disclosure. There is a mixture of corporate insiders and outsiders on the board, all of whom may have distinctive views on disclosure. The outsiders (independent directors) act as a measure of corporate governance quality and are more likely to minimize agency problems and lower the demand for regulatory intervention in corporate disclosure (Abraham and Cox, 2007). Accordingly, Lopes and Rodrigues (2007) claimed that more independent directors are required on boards of directors to control and monitor the operations of managers and that this leads to more disclosure from corporations.

However, the empirical findings on independent directors and risk disclosure are diverse. Abraham and Cox (2007) and Elshandidy et al. (2013) confirmed that there was a positive correlation between independent directors and risk disclosure, whereas Lopes and Rodrigues (2007) found no significant relationship between risk disclosure and independent directors. Therefore, the following hypothesis was formulated:

H4: There is a positive relationship between risk disclosure and independent directors.

Non-executive Directors

The empirical findings on the influence of non-executive directors on disclosure practices have been mixed. Fama and Jensen (1983) claimed that the existence of non-executive directors on the board could result in the reduction of agency conflicts among owners and managers. Moreover,

Barako et al. (2006) argued that non-executive directors are regarded by investors and stockholders as a fundamental control and monitoring element of corporate governance, delivering the indispensable checks and balances required to improve board effectiveness. Also, Haniffa and Cooke (2002) affirmed that non-executive directors are considered to be the control, check and balance mechanism that increases board effectiveness. However, Ho and Wong (2001) contented that agency theory does not assume that all groups on the board of directors enhance accountability and extend disclosure.

In opposition, Abraham and Cox (2007) claimed that an increased number of non-executive directors on the board makes it more likely that stockholders' preferences on accountability and transparency are met. Furthermore, the authors argued that the findings illustrated that the combination of boards plays a substantial part in the transmission of risk related disclosures to shareholders and different groups of directors. As a result, more reportage is predicted if the non-executive directors are in fact performing their monitoring job rather than their perceived-monitoring job, putting pressure on management to release more information (Haniffa and Cooke, 2002; Eng and Mac, 2003).

Berry (2008) confirmed that in his roles as a non-executive director of a number of UK corporations he had endeavored to contribute to the expansion of efficient risk management as well as attempting to clarify the key risks to the board. He also argued that not all non-executive directors are independent and that dependent non-executive directors could have contacts with management which would call to question their role in monitoring, controlling and increasing disclosure levels.

Empirical investigations by Abraham and Cox (2007) and Deumes and Knechel (2008) found that there was no significant relationship between non-executive directors and risk disclosure, whereas, Eng and Mac (2003) and Elshandidy et al. (2013) reported a positive relationship between non-executive directors and risk disclosure. Based on this discussion the following hypothesis was formulated:

H5: There is a positive relationship between risk disclosure and non-executive directors.

Audit Committee Independence

It has been argued that limited research has attempted to examine the link between disclosure and the features of audit committees (Albitar, 2015). As a part of the internal control system and corporate governance, corporations assign audit committees. Audit committee members have to work on behalf of the board of directors and for the benefit of investors. Moreover, Barako et al. (2006) explained that the audit committee can play a supervisory role, which would lead to an enhanced quality of information flowing between stockholders and directors, particularly in the event of financial reporting wherein the two parties hold unequal levels of information. Similarly, Forker (1992) stated that an audit committee can act as an efficient monitoring mechanism that minimizes agency costs and augments disclosure. In addition, Ho and Wong (2001) claimed that because audit committees contain predominantly non-executive managers, they have the power to moderate the amount of information withheld. Audit committees play possibly important part in ensuring sound corporate governance (Avison and Cowton, 2012)

Furthermore, Taylor (2011) argued that the agency theory argument suggests that the more independent the audit committee is from upper administration, the more probable it is to act in the best interests of the firm's investors in terms of decreasing information asymmetry. The researcher also acknowledged that audit committees have two main responsibilities, firstly, to make sure that risks are coped with and internal controls exist to protect against risks and secondly, to ensure that corporate statements are examined to guarantee the integrity of financial and other investor related disclosures for shareholders.

Nevertheless, the empirical findings on disclosure and audit committee independence have been mixed. Taylor (2011) and Oliveira et al. (2011b) reported a positive association between audit committee independence and risk disclosure. However, they also reported an insignificant

association between risk disclosure and the financial expertise of audit committee members. Furthermore, Neri (2010) found an insignificant relationship between these two variables. Therefore, the following hypothesis was formulated:

H6: There is a positive relationship between risk disclosure and the independence of audit committee.

Audit committee size:

As previously stated, a part of the internal control system and corporate governance corporations assign audit committees. This concept was first proposed and examined by Forker (1992). He stated that an audit committee can act as an efficient monitoring mechanism that can minimize agency costs and augment disclosure. Moreover, Ho and Wong (2001) claimed that the presence of an audit committee significantly affects the extent of disclosure. Also, the authors claimed that because audit committees contain predominantly non-executive managers, they have the power to moderate the amount of information withheld. Moreover, Chen and Jaggi (2000) argued that a large number of directors on the committee could lessen the information asymmetry issue and lead to more disclosure. Prior empirical research has indicated a positive relationship between disclosure and audit committee size (Barako et al., 2006). Therefore, the following hypothesis was formulated:

H7: There is a positive relationship between audit committee size and risk disclosure

Audit committee meetings

Previous literature has offered pragmatic evidence on the advantages of directors meticulously controlling disclosure, with the number of meetings being a key aspect of this control (Alegrini and Greco, 2013). Karamanou and Valeas (2005) claimed that regular meetings have a fundamental impact on audit committee effectiveness. It has also been argued that regular audit committee meetings are more likely to lead to compliance with responsibilities and the monitoring of financial reporting (to improve the quality of information that flows between stockholders and directors, where the two parties hold unequal levels of information (Barako et al., 2006)). In addition, Chen et al. (2006) affirmed that meeting more regularly decreases the risk of fraud. Karamanou and Vafeas (2005) documented a positive relationship between the regularity of audit committee meetings and the probability of making earnings forecasts, thus leading to greater disclosure. Also, Allegrini and Greco (2013) reported a positive link between the regularity of audit committee meetings and disclosure. Therefore, the following hypothesis was formulated:

H8: There is a positive correlation between the number of meetings of the audit committee and risk disclosure.

Demographic Variables

There have been a number of examinations of the relationship between the attributes of top organizational managers and various organizational effects (Michel and Hambrick, 1992; Bantel, 1993; Walt and Ingley, 2003; Kang et al., 2007; Mutuku et al., 2008; Adams and Ferreira, 2009). Two essential theoretical advances in the area of organizational research are key. Firstly, Cyert and March (1963) developed the concept of the dominant coalition, which shifts the focus from the individual CEO to the whole team of the board of directors in terms of organizational leadership. The second concept is the increased emphasis on utilizing observable demographic characteristics, such as age, gender, tenure and experience in organizational studies and investigating the link between these attributes and organizational consequences (Pfeffer, 1983; Tehanyi et al., 2000; Mutuku et al., 2008)

In groundbreaking work by Hambrick and Mason (1984), these two concepts, namely the dominant coalition and demographic research, were combined. The authors suggested that certain organizational effects are linked to top management teams having specific demographic profiles. Moreover, upper echelon theory proposes that top management characteristics, in particular their demographic characteristics, could impair strategic decision making. At the centre of this theory is the idea that background knowledge and the values of corporate directors impact upon essential strategic decisions made and acted upon by these central corporate managers. Hambrick and Mason also claimed that observable attributes, for example, age, practical experience and tenure, could function as practical proxies for the cognitive base that guides top directors' decisions.

However, a number of academic researchers have criticized the demographic approach (Pettigrew, 1992; Lawrence, 1997; Aldrich, 1979). Therefore, the main concern is the necessity to access the “black box” that might contain the operative mechanism connecting demographic characteristics to organizational aftermath consequences (Finkelstein and Hambrick, 1996). Pettigrew (1992: 178) claimed that little is known about “the processes by which top teams go about their tasks”. Lawrence (1997) illustrated that demographic variables are sometimes employed as representatives for subjective concepts. The author noticed that investigators depending on the demographic approach make a congruence assumption via which demographic variables are employed to represent subjective concepts without offering a logical justification for why this is a valid approach.

Yet, studies investigating team demography and processes have offered important insights into the reported “black box”. For instance, Smith et al. (1994), Tehanyi et al. (2000) and Mutuku et al. (2008) reported that top management team demography was indirectly associated with performance via intervening process variables incorporating social integration and communication. Meanwhile, Pelled, Eisenhardt and Xin (1999), Walt and Ingley (2003), Kang et al. (2007) and Adams and Ferreira (2009) reported that team demography diversity can lead to disagreement, which can affect group performance, which in turn affects all aspects of organizational decision-making and outcomes. In addition, some of these investigators found that these associations were further controlled by task routines and group longevity.

Limitations are inherent in any approach. However, a strand of literature that depends predominantly on top management team demographic variables has produced important findings. These investigations mostly concentrated on two dimensions of team composition. Firstly, they focused on the impact of demographic attributes on the consequences of organizational decisions based upon the notion that particular demographic attributes are connected with top management perceptions, which eventually lead to certain actions and consequences. Some of these investigations recognized a significant link between top management team demographic traits and corporate strategies (Wiersema and Bantel, 1992; Bantel, 1993; Mutuku et al., 2008; Adams and Ferreira, 2009; Nielsen and Huse, 2010; Ellwood and Gracia-Lacalle, 2015; Allini et al., 2015).

All in all, the dependence on the demographic approach still appears to be justified (Finkelstein and Hambrick, 1996). Lawrence (1997) also demonstrated that demographic variables have important qualities, offering high content validity and replicability in a domain where replication is all too rare. In addition, Pfeffer (1983) recommended the employment of observable managerial traits as a means of addressing the shortcomings of subjective studies, which sometimes incorporate measurement error, differences in conceptualizations and low levels of explained variance. This is also reflected in Finkelstein and Hambrick’s (1996: 47) work, which demonstrated that, “an executive’s tenure in the firm is open to essentially no measurement error”. Furthermore, the authors responded to the limitations of the dependence on psychological as matched to demographic variables. Finkelstein and Hambrick (1996: 46) also noted that demographic traits are more easily obtainable by investigators since top directors are normally reluctant to “submit to batteries of psychological tests”.

The decision that institutions make to disclose risk related information necessitates careful assessment and consideration of a huge collection of complicate organizational issues. However, extending the demographic approach into the field of banks’ risk disclosure practices could lead to better understanding of the role of top management teams and their decisions in relation to risk disclosure at their banks. In the following section, the demographic characteristics are explored and hypotheses are developed.

Gender

The presence of woman on the board of publicly listed institutions is becoming of interest to researchers (Ellwood and Gracia-Lacalle, 2015). However, one could argue from an agency theory viewpoint that gender does not influence the effectiveness of the board of a firm. However, upper echelons theory argues that top management demographic characteristics, such as gender, could

influence strategic decision-making. Hence, gender differences might indicate variations in behaviour and skills between board members (Allini et al., 2015). Moreover, prior studies have generally revealed a mixture of results regarding women directors. Adams and Ferreira (2009) and Nielsen and Huse (2010) reported that women on top management teams influence decisions positively, while Bianco et al. (2011) strongly question their capacity to impact upon or add extra value to the team. In contrast, evidence from previous risk disclosure studies falls into two strands of literature. The first strand found that there is a positive correlation between gender and risk disclosure (Ntim et al., 2013; Allini et al., 2015), whereas the second strand reported a negative relationship between the two variables (Allini et al., 2014). Therefore, the following hypothesis was formulated:

H9: There is a positive relationship between gender and risk disclosure

Tenure

Tenure is a significant factor in group procedure within a top management group. On the one hand, augmented tenure is related to decreased disagreement, permanence and better communication (Kats, 1982). It has also been argued that more tenure time on the board could be linked with shared cognitive structures and social cohesion (Michel and Hambrick, 1992). On the other hand, it has been argued that top board tenure could have negative outcomes (Keck, 1997) since directors working together for extensive periods of time could be inclined to develop similar views owing to the long-term acculturation of top team associates, which then results in a shared common perspective and corporate paradigm (Pfeffer, 1983). Such effects might result in dysfunctional decision-making, generating combined defensive avoidance (Keck, 1997; Janis and Mann, 1977). However, due to the ambiguous and difficult nature of risk disclosure decisions, a common understanding of the nature of risk disclosure could be fundamental. Therefore, members of the top management team with extended tenure could cultivate a more precise shared cognitive structure regarding the nature of risk disclosure decisions. Furthermore, extended tenure enables board members to better evaluate the surrounding environment of banks' risk disclosure. Therefore, the following hypothesis was formulated:

H10: There is a positive relationship between tenure of the board and risk disclosure.

Education

Prior literature has indicated that educational background affects strategic decision making procedures and outcomes (Hitt and Tyler, 1991). Moreover, it ensures better monitoring and the effectiveness of top management boards in light of agency theory (Allini et al., 2015). Also, it is an important determinant in the disclosure exercise (Farook et al., 2011; Haniffa and Cooke, 2002). Therefore, Hambrick and Mason (1984) claimed that executives with superior educational qualifications are better able to embrace new and innovative actions as well as uncertainty. Moreover, educational qualifications could be perceived as an important institutional asset, which may influence accounting values and exercises (Gray, 1988). Top executives with a strong educational background tend to have superior technical knowledge and a more open-minded attitude to risk disclosure decisions, which could lead to the reduction of information asymmetry (Domhoff, 1983). However, Guner et al. (2008) stated that there is a dearth of empirical studies on the association between board effectiveness and educational background. Only a few studies have examined this relationship empirically and revealed the same results. Gul and Leung (2002) and Allini et al. (2015) reported a negative association between educational background and risk disclosure. Therefore, the following hypothesis has been formulated:

H11: There is a negative association between educational background of the board and the risk disclosure.

Diversity

Top management team diversity is referred to as the heterogeneity of top executive teams regarding age, gender, tenure, educational background, nationality, ethnicity and functional background (Williams and O'Reilly, 1998; Simons et al., 1999; Walt and Ingley, 2003; Carter et al., 2003; Kang et al., 2007; Allini et al., 2015). Moreover, Shaw and Barrett-Power (1998) affirmed that diversity is a progressively significant element in institutions, which are becoming more diverse in respect of age, nationality, background, gender, ethnicity and other demographic traits. It has also

been determined that when disentangling complex, non-routine issues, diverse groups are more efficient as they include a collection of personalities with different proficiencies, experience, capabilities and viewpoints. It has also been illustrated that boards with diverse membership with different abilities make more novel and higher quality decisions than boards with less diverse membership (Bantel and Jackson, 1989). The literature shows that numerous variables influence the association between diversity and board decision-making (in the case of this study, this could be the decision to disclose or withhold any risk information disclosures). Furthermore, risk disclosure studies have found that diversity significantly influences risk disclosure (Allini et al., 2015). Based on the above discussion, the following hypothesis was formulated:

H12: There is a positive association between diversity of the top management team and the degree of risk disclosure

Control variables

Control variables are incorporated in this study to reduce the influence of the above-stated determinants. This study incorporates as control variables two firm-specific variables, size and profitability, in line with prior literature (Elshandidy et al., 2013; Ntim et al., 2013; Khlif and Hussainey, 2014; Allini et al., 2015; Elshandidy and Neri, 2015).

Methodology

This section describes the research design of this investigation, including sample, data collection and techniques used to accomplish the aims of this research.

Sample and Data Collection

The sample consists of the annual reports of all Saudi listed banks over a five-year period. Following prior literature on the subject (Lipunga, 2014; Barakat and Hussainey, 2013), this paper excluded all non-financial corporations. Financial institutions are by nature risk-oriented institutions unlike non-financial corporations, and therefore their disclosure ought to be considered independently (Linsely and Shrives, 2005, 2006; Barakat and Hussainey, 2013). According to the Saudi Arabian Monetary Agency, there are 12 listed banks on the Saudi exchange market today. Unlisted banks in Saudi Arabia are excluded. Therefore, the researcher can state that a total of 12 listed banks are included in this study. All the annual reports of the selected sample were collected from the banks' homepages, with some of the variables being collected from DataStream and Bloomberg. This study covers a five-year period, during which the determinants of risk disclosure in the annual reports of listed banks in Saudi Arabia are examined. The selected annual reports cover the period from 2009 to 2013.

Annual reports are used in this investigation because of their wide coverage and availability. This study's focus on annual reports is due to their being the main source of information for shareholders as well as their growing use in statements, showing their value to user groups (Elshandidy et al., 2013; Barakat and Hussainey, 2013; Elshandidy and Neri, 2015). This is concurrent with Marston and Shrives (1991), who described them as the "main disclosure vehicle" and argued that annual reports are the most complete financial statements accessible to investors. Moreover, Beattie et al. (2002) affirmed that annual reports provide comprehensive narratives, information as well as explaining accounting figures, sketches and presents perspectives. Also they corroborate quantitative measures incorporated in the financial reports (Chughn and Meador, 1984).

Content Analysis Approach

Content analysis has been widely used in social accounting research (Guthrie and Parker, 1989; Milne and Adler, 1999; Parker, 2005; Kamla, 2007). These studies analyze the information content disclosed in annual reports and acknowledge words and themes within the textual material (Beattie et al., 2004; Brennan, 2001). When analysing the content of a written document, words, phrases and sentences are coded against a specific schema of interest (Bowman, 1984). Krippendorff (1980: 21) described content analysis as "a research technique for making replicable and valid

inferences from data". Furthermore, Bowman (1984) claimed that content analysis enables the collection of rich data since it can reveal relationships that other techniques cannot. However, a weakness of content analysis is that it is subjective (Linsley and Shrides, 2006). Therefore, validation practices are often used to override this problem (Bowman, 1984).

Risk Disclosure Index Development

For the purpose of this study, a risk disclosure index, which is a checklist of different disclosure items included in banks' annual reports, was developed (Arvidsson, 2003). During its construction, an extensive review of prior investigations was carried out. For an item to be included, it must have been used in previous published studies. The risk disclosure index was developed solely for the purpose of measuring the amount of risk disclosure in Saudi listed banks. The index included a total of 54 items that the researcher expected to be published in the annual reports of the sample banks. These 54 items fell into 8 categories: accounting policies, financial and other risks, derivative hedging and general risk information, financial instruments, reserves, segment information, business risk and compliance. Moreover, one of the important issues during crafting the disclosure index was whether or not some items should be weighted more heavily (i.e. given more importance) than others. In accounting research, both weighted and un-weighted disclosure indices are utilized (Cooke, 1989; Marston and Shrides, 1991; Owusu-Ansah, 1998). For the purpose of this paper, the un-weighted disclosure index was chosen because the study does not focus on a particular user group (Alsaeed, 2006; Naser et al., 2006). Instead the study addresses all users of annual reports and therefore there is no need to confer different importance levels to the disclosed risk items (Oliveira et al., 2006). The contents of each bank's annual reports were compared with the items listed in the Appendix and, on the bases of a dichotomous model, they were coded as 1 if disclosed or 0 if otherwise. This index coincides with prior literature on disclosure (Barako et al., 2006; Nazli and Ghazali, 2007; Owusu-Ansah, 1998; Oliveira et al., 2006).

The total score for a bank is:

$$TD = \sum_{i=1}^n d_i \quad (1)$$

Where $d = 1$ if the item is disclosed; $0 =$ if the item is not disclosed; $n =$ number of items.

Reliability and Validity Measures

Weber (1988) argued that the classification procedure should be reliable and valid. The reliability and validity of content analysis approaches need to be reviewed carefully. In human-scored schemes, reliability, that is the reproducibility of the measurement, is a major concern (Marston and Shrides, 1991; Healy and Palepu, 2001). The preceding studies argued that content analysis is not reliable if it is conducted only once or only by one specific person (Neuendorf, 2002). Consequently, to ensure the content validity of the initial research instrument, it was reviewed independently by two other researchers. Subsequently, after the researcher received the independent researcher's comments and suggestions. A fourth experienced academic was required to discuss any ambiguities raised. The final disclosure checklist included 54 items. In terms of validity the research instrument (disclosure index) is valid if they can measure what they claim to measure (Field, 2009). In this study the index has measure what it claimed to measure; therefore the researcher can safely claim that the research instrument is valid. To ensure the reliability of the research instrument, the author and the two independent researchers scored three randomly selected banks. Then, the results from the three researchers were compared. Given that the final research disclosure index was agreed by all researchers, differences in the compliance scores from the researchers were insignificant. This method was adopted by Marston and Shrides (1991), who argued that the index scores awarded to firm could be considered reliable if other researchers could replicate the same results.

Regression Model

This study uses the following ordinary least squares (OLS) regression model to examine the relationship between risk disclosure in the annual reports and both corporate governance mechanisms and demographic traits in Saudi listed banks:

$$RISKD_{it} = \beta_0 + \beta_1 CHS + \beta_2 NOCH-FACTORS + \beta_3 BSIZE + \beta_4 INDEP + \beta_5 NON + \beta_6 ACINDEP + \beta_7 ACSIZE + \beta_8 ACMEET + \beta_9 EDUC + \beta_{10} TENU + \beta_{11} GENDER + \beta_{12} DIVERSITY + \beta_{13} SIZE + \beta_{14} PROF + \varepsilon \quad (2)$$

Where: RISKD = risk disclosure score

β_0 = the intercept

β_1 β_{14} = regression coefficients (See table 1 for explanation)

ε = error term

I = Bank

T = Year

Dependent variable: risk disclosure score. Following prior studies (Linsley and Shrivs, 2006; Elzahar and Hussainey, 2012; Abdullah et al., 2015), content analysis was used to measure the level of risk disclosure in the annual reports. The number of risk-related words was used as a measure of risk disclosure levels.

Independent variables: To examine the determinants of risk disclosure, corporate governance and demographic traits, information was collected from different sources. Table I summarizes the measurement and definition of those variables.

Table 1: Summary of variable names, description and sources

Abbreviated name	Full name	Variable description	Predicted Sign	Data source
Dependent variables				
RISKD	Risk disclosure	Risk disclosure level based on risk index		Annual reports
Independent variables				
1. Corporate Governance characteristics				
BSIZE	Board size	Number of board members	+	Annual report
CHS	Internal Ownership	Percentage of shares held by internal shareholders	-	DataStream
NOCH-Factor	External Ownership	Percentage of shares held by external shareholders	+	DataStream
INDEP	Independent directors	Number of non-executive directors on the board of directors	+	Bloomberg Annual Report
NON	Non-executive directors	Dummy variable 1 if board contains non-executive directors and otherwise 0.	+	Bloomberg Annual Report
ACINDEP	Audit committee independence	Proportion of non-executive director on board.	+	Bloomberg Annual Report
ACSIZE	Audit committee size	Number of audit committee members	+	Annual report
ACMEET	Audit committee meetings	Number of audit committee meetings	+	Annual report
2. Demographic characteristics				
EDUC	Education	Dummy variable 1 if one of the board members holds a PhD period and otherwise 0.	+	Annual report
TENU	Tenure	Dummy variable 1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0.	+	Annual report
GENDER	Gender	Dummy variable 1 if board contains female directors and otherwise 0.	+	Annual report
DIVE	Diversity	Dummy variable 1 if board contains more than one nationality and otherwise 0.	+	Annual report
3. Firm-specific characteristics (Control Variables)				
SIZE	Bank size	Natural logarithm of total assets	+	DataStream
PROF	Profitability	ROA (Return On Assets)	+	DataStream
LEV	Leverage	Long-term debt/ total assets	+	DataStream

LIQ	Liquidity	Current Ratio: Current Assets/Current Liabilities	+	Annual report
DIVID	Dividend payout	Dividends per share	+	DataStream
This table provides the description and measures of risk disclosure reporting, as dependent variables, and firm characteristics, corporate governance mechanism and demographic traits as independent variables. It also provides the source of each variable.				

Empirical analysis

Descriptive analysis

Table 2 shows the main descriptive statistics for the corporate governance variables and the demographic traits used in the analysis of the sample banks in this investigation. It shows the minimum, maximum, statistical mean and the standard deviation. Firstly, it shows that the mean total risk disclosure is 66.03%. It also shows that there is a large variation in risk reporting between the sampled banks, with a minimum of 51% and a maximum of 78%. It also shows that the mean of CHS holdings is 19% and the mean of NOCH-Factor ownership is 29.5%, while the mean board size is 10 directors, with a mean of 7 members of the board in the sample banks consisting of non-executive directors. Furthermore, the table shows that the independent directors mean is 5, with a minimum of 3 and a maximum of 8 independent directors. Secondly, the audit committee (AC) independence mean is 75, whereas the audit committee size ranges from 2 to 5 directors, with a mean of 3. There is also a large variation in the number of AC meetings between the sample banks, with a minimum of 3 meetings, a maximum of 11 and a mean of 5. Finally, this table also shows the demographic traits of the top management teams included in the descriptive analysis, which are gender, tenure, education and diversity. It is also important to note that all of these variables have been treated as a dummy variable (1-0). Where gender scored an overall mean of .08, tenure of the top board of directors scored a total mean of .6, while education scored a total mean of .7 and diversity scored a total mean of .3 in the entire sample of this investigation.

Table 2: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
RISKD	60	.51	.78	.6603	.07059
CHS	60	0.00	69.00	19.1000	17.46056
NOCH-Factor	60	25.00	45.00	29.5000	5.08091
BSIZE	60	7.00	11.00	9.5500	.94645
INDEP	60	3.00	8.00	5.1333	1.62049
NON	60	1	11	7.37	2.718
ACINDEP	60	0.00	1.00	.7500	.43667
ACSIZE	60	2.00	5.00	3.7667	.96316
ACMEET	60	3.00	11.00	5.3667	1.95688
GENDER	60	0.00	1.00	.0833	.27872
TENU	60	0.00	1.00	.6000	.49403
EDUC	60	0.00	1.00	.7000	.46212
DIVE	60	0.00	1.00	.3333	.47538
SIZE	60	7.24	8.58	7.9940	.35203
PROF	60	-.01	.04	.0192	.00869
Valid N (listwise)	60				

This table presents the descriptive analysis for the corporate governance variables and the demographic traits used in the regression model for the sample banks in this investigation. RISKD: Risk disclosure score (based on an unweighted disclosure index); CHS: Internal ownership (Percentage of shares held by internal shareholders); NOCH-Factor: External ownership (Percentage of shares held by all external shareholders); BSIZE: Board size (Number of board members); INDEP: Independent directors (Number of non-executive directors on the board of directors); NON: Non-executive directors (Dummy variable 1 if board contains non-executive directors and otherwise 0); ACINDEP: Audit committee independence (Dummy variable; 1 if audit committee independence exists, and 0 otherwise); ACSIZE: Audit committee size (Number of audit committee members); ACMEET: Audit committee meetings (Number of audit committee meetings); GENDER: Gender (Number of females on the board); TENU: Tenure (Dummy variable 1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0); EDUC: Education (Number of board members holding a PhD); DIVE: Diversity (Number of other nationalities of the board); SIZE: Bank size (Natural logarithm of total assets); PROF: Profitability (Return On Assets)

Regression analysis

The analysis of the risk disclosure of Saudi listed banks and their determinants led to some concrete results since six of the independent variables, namely Noch-Factors, board size, audit committee meetings, gender, size and profitability, are the main variables directing risk disclosure decisions in Saudi listed banks. The summary table below demonstrates that the R square and adjusted R square are high for the study under consideration, where both R square and adjusted R square are high at .706 and .576, respectively, supporting the explanatory power of the model. The Durbin-Watson test confirmed that there is no autocorrelation problem with the data. Moreover, the ANOVA table below indicates that the model is significant, with an F value of 5.458, confirming the fitness of the model used for the purpose of this study.

Table 3: Pearson correlation Matrix

	RISKD	CHS	NOCH-Factor	BSIZE	INDEP	NON	ACINDEP	ACSIZE	ACMEET	GENDER	TENU	EDUC	DIVE	SIZE	ROA
RISKD	1														
CHS	-.129	1													
NOCH-Factor	.411**	-.492**	1												
BSIZE	-.107	.364**	.073	1											
INDEP	-.171	.195	-.248	-.038	1										
NON	-.095	.290*	-.308*	.467**	.439**	1									
ACINDEP	.074	-.190	.325*	-.072	.335**	.050	1								
ACSIZE	.136	.243	-.062	.013	.335**	.454**	.141	1							
ACMEET	.054	.196	.153	.566**	.075	.459**	-.089	.190	1						
GENDER	.093	.061	-.215	.016	.050	.138	.174	-.242	-.212	1					
TENU	-.356**	.195	-.218	.007	.110	-.103	-.079	.121	.014	-.246	1				
EDUC	-.241	-.059	-.173	-.081	.326*	.251	.294*	-.046	.030	.197	.134	1			
DIVE	.375**	-.261*	.547**	.226	-.169	.114	.408**	-.086	-.024	.426**	-.433**	.077	1		
SIZE	.479**	.006	.071	.101	-.478**	-.052	-.225	.019	-.055	-.166	-.126	-.211	.112	1	
PROF	.271*	.329*	-.227	.283	-.172	.200	-.279*	.219	.158	-.181	.039	-.148	-.055	.529**	1

This table presents the correlation matrix for the corporate governance variables and the demographic traits used in the regression model for the sample banks in this investigation. RISKD: Risk disclosure score (based on an un-weighted disclosure index, where equal weights were attached to all reported items within the checklist. Hence if an item is reported in the annual report of the bank scores "1" and if otherwise it scores "0"); CHS: Internal ownership (Percentage of shares held by internal shareholders); NOCH-Factor: External ownership (Percentage of shares held by all external shareholders); BSIZE: Board size (Number of board members); INDEP: Independent directors (Number of non-executive directors on the board of directors); NON: Non-executive directors (Dummy variable 1 if board contains non-executive directors and otherwise 0); ACINDEP: Audit committee independence (Dummy variable; 1 if audit committee independence exists, and 0 otherwise); ACSIZE: Audit committee size (Number of audit committee members); ACMEET: Audit committee meetings (Number of audit committee meetings); GENDER: Gender (Number of females on the board); TENU: Tenure (Dummy variable 1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0); EDUC: Education (Number of board members holding a PhD); DIVE: Diversity (Number of other nationalities of the board); SIZE: Bank size (Natural logarithm of total assets); PROF: Profitability (Return On Assets). Note that ** and * indicate that there is a correlation significant at the 0.01 and at the 0.05 between the respective factors respectively.

Table 3, the Pearson correlation matrix is deployed to measure the strength and the direction of the linear relationship between any two variables. The results above in the correlation coefficient demonstrate positive a significant correlation between voluntary risk disclosure and NOCH-Factor at a value of .411**. They also show the same relationship between diversity at a value of .375**, size at .479**, profitability at .271* and risk disclosure. Moreover, the correlation matrix indicates a negatively significant association between tenure at a value of -.356** and voluntary risk disclosure. However, the table shows that the highest correlation was between bank size and voluntary risk disclosure at .479. Table 4 shows that there are insignificant associations between CHS, board size, independent directors, non-executive directors, audit committee independence, audit committee size, audit committee meetings, gender, tenure and education with voluntary risk disclosure in Saudi listed banks.

Table 4: Regression results for the corporate governance and the demographic variables

	Unstandardized coefficients		t	Sig.	VIF
	B	Std. Error			
(Constant)	-0.135	0.230	-0.590	0.558	
CHS	-0.000006660	0.001	-0.101	0.920	3.675
NOCH-Factor	+0.007	0.003	2.584	0.013	5.995

BOARDSIZE	-0.032	0.011	-2.911	0.006	3.070
INDEP	0.010	0.006	1.582	0.121	3.098
NON	-0.003	0.005	-0.507	0.615	5.347
ACINDEP	-0.007	0.020	-0.332	0.742	2.170
ACSIZE	0.010	0.009	1.031	0.309	2.325
ACMEET	+0.012	0.005	2.276	0.028	2.764
GENDER	+0.117	0.034	3.406	0.001	2.571
TENURE	-0.024	0.016	-1.485	0.145	1.766
EDUCATION	-0.022	0.016	-1.338	0.188	1.579
DIVERSITY	-0.005	0.028	-0.161	0.873	5.105
SIZE	+0.094	0.024	3.922	0.000	1.982
PROF	+2.644	1.047	2.525	0.016	2.316

Model Summary

Adjusted R square: 0 .576

F value: 5.458

Sig. 0.000

This table presents the regression results for the corporate governance variables and the demographic traits used in the regression model for the sample banks in this investigation. RISKD: Risk disclosure score (based on an un-weighted disclosure index, where equal weights were attached to all reported items within the checklist. Hence if an item is reported in the annual report of the bank scores "1" and if otherwise it scores "0"); CHS: Internal ownership (Percentage of shares held by internal shareholders); NOCH-Factor: External ownership (Percentage of shares held by all external shareholders); BSIZE: Board size (Number of board members); INDEP: Independent directors (Number of non-executive directors on the board of directors); NON: Non-executive directors (Dummy variable 1 if board contains non-executive directors and otherwise 0); ACINDEP: Audit committee independence (Dummy variable; 1 if audit committee independence exists, and 0 otherwise); ACSIZE: Audit committee size (Number of audit committee members); ACMEET: Audit committee meetings (Number of audit committee meetings); GENDER: Gender (Number of females on the board); TENU: Tenure (1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0); EDUC: Education (Number of board members holding a PhD); DIVE: Diversity (Number of other nationalities of the board); SIZE: Bank size (Natural logarithm of total assets); PROF: Profitability (Return On Assets). Note that "+" indicates that there is a positive correlation or a proof of influence exists between the respective factors and "-" indicates that there is a negative correlation or proof.

This study uses OLS regression analysis to examine the determinants of voluntary risk disclosure in Saudi listed banks. The coefficients table above demonstrates the interrelationships between the voluntary risk disclosure score as the dependent variable and a number of other variables as independents. Thus, before conducting the regression analysis, multicollinearity was tested by employing the Variance Inflation Factor (VIF) to detect any noises in the model. When carried out for the purpose of this investigation, this statistical test gave no indication of multicollinearity problems as shown in the table above. Since the VIF did not exceed 10 for any variable in any model, it was concluded that collinearity was not a serious problem (Neter et al., 1983; Naser et al., 2006). Moreover, it can be seen from the regression results table above that there is a positive significant relationship between NOCH-Factor, audit committee meetings, gender, size, profitability and voluntary risk disclosure. The coefficients on the variables are positive and statistically significant at .05, .05, .01, .01 and .05, respectively. Also, the table shows that there is a negatively significant association between board size and voluntary risk disclosure, with a coefficient value of .01, while the rest of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with voluntary risk disclosure in Saudi Arabia.

Discussion

This investigation found that ownership structure has a significant effect on voluntary risk disclosure. These findings are in line with prior empirical results that indicate banks with lower insider ownership (proxied by CHS) are not inclined to provide higher voluntary risk disclosure, whereas banks with higher outsider ownership (proxied by NOSH-Factor) are more prone to provide considerably higher levels of voluntary risk disclosure (Elshandidy et al., 2013; Abraham and Cox, 2007). Also, these results are in line with both agency theory and signalling theory, which propose that directors are only driven to offer higher levels of voluntary risk disclosure when there is a widely dispersed ownership structure to mitigate information asymmetries owing to external pressure (Mohobbot, 2005; Owusu-Ansah, 1998), implying that H1 and 2 are empirically supported. Also,

the coefficient on audit committee meetings is .012 and is significant at .05 significance level. These findings show that banks with more frequent audit committee meetings are more motivated to disclose more risk information. These results are consistent with prior empirical findings (Karamanou and Vafeas 2005; Allegrini and Greco, 2013). Also, this outcome is consistent with agency theory, whereby internal and external monitoring practices complement each other in reducing agency conflicts and information asymmetry between different types of stockholders, implying that H8 is empirically supported. However, our results show that there is a negatively significant association between board size and voluntary risk disclosure, with a coefficient value at -.032 and significance at the .01 percent level. This is in line with some preceding research (Jia et al., 2009; Guest, 2009; Coles et al., 2008) as well as being concurrent with agency theory, which suggests that bigger boards are bad and corrupt (Jensen and Meckling, 1976) owing to free rider problems, such as expanded decision making time, raised costs, poor communication and monitoring practices, which impact negatively on board performance in general and risk disclosure in particular. Therefore, we reject H3. Yet, the other corporate governance variables (CHS, INDEP, NON, ACINDEP and ACSIZE) are found to have an insignificant correlation with voluntary risk disclosure in Saudi listed banks.

In terms of demographic characteristics, table 4 shows that banks with women on the top management board are more likely to disclose voluntary risk disclosure. The coefficient on gender is .117 and is significant at the .01 significance level. This effect is consistent with the previous empirical findings of Ntim et al. (2013) and Allini et al. (2015). Also, Adams and Ferreira (2009) and Nielsen and Huse (2010) reported that women on top management teams influence decisions positively. Moreover, this is consistent with upper echelons theory, which proposes that top management demographic characteristics, such as gender, could influence strategic decision-making, implying that H9 is empirically supported. Our findings do not support demographic traits (TENU, EDUC and DIVE) having a significant relationship with voluntary risk disclosure in Saudi Arabian listed banks.

Additionally, for the control variables, our findings report that size is correlated positively with voluntary risk disclosure at a .01 significance level. This relationship is consistent with a number of prior empirical investigations (Khlif and Hussainey, 2014; Elzahar and Hussainey, 2012; Abraham and Cox, 2007; Linsley and Shrivs, 2006). This relationship confirms that directors of bigger banks are more motivated to convey risk information to investors to differentiate their institution from smaller ones (Khlif and Hussainey, 2014). This association is also consistent with both agency theory and signalling theory, which advocate that bigger institutions lean towards reporting more risk information to reduce agency costs and information asymmetry between insider and outsiders. Furthermore, the coefficient on profitability is 2.644 and is significant at a .05 percentage level. This effect is consistent with prior literature that examined profitability in relation to risk disclosure and observed the same findings (Deumes and Knechel 2008; Miihkinen, 2012; Khlif and Hussainey, 2014). This association between profitability and risk disclosure is also consistent with signalling theory. Helbok and Wagner (2006) and Linsely et al. (2006) confirmed that banks with superior risk management techniques tend to have greater levels of profitability, and hence directors have greater incentives to signal their performance and their capacity to manage risk successfully.

Conclusion

This investigation sought to empirically examine the impact of corporate governance and top team demographic traits on the levels of voluntary risk disclosure practices and to identify the determinants of voluntary risk disclosure practices in all Saudi listed banks from 2009 to 2013. The empirical findings show that banks of large size, high outsider ownership, high profitability, high regularity of audit committee meetings and mixed gender on the top management board of directors are more likely to demonstrate higher levels of voluntary risk disclosure practices. Also, the level of voluntary risk disclosure is negatively affected by board size. Moreover, as can be seen from the empirical findings of this investigation, external ownership, audit committee meetings, gender, size, profitability and board size are primary determinants of voluntary risk disclosure practices in listed banks on the Saudi Exchange Stock Market (Tadawul), while the rest of the independent variables

of both corporate governance mechanisms and demographic traits are insignificantly correlated with the levels of voluntary risk disclosure practices in Saudi Arabian listed banks.

Our findings have several important implications, by informing banks' stockholders, regulatory bodies and any other interested groups about the importance of corporate governance and demographic determinants, which can be used to augment voluntary risk reporting in the banking industry in an effort to ensure information adequacy and increased market efficiency. The reported findings should be useful to accounting and risk regulators by providing information about the inadequacies of risk disclosure in Saudi and a more complete picture of risk components and determinants in listed banks. While this study does not explore the risk profiles of Islamic banks directly, the results somehow propose that Islamic banks are more likely to be risk-averse than their non-Islamic counterparts suggesting a worthy field for future research. These implications could extend to the governance, board demography and risk disclosure literature by theoretically justifying and empirically investigating the implications of such determinants and theories in regards to voluntary risk disclosure in the banking sector. This focus is significant because it provides insights into the determinants of voluntary risk disclosure in banks that operate in an environment regarded as being invariably opaque.

This study was limited to the employment of the annual report as this was regarded as the most important means of communication. Other available means in Saudi Arabia, such as interim reports, prospectuses, press releases and the Internet were not reflected in this study despite the possibility of them impacting upon the decision-making processes. These means could provide significant data for future research on risk disclosure. Such results could determine similarities and differences across both means of the data sources. Another limitation is that this investigation only focused on a single setting, Saudi Arabia. An extension of this investigation may be to compare voluntary risk disclosure in other emerging markets in the Middle East. Such investigation would offer valuable insights into the literature on disclosure. In spite of the noted limitations, the study did offer important insights into the determinants of voluntary risk disclosure in Saudi Arabia.

This study suggests a number of other venues for future research. Firstly, research could extend over a longer period of time. Secondly, this study could be extended by conducting comparative studies with other countries, preferably in the Middle Eastern countries due to similarities in the settings in order to explore any differences in the determinants of risk disclosure across such countries. Thirdly, little is known about the traits of the top managers and top management teams of Saudi corporations and how their psychological and sociological attributes impact the voluntary risk disclosure practices of the organisations they manage. Additional research could also be undertaken to study the economic consequences of risk disclosure practices in annual reports (for example, the effect on prices leading earnings, cost of capital, analyst following, firm value and the characteristics of analysts' forecasts).

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Appendix

Category and type of reported risks	References
Accounting Policies	
Risk Management	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000;
Objective of Holding Derivatives/ instruments	Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Abdullah et al., 2015;
Use of Estimates	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Hassan, 2009
Collateral Assets against Loans	Alfredson et al., 2007; Abdullah et al., 2015; Hassan, 2009
Financial Assets Impairment	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Other Assets Impairment	Alfredson et al., 2007; Abdullah et al., 2015; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Contingent Liabilities	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Contingent Assets	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Detailed risk management	Lopes and Rodrigues, 2007; Alfredson et al., 2007;
Contingency	Abdullah et al., 2015; Hassan, 2009;
Financial and other risks	
Pricing Risk	ICAEW, 1997, 2000; Abdullah et al., 2015, Lipunga, 2014;
Commodity risk	Abdullah et al., 2015;
Liquidity risk	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Lipunga, 2014; Hassan, 2009
Credit risk	Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Lipunga, 2014
Capital Adequacy	Lipunga, 2014; Abdullah et al., 2015
Changes in Interest Rates	Abdullah et al., 2015
Credit Risk Exposure	Abdullah et al., 2015
Operational Risk	Abdullah et al., 2015; ICAEW, 1997, 2000; Lipunga, 2014
Insurance Risk	Abdullah et al., 2015; ICAEW, 1997, 2000
Market Risk	Abdullah et al., 2015; Ahmed et al., 2004; Lipunga, 2014
Interest Rate	Lipunga, 2014; Abdullah et al., 2015;
Currency risk	Lipunga, 2014
Exchange Rate	Abdullah et al., 2015
Sustainability Risk	
Sensitivity Analysis	Abdullah et al., 2015; Ahmed et al., 2004
Derivatives hedging and general risks information	
Cash flow Hedge	Alfredson et al., 2007; Lopes and Rodrigues, 2007; Abdullah et al., 2015
Equity Risk	Abdullah et al., 2015
Customer Satisfaction	Abdullah et al., 2015
Competition (Service Market)	Abdullah et al., 2015; ICAEW, 1997, 2000
Natural Disasters	ICAEW, 1997, 2000; Abdullah et al., 2015; Lipunga, 2014
Communications	Abdullah et al., 2015
Outsourcing	Abdullah et al., 2015

Reputation	Abdullah et al., 2015; Lipunga, 2014
Reputation risk	Abdullah et al., 2015; Lipunga, 2014
Physical disasters (Explosions and Fire)	Lipunga, 2014
Changes in Technology	Abdullah et al., 2015;
Financial instruments	
Derivatives	Hassan, 2009; Abdullah et al., 2015
Cumulative Change in Fair value	Lopes and Rodrigues, 2007; Alfredson et al., 2007; Abdullah et al., 2015;
Reserves	
General Reserves	Hassan, 2009; Abdullah et al., 2015
Statutory Reserves	Hassan, 2009; Abdullah et al., 2015
Other Reserves	Hassan, 2009; Abdullah et al., 2015
Segment information	
Geographical Concentration	Alfredson et al., 2007; Abdullah et al., 2015; ICAEW, 1997, 2000;
Customer Concentration	Hassan, 2009; Abdullah et al., 2015; ICAEW, 1997, 2000
Business risk	
General Financial Problems	Hassan, 2009
Regional Financial Problems	Hassan, 2009
Political risk	Abdullah et al., 2015
Diversification	
Performance	Abdullah et al., 2015;
Compliance with regulations	
Compliance with listing rules	Lipunga, 2014
Compliance with financial regulations	Lipunga, 2014
Compliance with companies act requirements	Lipunga, 2014
Compliance with other regulations and laws	Lipunga, 2014
Litigation risk	Lipunga, 2014
Health and Safety	Lipunga, 2014